

Digital Libraries: static or customizable resource?

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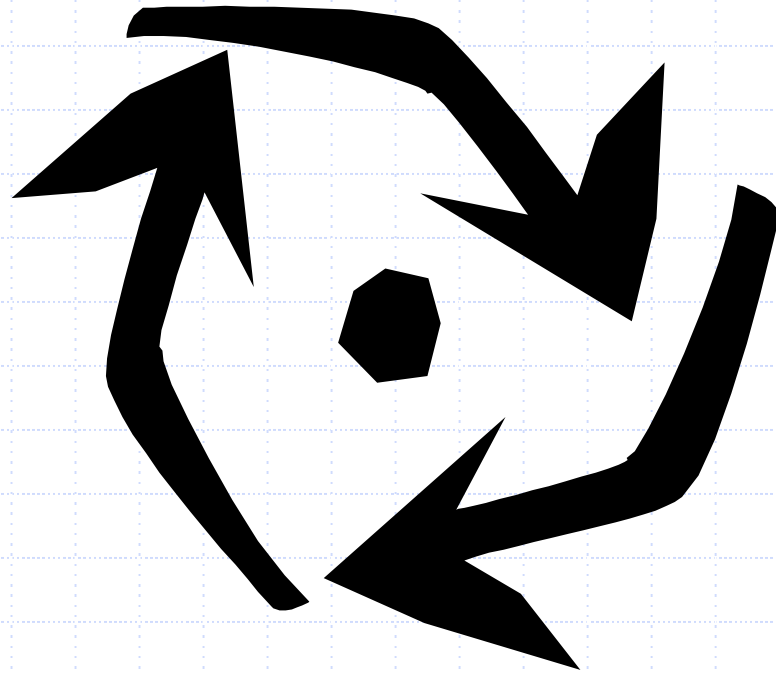
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Some Questions

- ◆ Models of Libraries/Digital Libraries?
- ◆ What happens to our professional practice/library services when “d” enters the library?
- ◆ Transformations within educational models and service delivery models within higher education.
- ◆ What happens to our users?
- ◆ How can DL become an active resource within a learning environment?
- ◆ Challenges and examples of research.

Information Cycle: Print Age

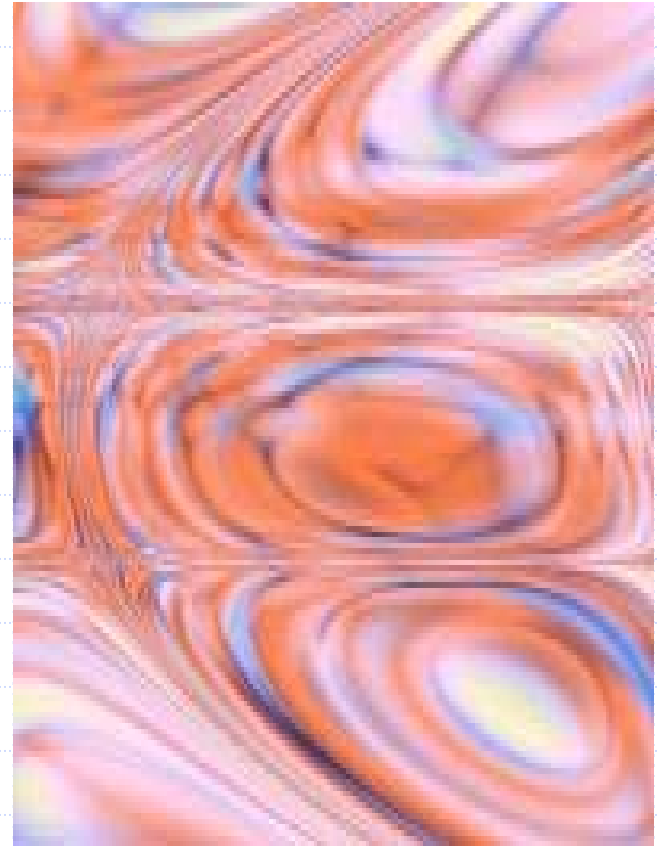
- ◆ Author
- ◆ Publisher
- ◆ Database
- ◆ Library
- ◆ User



Chaos?

Internet Publishing: Digital Age

- ◆ Authors=publishers
- ◆ Publishers=database producers
- ◆ Database=network providers/hosting
- ◆ Libraries=all of the above and more



Library: one possible definition

- ◆ A collection of information resources and services assembled and/developed to:
 - ◆ satisfy the information needs of targeted audiences and,
 - ◆ support the aims and objectives of the supporting organization.

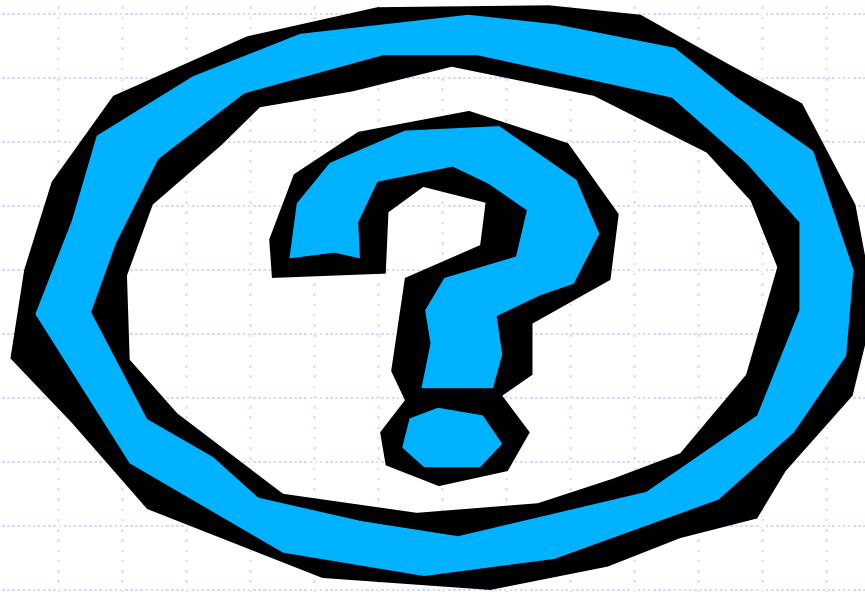
Library as Agora

Marchionini

- ◆ A physical library is more like an agora where users generate ideas through
 - ◆ a) their interaction with other users and
 - ◆ b) their interaction with documents.
- ◆ Agora Model: organised physical repository, services that favour access & exchange of ideas through meeting spaces

What's the fuss....

- ◆ Has the "D" affected professional library practice?



What has changed in the Library world?

◆ Pre Digital Age

- ◆ Text-based
- ◆ Static documents
- ◆ Single user Access
- ◆ Control of retrieval mechanisms (OPAC)
- ◆ Synchronous approach to service design

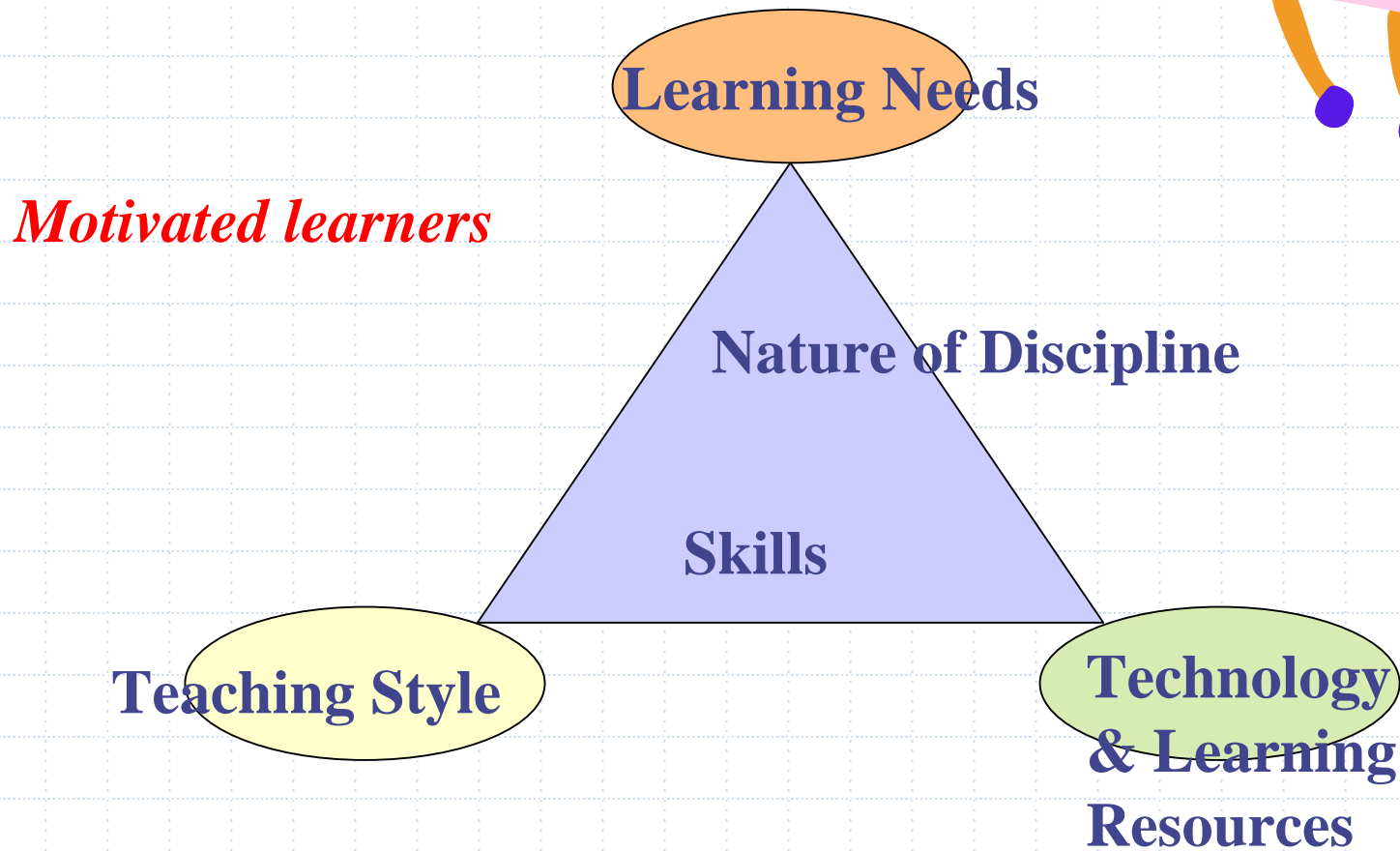
◆ Post Digital Age

- ◆ Multimedia
- ◆ Transformable e-documents
- ◆ Multi user access
- ◆ Lack of control of retrieval mechanisms (Search engines)
- ◆ Asynchronous approach to service design

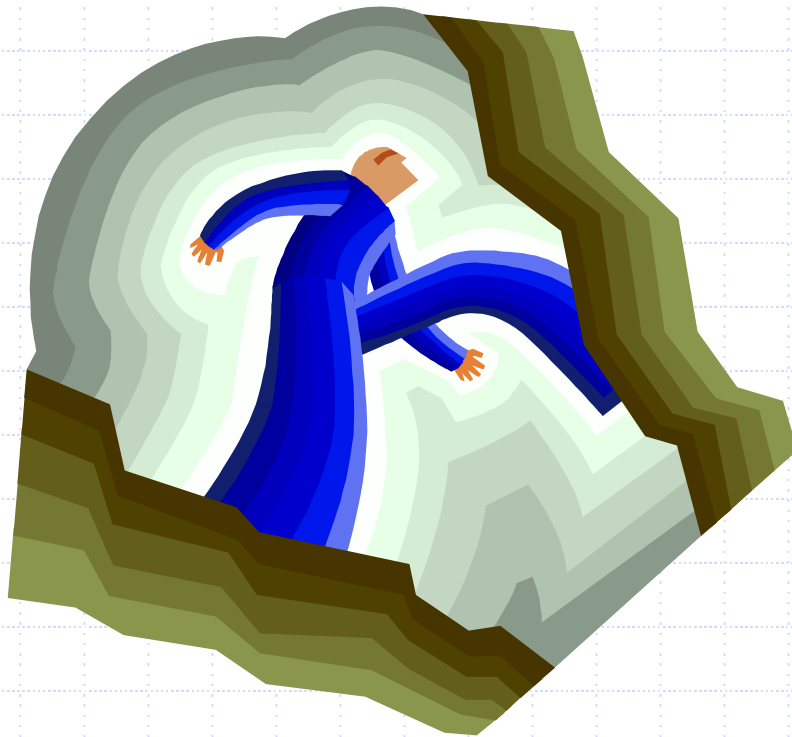
Educational Transformation in HE

- ◆ Passive Learning= lecture as main form of instruction, teacher as controller and main source of information to support learning processes
- ◆ Constructivistic, active learning= educational activities designed to fulfill learning objectives, emphasis on research, information seeking/sharing and peer discussion.
- ◆ DLs should be a crucial stone in the development of active learning

Web-based active learning Triangle



Definition of DL



- ◆ "..... new forms of information institutions, multimedia information retrieval systems or information systems that support the creation, use and searching of digital content." *Fourth Delos workshop final report (2003)*

Does the DL definition fit most current realities ?

- ◆ Present ergonomic design on DL presents them as static repositories of electronic journals (Emerald, World of Science, Scielo, *.pdf)
- ◆ Users are isolated searchers
- ◆ All users use common interfaces/One size fits all
- ◆ Moderate levels of interactivity between audience and author (innovative open source e-journals)

DL Interface design models

- ◆ Ergonomic DL Design is still operating at static repository mode.
- ◆ Very few uses of innovative multimedia approaches at interface level help learners integrate information into personal active learning collections, or locate other learners.
- ◆ IR is basic.

DL model based CRM principles

- ◆ DL should be considered a collection of learning objects (LO), not just digital objects
- ◆ LO should fit information needs of users
- ◆ User preferences should influence DL design
- ◆ Inspiration from CRM/personalisation in E-commerce might be useful

Definition of CRM/Personalization

- ◆ CRM is the process of identifying, establishing, maintaining and enhancing (and when necessary, also terminating) relationships with customers and other stakeholders..... so that the objectives of all parties involved are met. This is done by a mutual exchange of information and fulfillment of promises" Gronroos (1991).

What can we learn from Amazon?

- ◆ User recognition
- ◆ Purchase suggestions based on previous searches/purchases
- ◆ Service based on client's information context
- ◆ CRM based on database of customer's profiles

Would personalisation work within DL?

- ◆ DL's are already gathering aggregated and disaggregated user information
- ◆ CRM software is already available on off-the-shelf or open access
- ◆ Current educational models favour the presentation of educational material in an interface that suits student's individual learning styles

How would it work?

- ◆ Design team creates e-teaching package (text, video, graphics, e-articles)
- ◆ Lecturer assigns meta-taggs to each component describing the content AND the learning objectives of each component
- ◆ Librarian/Lecturer uploads e-teaching package into VLE and institutional archive
- ◆ Learning Objectives are matched to available user profile
- ◆ Results are presented to user in personalised interface

Why should Universities be concerned?

- ◆ E-learning packages are expensive to produce
- ◆ Academics are producing these for class preparation
- ◆ Published articles are often used to support teaching, therefore articles are valid components of e-learning packages
- ◆ DL, seen as learning objects are part of a constructivistic educational model.
- ◆ IF Universities retain copyright of learning packages and make them available in institutional archives as LO these can be made available widely and reused.
- ◆ Reusability of LO increases cost efficiency

Advantages

- ◆ Reusability of educational materials
- ◆ Reduction in costs per student
- ◆ Development of an “Knowledge Management” database for pedagogical purposes
- ◆ Educational content better suited to the individual needs of users

What is necessary?

- ◆ Seamless interfacing between:
- ◆ Virtual Learning Environments
- ◆ DL repositories
- ◆ Institutional archives
- ◆ Personalisation Software

Institutional Challenges

- ◆ **Human Resources Issues:** academics usually lack professionalisation in instructional design and metadata representations.
- ◆ **Technical Issues:** collections of E-articles have not been treated as learning objects. Lack of specificity of metadata schemes with which to describe learning objectives of collections of e-articles. Interoperability between interfaces of learning environments and DL resources.

CRM/Personalisation in DL for HE (Jawayardama)

- ◆ Active Interface recognises users, their learning preferences and based on personalised retrieval contexts suggests materials based on past and current searches
- ◆ Interface allows manipulation of search results to develop personalised libraries for active learning

Metadata schemes (Qin & Goody)

- ◆ Educational vocabulary in Learning Object metadata schemes
- ◆ Development fine grained educational ontologies for metadata description of learning objects

Potential Benefits to Higher Education

- ◆ Interoperability between Virtual Learning Environments and diverse collections educational resources
- ◆ Re-usability of educational resources therefore achieving cost reductions
- ◆ Better integration of librarians and academics in the development and exploitation of learning objects
- ◆ Improved learning opportunities as content is tailored to the learner.



Muchas Gracias!

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