

Types of learning technology

“There are many attempts in the literature to categorize and classify the forms of media, none of which is very illuminating or useful for our purpose here.” Laurillard 2002, p83

Classification is often by function (pedagogy, learner experience) in learning or by technology (logistics). Descriptions by function describe actual use and imply the possible uses (affordances). They are an analysis and could influence design.

Kemmis (1977 in Rushby 1984) four “paradigms”:

instructional - programmed instruction;
revelatory – simulations;
conjectural - modeling or programming;
emancipatory - productivity tools

Papert (1980) *Mindstorms*:

computer programs child versus
child programs computer (the issue of control)

O’Shea and Self (1984):

computer as teacher versus
computer as tool

Maier & Warren (2000)

Tool: for modeling the real world and analyzing data, both generic and subject specific
Resource: digital libraries, multimedia, ... both primary data - texts, records, statistics
...and secondary - courseware, learning materials
Medium of communication: email, discussion boards, real-time chat, audio and video-conferencing

Tools in detail (Conole, 2004)

- 1 Tools for manipulating text and data- Word, Excel and Access
- 2 Tools for presentation and dissemination – the web, PowerPoint and Adobe
- 3 Tools for analysing data – SPSS, NVIVO and Stella
- 4 Tools for information seeking and handling – search engines, portals & gateways
- 5 Tools for storing and managing information - databases and journals
- 6 Tools for personal management - diaries and to do lists
- 7 Tools for project management – Microsoft project
- 8 Tools for communication – Email, discussion forums and chat
- 9 Tools for visualisation and brainstorming – mindmaps and visual tools
- 10 Tools for support and guidance - in-built help, wizards and toolkits
- 11 Tools for evaluation and assessment- Perception and web tracking tools
- 12 Tools for specialised, subject-specific use

Laurillard (2002) ‘Educational media should be classifiable in terms of the extent to which they support the interpersonal and internal dialogue forms’ (p83):

Discursive,
Adaptive,
Interactive,
Reflective.

Or, more practically, 'combining learning experience with logistical characteristics' (p83):
Narrative - lecture, print, audio-vision, TV, video
Interactive – web, hypermedia
Adaptive - tutorial programs, simulations
Communicative – text/audio/video conferencing, discussion
Productive - micro-worlds, modelling, but dismissing word processing

A simple classification by educational function (Bostock 1996) based on a critique of Laurillard, 1st edition.

1. information resources (content but no processing, user control) - databases, hypermedia, webs
2. information processing tools (processing but no content, user control) - word processors, concept mappers ...
3. simulations (content and processing, user control) - games, models, virtual environments
4. computer aided instruction (content and instructional processing, software control) - substitute tutors and testers, tutorials and assessment ...
5. computer mediated communications (content-free, processing-free, user control) - personal communication media, e-mail ...

'Modes of Engagement' - Bostock et al 2006, Bostock 2007

Initially a way of evaluating lectures, extended as a tool for designing blended learning. Used as the organizing framework for *e-Teaching* SEDA paper. The five modes can each be online and/or offline.

1. Simple presentation
2. Multimedia presentation
3. Student individual activity
4. Student-student interactivity
5. Student-teacher interactivity (including assessment)

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