

# blended learning: design & improvisation

Peter Goodyear  
Professor of Education  
Co-director, CoCo Research Centre  
University of Sydney

UniServe Science Conference  
30 Sept 2005



# 'blended learning'

what & whether students learn

where, when & how students learn

## overview

### key terms:

blended learning, educational design, improvisation in teaching & learning

### learning outcomes:

thinking for a living, working knowledge, epistemic fluency,  
apprenticeship in the improvement of ideas (conceptual artefacts)

the scope of educational design

capturing and sharing educational design experience  
in the form of design patterns

# 'blended learning'

what & whether students learn

where, when & how students learn

informed choice:

if we (as teachers) and they (as students) are making choices  
about where, when & how to learn - on what kinds of conceptual  
and procedural resource can we draw to make good decisions?

## blended learning

e-learning  
b-learning  
l-learning

*'when I use a word ... it means just  
what I choose it to mean - neither  
more nor less'*  
*(Humpty Dumpty in Lewis Carroll's  
'Through the Looking Glass')*



or



& why?



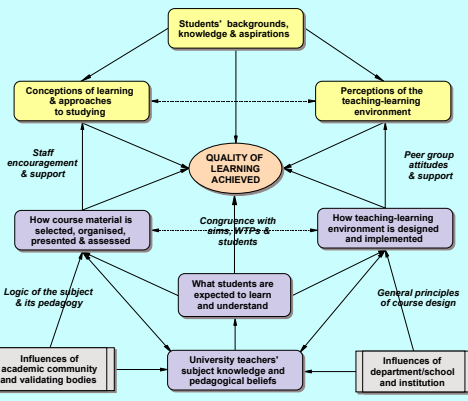
$$\Delta K = f(PKA + DP + SR + \dots)$$

media choices are about cost & efficiency,  
rather than about cognition & learning

Dick Clark

## paradigm shift

inert, fragmented knowledge → **'working' knowledge**  
 'teacher' directed → **learner-managed learning**  
 subject-centered → **learner-centered**  
 individualistic learning → **learning communities**  
 information transmission → **design of learning tasks and environments**  
 content & presentation technique → **student activity**  
 presentation technologies → **tools (for individual & collaborative work)**



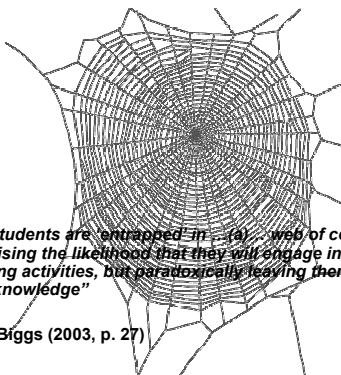
Noel Entwistle (2005)

## 21st century learning: thinking for a living

Learning outcomes

fragmented & inert knowledge vs 'working knowledge'  
epistemic fluency

cognitive apprenticeship:  
authentic involvement in the collaborative improvement of ideas - 'conceptual artefacts'

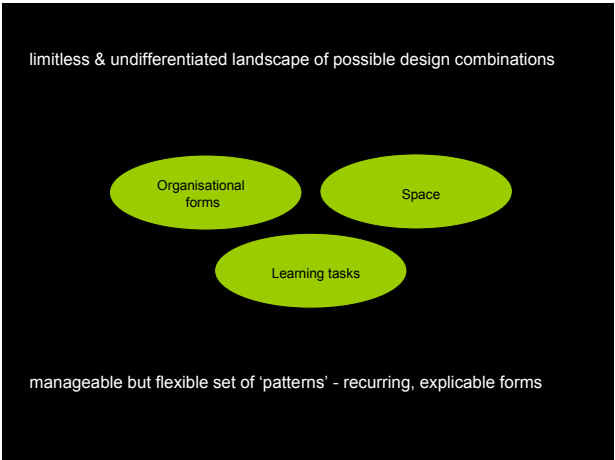
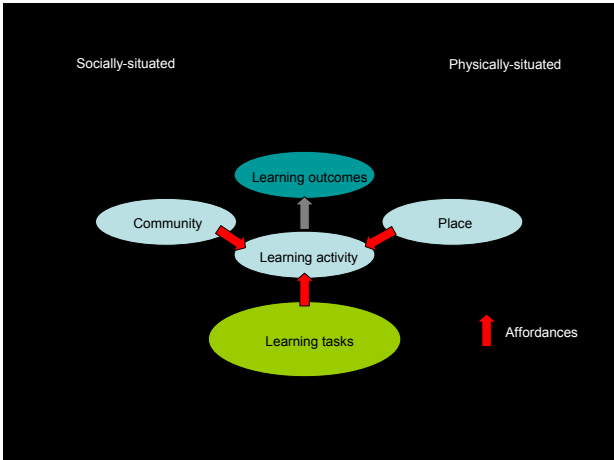
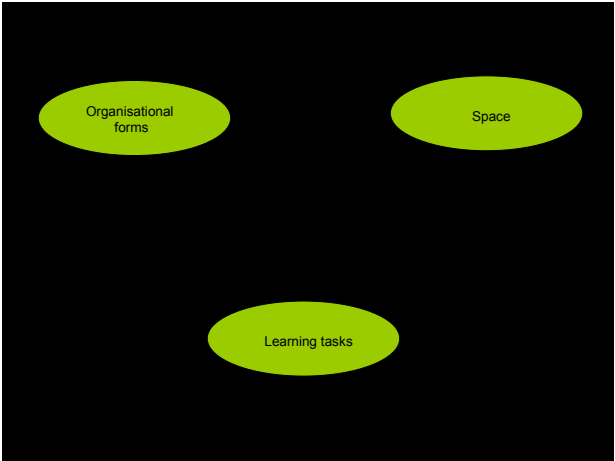
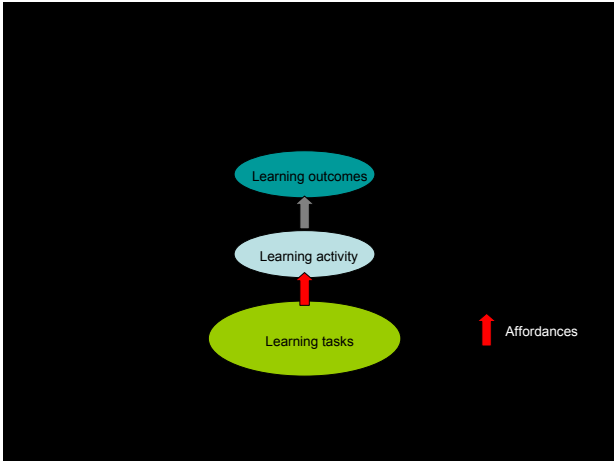
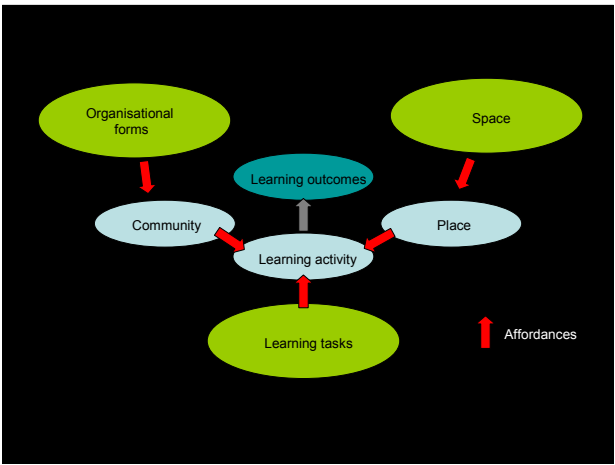
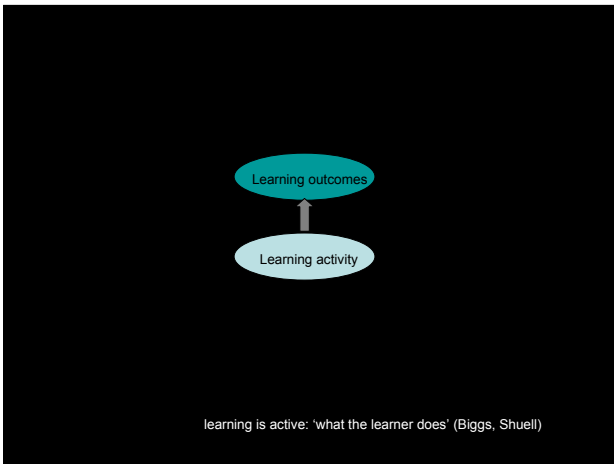


"the students are entrapped in a web of consistency, optimising the likelihood that they will engage in the appropriate learning activities, but paradoxically leaving them free to construct their knowledge"

John Biggs (2003, p. 27)

learning,  
as a process of guided construction  
is:

**active**  
 cumulative  
 individual  
 self-regulated  
 goal-oriented  
**situated** (Socially and physically)



# design patterns



a pattern is a solution to a recurrent problem in a context.

in Alexander's own words, a pattern "describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice"

(Alexander et al., 1977, p.x).



## context-> system of forces -> configuration

communal rooms -> conflicts between privacy & community -> alcove opening off a communal room  
 online discussions -> group maintenance & substantive task compete for time/attention -> collaboration scripts

# Discussion group

Name

This pattern is mainly concerned with the establishment of appropriate organisational forms for knowledge-sharing, questioning and critique. It is a way of helping implement the patterns LEARNING THROUGH DISCUSSION, COLLABORATIVE LEARNING and NETWORKED LEARNING PROGRAMME.

Context



Discussion groups are the most common way of organising activity in networked learning environments. The degree to which a discussion is structured, and the choice of structure, are key in determining how successfully the discussion will promote learning for the participants.

Problem

## The structure of an alexandrian design pattern

A picture (showing an archetypal example of the pattern) [easier in architecture than networked learning]

An introductory paragraph setting the context for the pattern (explaining how it helps to complete some larger patterns)

(to mark the beginning of the problem)

A headline, in bold type, to give the essence of the problem in one or two sentences

The body of the problem (its empirical background, evidence for its validity, examples of different ways the pattern can be manifested)

The solution, in bold type. This is the heart of the pattern – the field of physical and social relationships which are required to solve the stated problem in the stated context. Always written as an instruction, so that you know what to do to build the pattern.

A diagrammatic representation of the solution

(to show the main body of the pattern is finished)

A paragraph tying the pattern to the smaller patterns needed to complete and embellish it.

# Discussion group

Solution

Start any online discussion by establishing its structure. Make the rules and timetable for this structure explicit to all the members of the group. Where there is little time available to the group for the discussion, and/or the members of the group are inexperienced at holding online discussions, the teacher/facilitator should set the structure. Where the students are to set their own structure, the teacher/facilitator should give them support and ideas about how to do this, and encourage them to do so in a fair and timely way.



Patterns needed to complete this pattern include: DISCUSSION ROLE, FACILITATOR, DISCURSIVE TASK

Embellishments

Draft Pattern: discussion group

**Discussion group**  
 This pattern is mainly concerned with the establishment of appropriate organisational forms for knowledge-sharing, questioning and critique. It is a way of helping implement the patterns LEARNING THROUGH DISCUSSION, COLLABORATIVE LEARNING and NETWORKED LEARNING PROGRAMME.

Name  
Context

Discussion groups are the most common way of organising activity in networked learning environments. The degree to which a discussion is structured, and the choice of structure, are key in determining how successfully the discussion will promote learning for the participants.

Problem

Discussions can be relatively structured or relatively unstructured, and they may also change their character over a period of time. It is not uncommon for a teacher to set up a discussion in quite a formal or structured way, and for the structure then to soften as time goes by – for example, as the participants take hold of the conversation, opening up and following new lines of interest.

The structure of a discussion should be such that it increases the likelihood of:  
 a) an active and substantial discussion, with plenty of on-task contributions by the students coming away from the discussion with a good understanding of the contributions made

'Body'  
Empirical background  
Evidence of validity  
Analysis  
Rational

b) unstructured discussions run the risks of (for example)

- not getting going properly within the time available
- disrupting into a number of loosely related strands that fail to engage effectively with subject being studied

c) dissolving into monologues or two-way conversations that fail to involve the whole group (Wertsch, 2002).

Pilkington & Walker (2003) have demonstrated the value of assigning explicit group roles in on-line discussion groups. Some writers, for example, McConnell (2000) are not sure about the validity of the teacher setting specific structuring devices, preferring to make the group itself responsible for determining how it wants to discuss things, or carry out its work more generally.

Therefore:

Start any online discussion by establishing its structure. Make the rules and timetable for this structure explicit to all the members of the group. Where there is little time available to the group for the discussion, and/or the members of the group are inexperienced at holding online discussions, the teacher/facilitator should set the structure. Where the students are to set their own structure, the teacher/facilitator should give them support and ideas about how to do this, and encourage them to do so in a fair and timely way.

Patterns needed to complete this pattern include: DISCUSSION ROLE, FACILITATOR, DISCURSIVE TASK

Solution

Embellishments

# pattern language for DEBATE

TASKS

ORGANISATIONAL FORMS/ROLES

TOOLS etc

Propose the motion

Proposer

Chairperson

Second the proposer

Second (P)

Oppose the motion

Opposer

Second the opposer

Second (O)

Speak from the floor

Speak from the floor

Speak from the floor

Speakers from the floor

Sum up for the motion

Sum up for opposition

Vote

Bulletin Board  
-threaded discussion

or  
Bulletin Board  
-shell for debate tasks  
-voting mechanism

and?  
Sources of evidence  
or opinion relevant to the debate

## pattern language for COURSE

t

↓

Read texts  
DISCUSS  
Group projects  
Present outcomes  
Synthesise evidence  
DEBATE

## learnspace

own study: intensive, uninterrupted work  
tutorial room: small group, tutor-led discussion  
lecture theatre:  
lab: practical work with scarce equipment...  
library: browsing access to scarce (info) artefacts  
group workspace: soundproof, tables & IT  
online discussion space:

etc

## organisational forms

individual  
dyad  
triad  
team  
Community, etc

mixed ability, equal ability,  
self-forming, teacher-formed, etc

## patterns as combinations of task, space & organisational form

identified, explained, shared & developed within a setting  
(educational community)

familiar/recognisable to students, but not over-used

compatible with overall pedagogical philosophy & approach

## task types

memorise formulae  
practise procedure  
write report  
debate  
discuss  
design

etc

## concluding points

blended learning foregrounds choice (educational design)

the practice of educational design is constrained by time, knowledge, etc

putting student activity at the centre; clarity about desirable outcomes; perceptible coherence/alignment in design

patterns as recurrent explicable forms, owned by a community (rather than prescribed from outside)

Thank you

<http://coco.edfac.usyd.edu.au>

Goodyear, P. (2005). Educational design and networked learning: patterns, pattern languages and design practice. *Australian Journal of Educational Technology*, 21(1), 82-101.