New Media and New Learning:

Exploring Pedagogical Affordances in a 'Social Knowledge' Space

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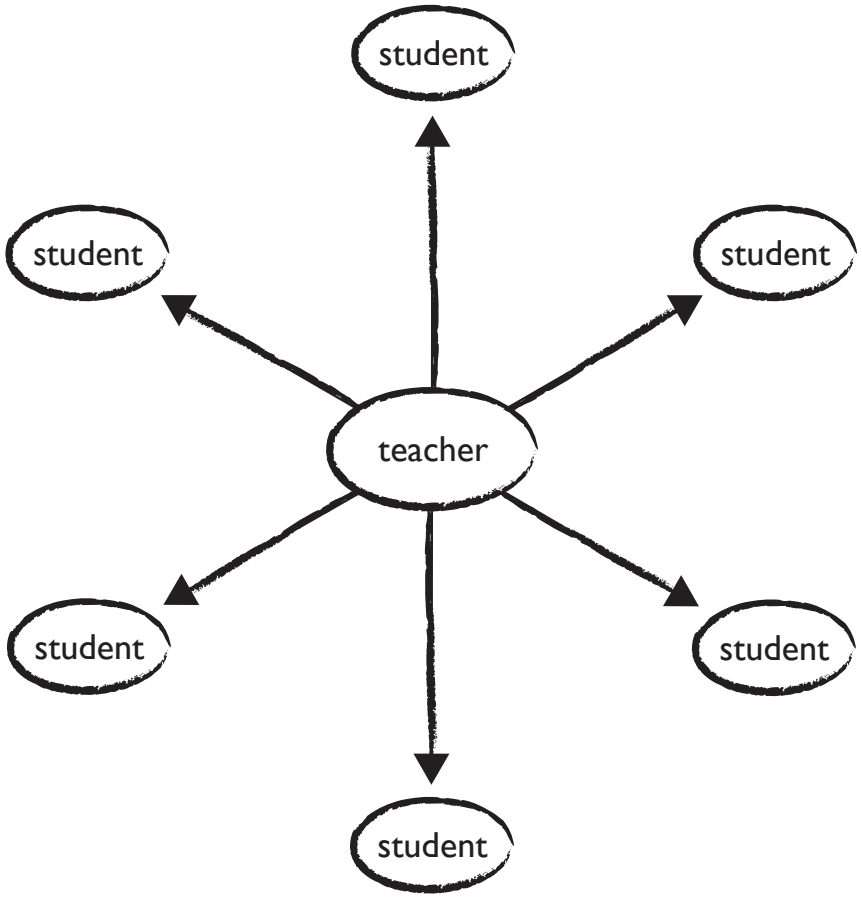
Then she turns. ‘Turn around, Soula,’ says the teacher. ‘Don’t disturb the girls behind you.’

The classroom is a communications and knowledge architecture.

Here is the pedagogical design of this classroom in Greece in 1983, and tens of thousands others like it before and since:



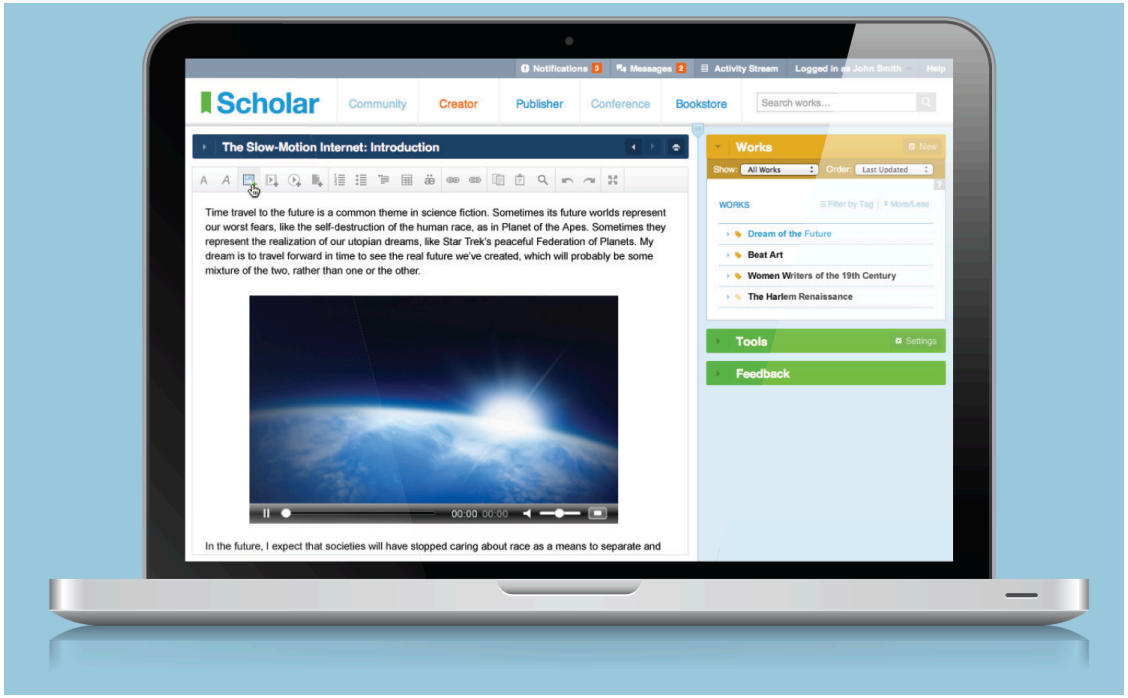
Some typical discursive flows:

- Teacher talks -> students listen
- Teacher Q. -> students A. (‘hands up!’, ‘one at a time!’)
- Teacher says ‘read chapter 7’ -> students read and memorize
- Teacher sets test -> students respond with correctly memorized answers

What does this learning arrangement tell us about the nature of knowledge?

How do e-learning systems reproduce these legacy relations of knowledge?

How might they be different? (… hence, ‘affordances’)



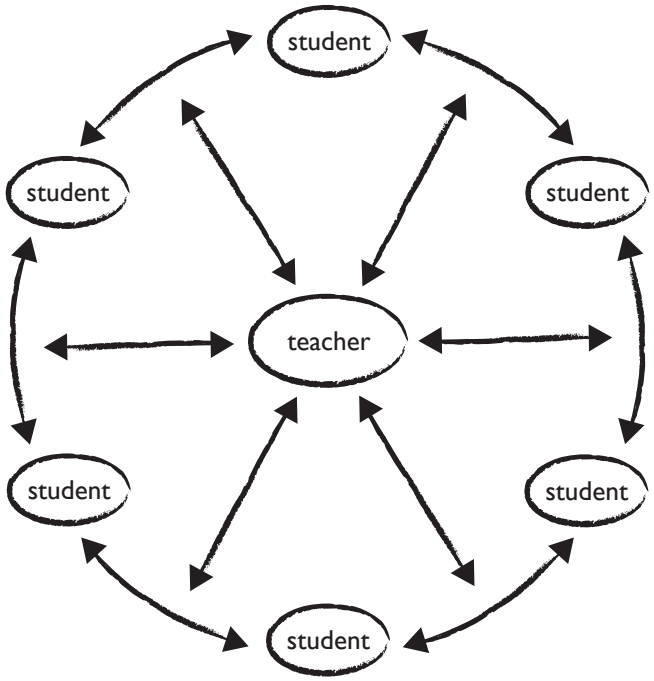
Scholar

Community, a class discussion space where the social media glue comes from the interaction of 'peers'.

Creator, a simple and powerful multimedia web authoring space.

Publisher, a space to design projects with multiple forms of peer and machine feedback.

Here, by contrast with the village school in Greece, is the communication and knowledge architecture of what we call the 'new learning':



Some typical discursive flows:

- Instructor scaffolds peer <-> peer feedback
- All students involved simultaneously in constructive peer <-> peer learning dialogue
- An active, knowledge producing community
- Continuous formative assessment, supplementing teacher assessments with structured self and peer assessments

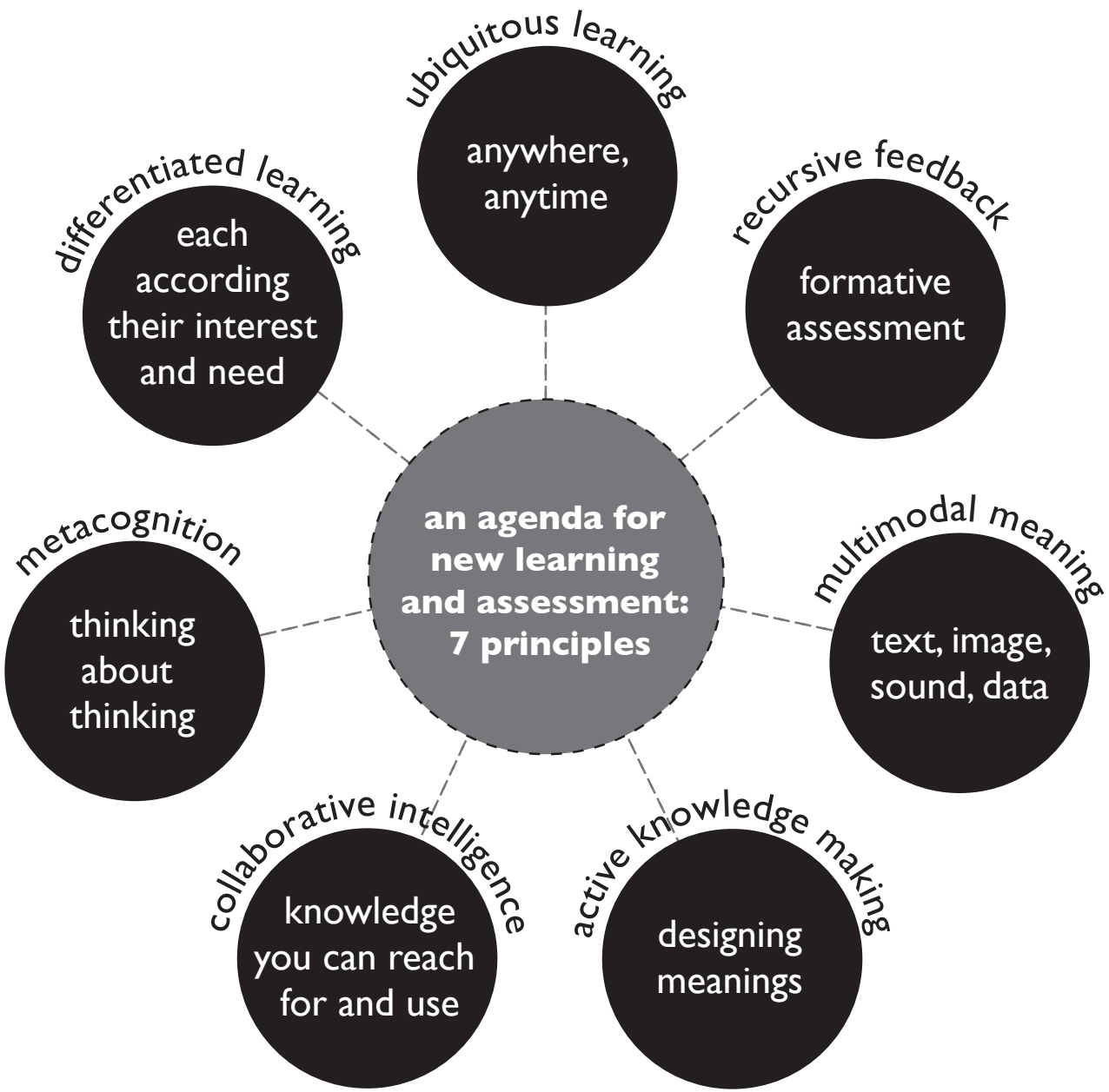
Seven affordances, seven openings …

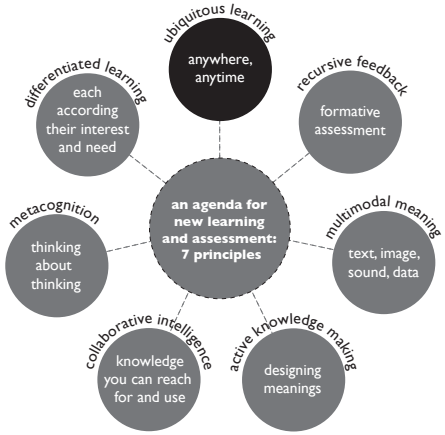
WHAT IS AT STAKE?
(research questions, if you like …)

How do the *discursive positions* of teachers and learners matter? (Cazden, *Classroom Discourse*, 1988/2001)

Can we change these positions in order to harness learner *identities*, deepen their *engagement* and increase *motivation* to devote time to task – all critical components in acquiring and creating knowledge.

How might the *affordances of the digital* be a game changer that improves educational outcomes?


ubiquitous learning
anywhere, anytime
differentiated learning
each according their interest and need
recursive feedback
formative assessment
an agenda for new learning and assessment: 7 principles
metacognition
thinking about thinking
multimodal meaning
text, image, sound, data
collaborative intelligence
knowledge you can reach for and use
active knowledge making
designing meanings



ubiquitous learning #1

- Applying ‘Web 2.0’ social media technologies to student learning and assessment
- ‘Cloud’ computing with browser access —lightweight infrastructure
- Transcending the old pedagogical separations of space (the walls of the classroom) and time (scheduling, timetabling)
- Transparency/surveillance, and ‘you won’t be able to say you lost your homework’

Scholar: Petrus Ramus, 1515-1572
inventor of the modern textbook

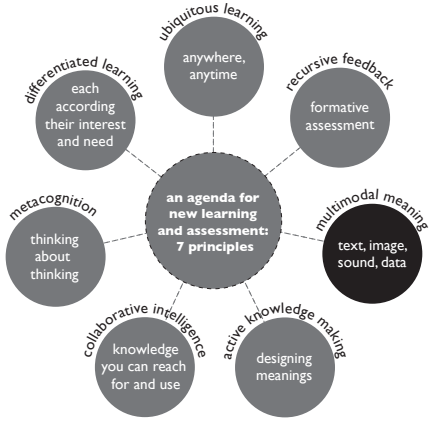
active knowledge making #2

- From knowledge consumers (content transmission) to knowledge producers (participatory learning)
- From hierarchical, top-down knowledge flows to lateral knowledge flows; a distributed model of learners as (co-)creators of new knowledge ('designers')
- Aligning with contemporary shifts in the balance of agency:

readers <-> writers ('users' in the social media)
producers <-> consumers ('prosumers' when they use customizable products)

- Skills and sensibilities for a 'knowledge society' and 'knowledge economy'
- A shift in focus in education from cognition (memorization) to knowledge representations (artifacts)

Scholar: Hu Pei, eighteenth century



multimodal meaning #3

CAMBRIDGE

Literacies

Mary Kalantzis

Bill Cope

Chandos Internet Series

CP
CHANDOS PUBLISHING

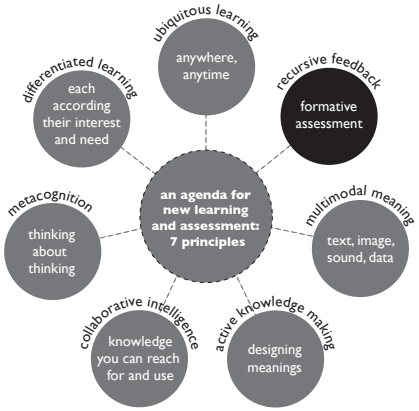
Towards a Semantic Web

Connecting knowledge in academic research

Bill Cope, Mary Kalantzis and Liam Magee

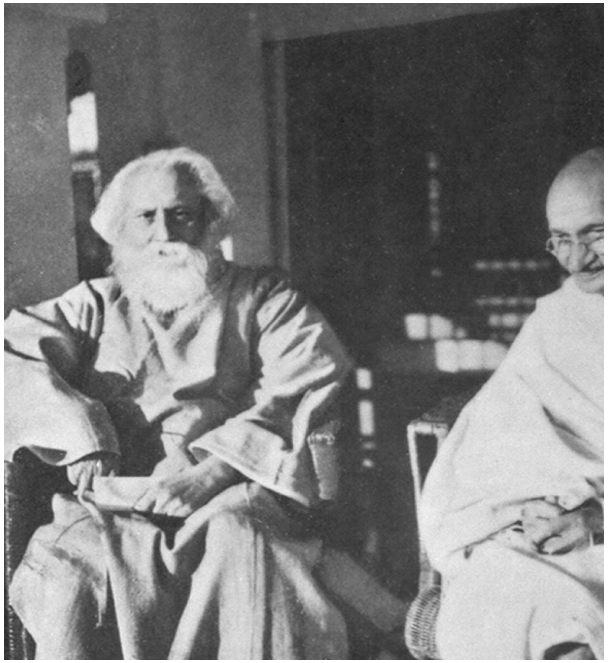
- Expanded tools for knowledge representation
- Learner-generated knowledge representations can include video, audio created on inexpensive devices; also reader-manipulable dataset and other embedded files
- 'Multiliteracies' and multimodality in contemporary communications
- Students working in characteristically new media spaces

Scholar: Woman and Child Looking at a Picture Book
Jacob de Gheyn II, 1600



recursive feedback #4

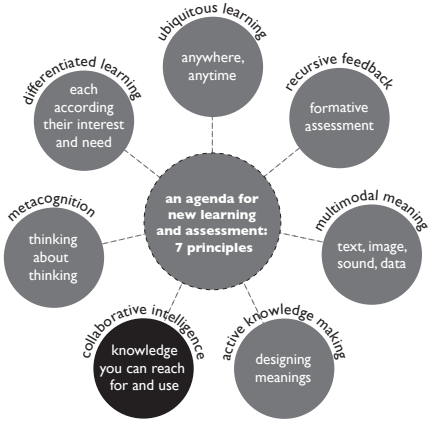
- Feedback from multiple sources and perspectives (e.g. peers, self, instructors, experts), and feedback on feedback
- Constitutive and not (just) retrospective assessment
- A ‘no failure’ educational paradigm, where you can keep taking on feedback until you are as good as good is supposed to be (vs the bell curve, where the few succeed because most are destined to fail)
- Ending the formative/summative assessment distinction, all assessment is integral to learning and all evaluation is integral to knowledge making



Scholar: Rabindranath Tagore, 1861-1941

- The knowledge artifact as evidence, portfolio spaces
- Plagiarism: you might try to game a single assessor, but it's more daunting to game a community
- 'Crowdsourcing' assessment and evaluation
- Collecting student work as structured data, with on-the-fly interpretative 'mashups' presented in student and teacher accessible 'dashboards'

Scholars: Plato's Academy, Mosaic, Pompei



collaborative intelligence #5

- Sharing knowledge by publication of community-adjudicated artifacts means that every learner is a knowledge maker, whose knowledge can be used as a resource by others, and cited

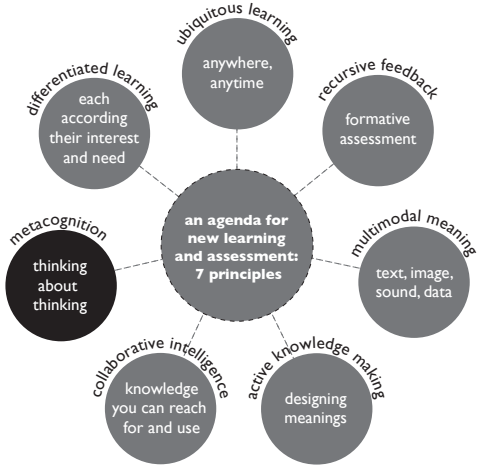
- Higher standards set by the good work of capable peers; but in reverse, peers support you to do better work

- Your work is good because others have helped you and you have learned by helping others (a 'help economy' instead of a zero-sum competitive economy)

Scholar: Phillis Wheatley, 1753-1784

- Assessing feedback interactions as well as finished artifacts, your contributions in a knowledge community
- External motivation (institutional rewards) -> intrinsic motivations (tasks, collaborations)
- Generation ‘P’: the peer-to-peer ‘stickiness’ of getting and giving getting feedback, motivating ‘new’ learners

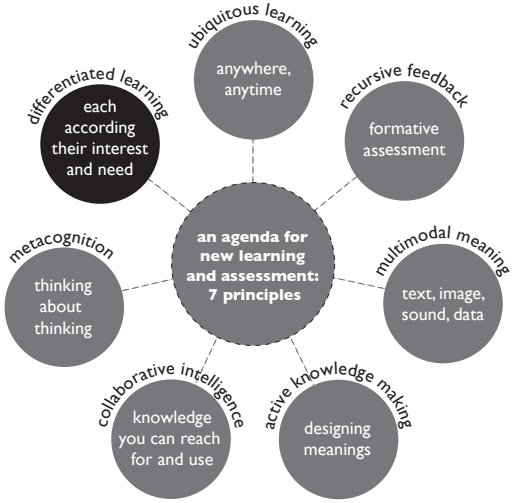
Scholar: Maria Montessori, 1870-1953



metacognition #6

Scholar: by Kuniyoshi Utagawa, 1797-1862

- A play between the general (thinking about knowledge criteria while getting and giving feedback) and the specific (thinking about specific knowledge)
- Between ‘walls’ and ‘blogs’—Socratic dialogues—transitioning from speaking to writing, from vernacular to academic discourse
- Metacognitive moments, the dialectics of cognition/ metacognition in the dialogue between the general and the particular; doing epistemology while doing the subject



differentiated learning #7

- Every learner does not have to be on the same page at the same time, nor complete a task at the same pace; nor do they even need to be doing the same task
- A focus on knowledge production provides an opening to valorize local experiences and engage with varied identities
- Available designs of meaning -> designing -> the redesigned; experience speaks, voices are distinctive—not (just) knowledge replication
- Comparabilities, equivalences—you don't have to be the same to be equal
- When managing learner differences becomes easier than one-size-fits-all teaching

Scholar: Saint Anthony of Padua, c.1586
El Greco, 1541-1614

Some research findings:

Formative response: action that creates feedback loops between response and further writing or revision … ongoing, low-stakes, often-collaborative assessment conducted over time—encourages students to consider the steps in their learning progress rather than to memorize facts for a final test or performance

Analysis of peer response idea units revealed that students frequently used explicit *affirming language* (e.g., "you have good ideas"; "I like the topic and agree very much") and implicit affirming language (e.g. "makes me want to recycle"). 38.38% of all peer review comments used one of these kinds of affirmation, while the students rarely used *demeaning language* of any sort. Across all comments, only 4.34% criticized the writer in a demeaning way (e.g. "your organization skills could use some work"; "I really think you could have tried harder").

There is *inter-rater reliability* when scoring guides (rating descriptions) are clearly specified, but not when vague (e.g. just 1-10).

Four common response types--the *rule follower* (tend to follow the rubric to the letter and sometimes beyond), the *repeater* (fixate on one or two things about the writing, and repeatedly talk about these things), the *cheerleader* ("very good," "it was great," "I really like it," and "nice details,"), and the *critic* (a number of different language structures to convey negative information; for instance, a questioning structure ("Why is it so short?"), a directive structure, ("you need more information"), or an informing structure, where the responder tells what the writer did wrong or what is missing).

A Formative Investigation of Peer Response and Revisions in an Online Writing Environment *Alecia Marie Magnifico, Sonia Kline, Kirsten Letofsky, Rebecca Woodard, Shannon Carlin-Menter, Sarah McCarthey, William Cope* – in review.

THANKS

US Department of Education, Institute of Education Sciences

The Assess-as-You-Go Writing Assistant: A Student Work Environment that Brings Together Formative and Summative Assessment (R305A090394)

Assessing Complex Performance: A Postdoctoral Training Program Researching Students Writing and Assessment in Digital Workspaces (R305B110008)

SBIR u-learn.net (ED-IES-10-C-0018)

SBIR Learning Element (ED-IES-10-C-0021).

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Evaluation Research

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With

8th Light, Chicago

Mahaswami Software, Bangalore

User Interface

Phil Zelnar, &Phil, Washington

Manuele Sarfatti, Milan

Systems Administration

Paul Ross, Anthony Beaird

Things we have always aspired to do in education

but now they are easier

A new economy of effort

(the seven affordances)

Paul Klee, 1879-1940
Angelus Novus, 1920