
A jigsaw of tools to model and enrich learning?

Unpacking VLEs

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Outline

- Quick review of prevalent learning tools
- Hype vs. reality
- A closer look at learning theory
- Mapping
 - tools to activity
 - technology and pedagogy
- Case studies

The next wave... a moving target

Virtual Learning Environments

Combination of tools

Steady grow in the last 5 years

Next stage on from online resources or CMC

Crests of the wave

Managed Learning Environments

Emergence of 'joined up' thinking

More holistic strategic thinking

Early authoring and communication tools

Computer Assisted Learning, Computer Assisted Assessment, Computer Mediated Collaboration
email, and the Web

VLEs the solution?

- Over the last decade
 - have seen the emergence of a range of Internet tools to support learning
 - experimentation with ways of using ICT-tools to support learning
 - convergence on VLEs as ‘standard’
 - emergence of related specs and standards like LOM

The hype and the promises

Reflective thinking

Anytime, anyplace

Transferable skills

Integrated learning environments

Active participation

Giving competitive edge

New forms of learning

Joined up thinking

Virtual online communities

Sage on the stage to guide on the side

Access to a wealth of resources

Enhancing the learning experience

The reality

Transmission mode

Increased flexibility not that valuable

Basic ICT skills

Standardised environments

Peripheral participation

Everyone's doing it

Same forms of learning

Management of the learning process

Isolation

Confusion of roles

Information overload and portal wars

Students back-lash

Current VLEs

- Advantages

- all encompassing environment
- easy to use, safe environment, ‘nursery slope’
- management buy in

- Disadvantages

- implicit pedagogical bias
- hegemony and standardisation
- ‘appearance’ of innovation, majority of uses mundane

Relationship to the technology

- Questions arise such as
 - can technology promote a particular learning “theory”?
 - how does the design and structure of the technology influence and direct the user interaction and the learning?
 - concept of ‘affordances’ - affects of and affects with technology:
 - in what ways do technologies act as scaffolds?
 - concept of a ‘Person Plus’: (for good and for bad)
- Distributed Cognition, G. Salomon (ed) (1993)*

Hierarchy of interaction

- There are a number of levels
 - individual tools
 - aggregates of tools
 - integration with other forms of teaching and learning
- Tools and users
 - individuals inherent cognitive legacy
 - influence and impact of the wider social group
 - inherent societal memory

Back to basics - approaches to learning

- Theories

- Behaviourist:

- Skinner
 - transmission mode - transfer of learning

- Socio-cultural:

- Piaget, Vigotsky
 - authentic/situated learning

- Constructivism:

- Wenger, Grabinger
 - learning with others, communities of practice

Mapping

- Technology

- increasing variety of tools
- better differentiation of user needs
- move towards an enriched semantic environment
- maturing of underpinning standards and architecture
- more sophisticated users

- Pedagogy

- range of approaches to learning
- good examples of tried and tested approaches
- more towards eclectic approach
- changing notion of a typical 'student'

Pragmatic view: types of activities

- **Gathering**
 - To gather information to support learning or for a literature review
 - Information about course, person or place
- **Using**
 - Manipulation of data for a specific task or analysis of research findings using standards qualitative and quantitative techniques
- **Communicating**
 - Student-tutor: for checking, support or feedback
 - Student-student: collaboration, sharing of ideas, clarification
 - With research peers or to disseminate findings
- **Evaluating/assessing**
 - Assessment of students, monitoring, feedback on progress
 - peer review through journals and conferences

Activities and tools

Gathering: Web pages, lectures, books, journals, video

Communicating: Email, discussion boards, tutorials, seminars, irc

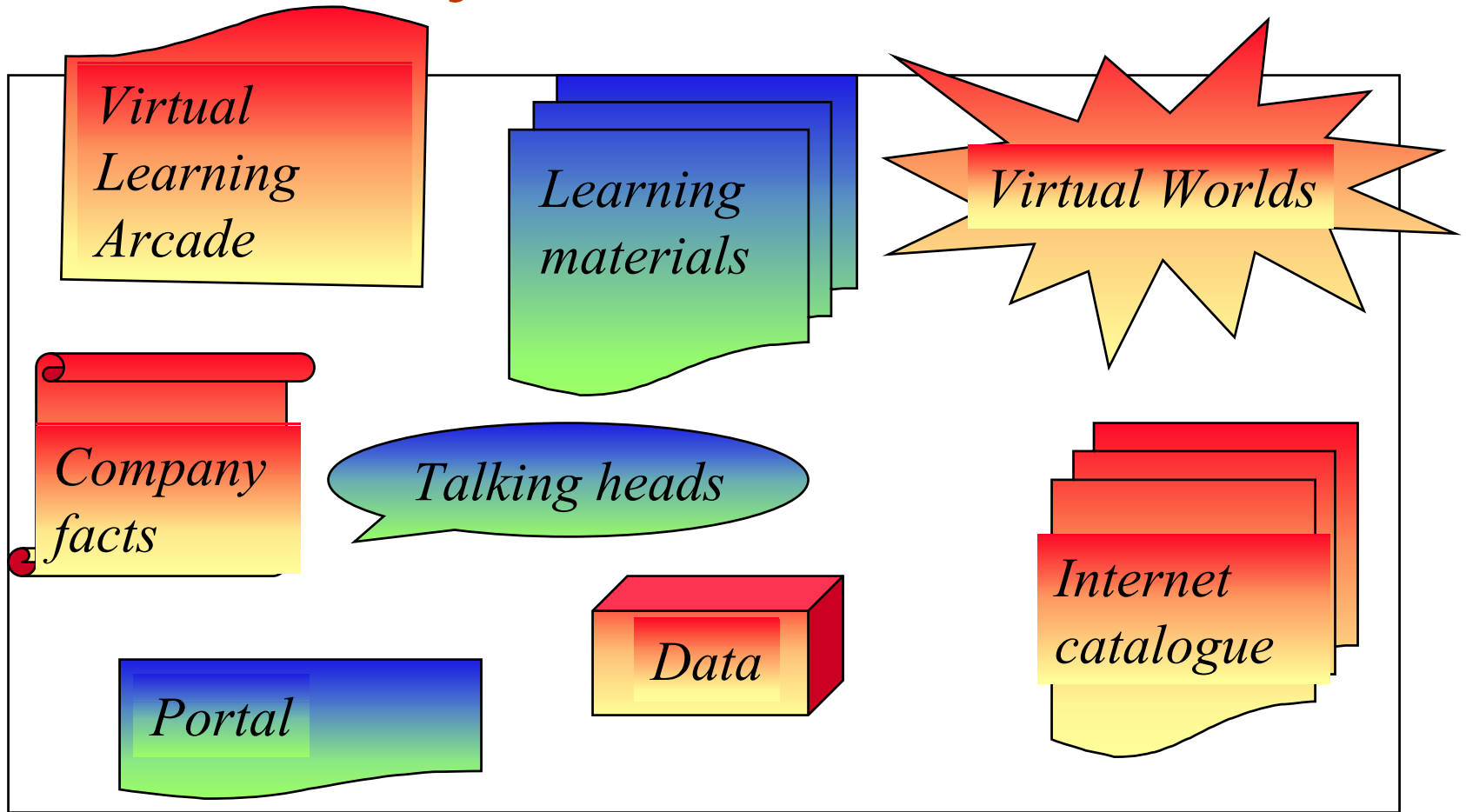
Using: practicals, fieldtrips, learning sets, online collaboration

Evaluating: Exams, essays, progress tests, MCQ, peer assessment

Matching tools and learning...

- There are two main approaches
 - Pick and mix - integration
 - Tools based on specific pedagogical approaches
 - around problem-based learning, collaboration or discourse
- Examples include
 - Bottom-up jigsaw of tools: Biz/ed
 - ‘homegrown’ subject specific COTS: Medicine
 - Constructivist: COSE and Boddington
 - Conversational: described here: Kukakula

Case study: Biz/ed



Focus

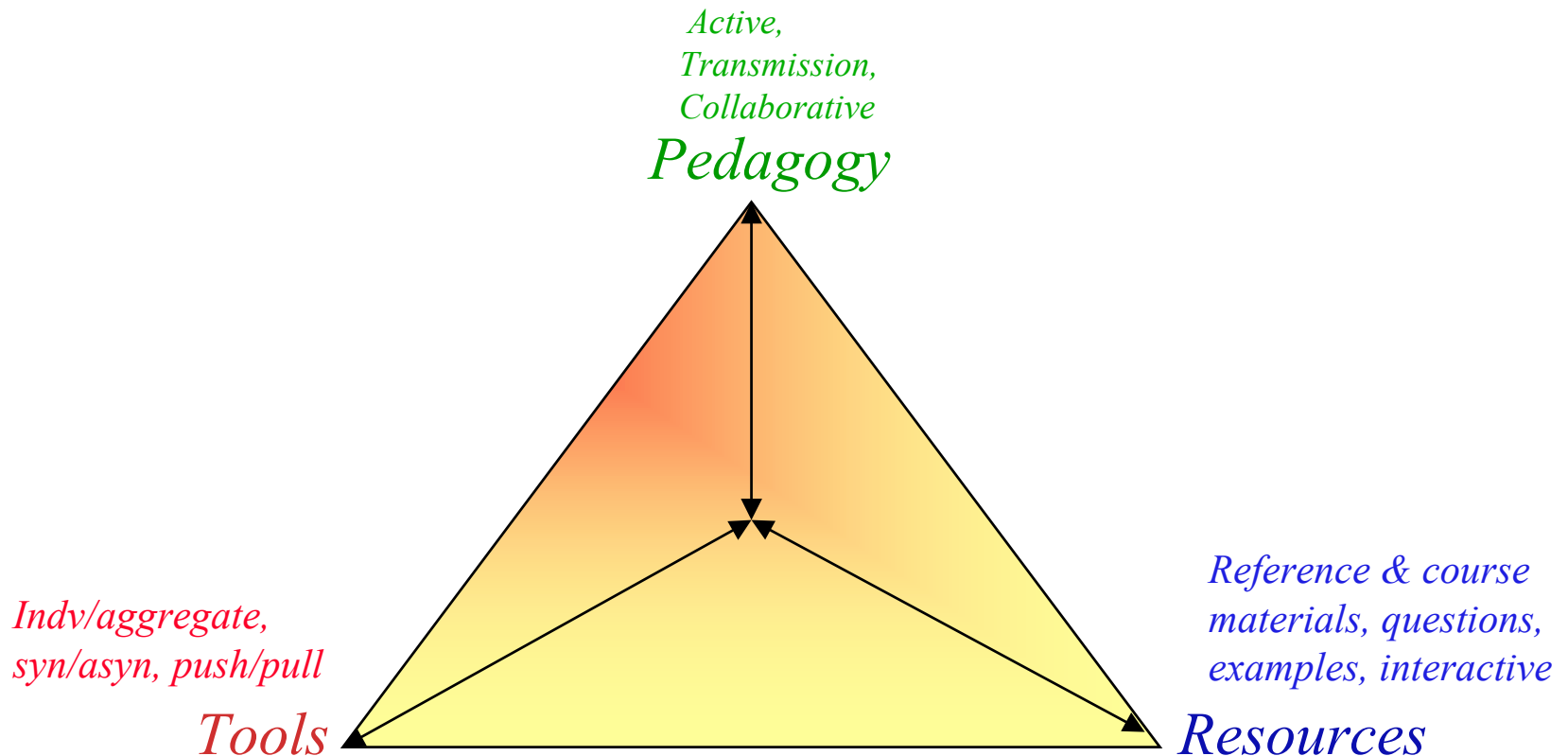
- Virtual worlds
 - simple, engaging, authentic, linked to other resources, flexible range of uses
- Virtual Learning Arcades
 - models and simulations which can support active learning and enquiry
- Supporting materials
 - resources, expert topics, tailored links

Case study: Challenge

- 'VLE' which can
 - can be used to build problem-based scenarios
 - has a range of objects with different properties
- Can
 - piece together the scenario around a particular problem
 - create tools and resources for enquiry
 - provide guidance, instruction and support

Getting the right balance

Beetham, 2001



Rich and engaging VLEs?

- Need to maximise all three areas, with
 - mix of pedagogies to meet the intended aims and reflecting the students needs
 - resources to support the learning, linked into the pedagogies and facilitate by the tools
 - tools mapped to pedagogies and populated with resources

Future research questions

- focusing on the tools
 - what can they do?
 - how does this relate to different groups of users?
 - what influence do in-built assumptions have?
 - how do the tools aggregate?
- focusing on the pedagogy
 - there is no current ‘definite’ learning theory?
 - how do the different models relate?
 - what is the map to different technologies?
 - how do we harness technologies for learning?