Reflections on a PhD - the process in one!

IDG Seminar
Jon Pearce
September, 3 2004

The plan

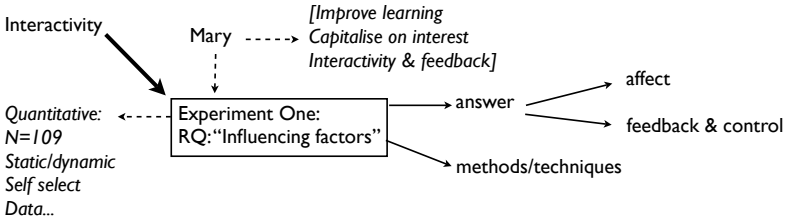
1. What I did
2. Reflections on process
3. Discussion

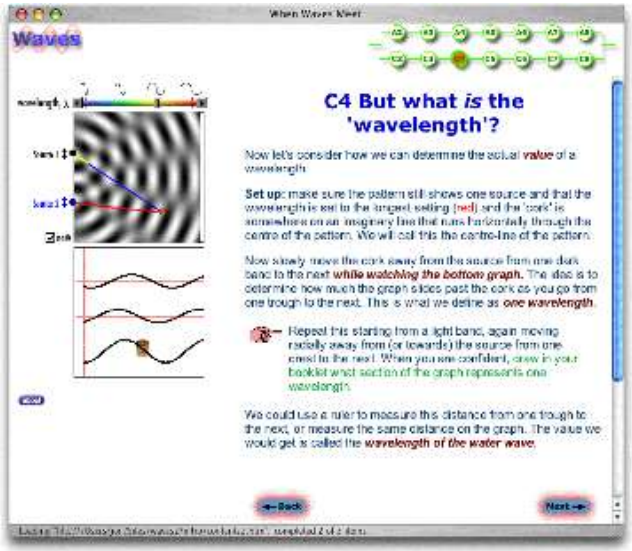
An investigation of flow theory to explain student behaviour during online interaction

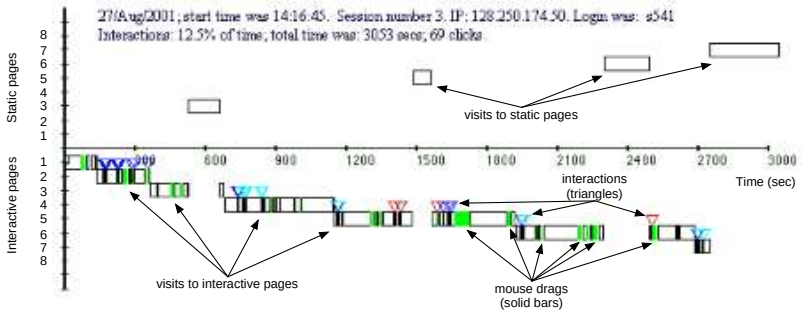
Research question:

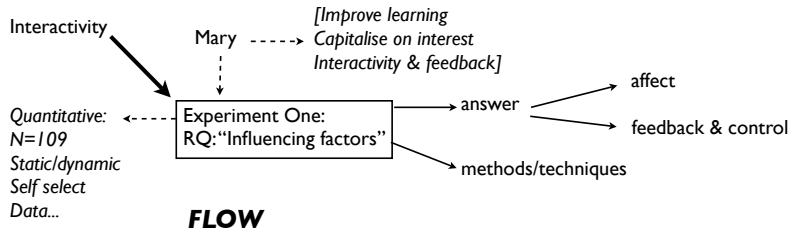
"How can flow theory be used as an explanatory framework for investigating student engagement in an online interactive learning environment?"

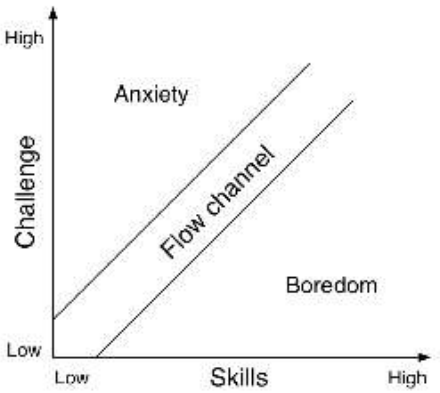
1. What are the influential factors over learner interactions in an online interactive learning task?
2. Of those influential factors, how do the flow concepts of challenge and skill describe and influence learner interaction?
3. Why do the flow concepts of challenge and skill present such an apparently inconsistent picture?

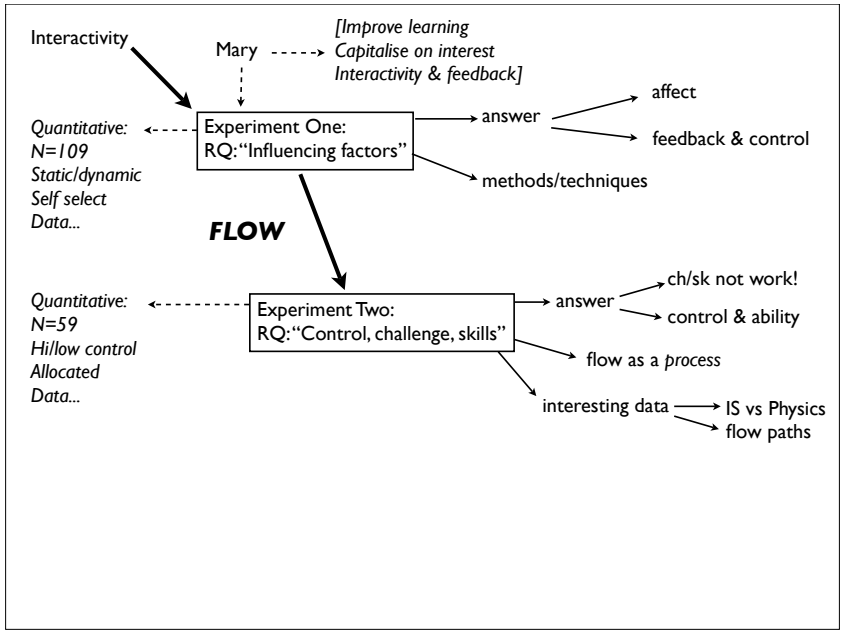


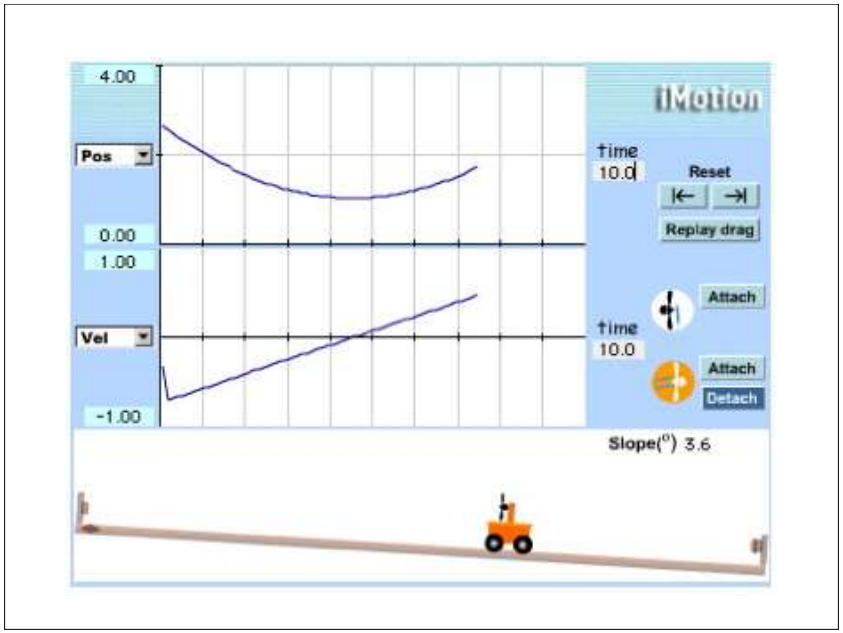

Waves
C4 But what *is* the 'wavelength'?
Now let's consider how we can determine the actual value of a wavelength.
Set up: make sure the pattern still shows one source and that the wavelength is set to the largest setting (red) and the 'cork' is somewhere on an imaginary line that runs horizontally through the centre of the pattern. We will call this the centre-line of the pattern.
Now slowly move the cork away from the source from one dark band to the next while watching the bottom graph. The idea is to determine how much the graph slides past the cork as you go from one trough to the next. This is what we define as one wavelength.
Repeat this starting from a light band, again moving radially away from (or towards) the source from one crest to the next. When you are confident, draw in your booklet what section of the graph represents one wavelength.
We could use a ruler to measure this distance from one trough to the next, or measure the same distance on the graph. The value we would get is called the wavelength of the water wave.
Back
Next

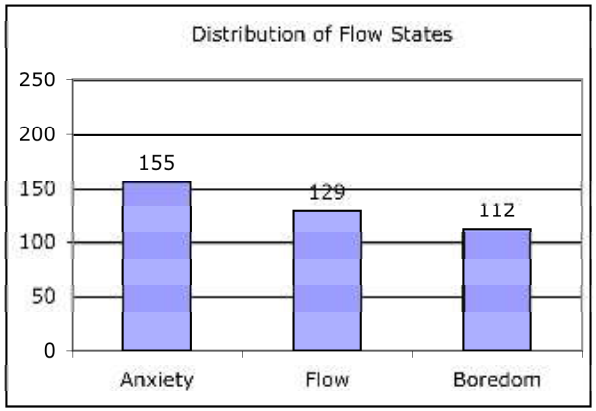

27/Aug/2001; start time was 14:16:45. Session number 3. IP: 128.250.174.50. Login was: s541
Interactions: 12.5% of time; total time was: 3053 secs; 69 clicks
Static pages
Interactive pages
visits to static pages
interactions (triangles)
visits to interactive pages
mouse drags (solid bars)
Time (sec)

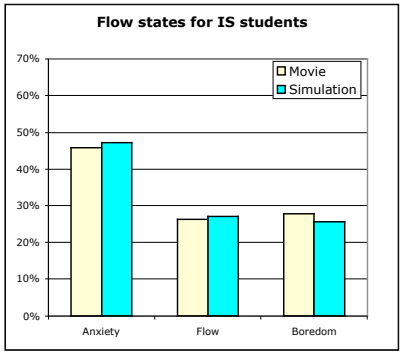

Interactivity
Mary
[Improve learning
Capitalise on interest
Interactivity & feedback]
Quantitative:
N=109
Static/dynamic
Self select
Data...
Experiment One:
RQ:"Influencing factors"
answer
affect
feedback & control
methods/techniques
FLOW

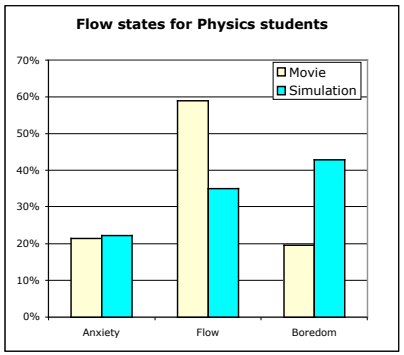

High
Anxiety
Challenge
Flow channel
Boredom
Low
Low
Skills
High

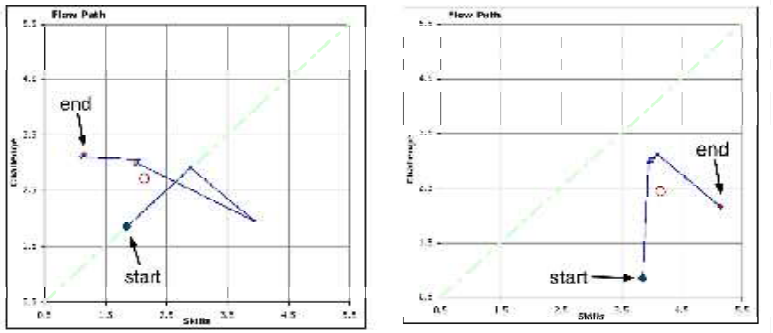

Interactivity
Mary
[Improve learning
Capitalise on interest
Interactivity & feedback]
Quantitative:
N=109
Static/dynamic
Self select
Data...
Experiment One:
RQ:"Influencing factors"
answer
affect
feedback & control
methods/techniques
FLOW
Quantitative:
N=59
Hi/low control
Allocated
Data...
Experiment Two:
RQ:"Control, challenge, skills"
answer
ch/sk not work!
control & ability
flow as a process
interesting data
IS vs Physics
flow paths

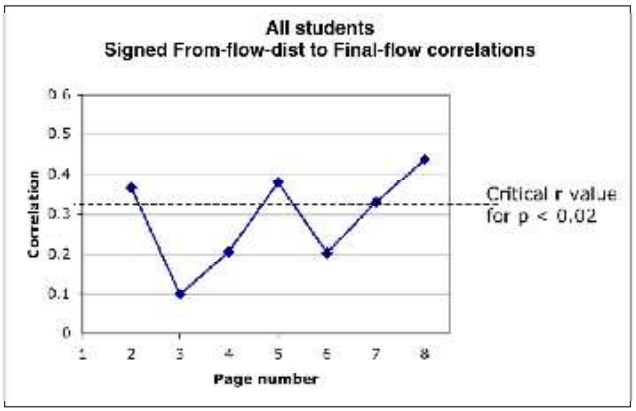

4.00
Pos
0.00
1.00
Vel
-1.00
time
10.0
Reset
Replay drag
Attach
time
10.0
Attach
Detach
Slope(°) 3.6

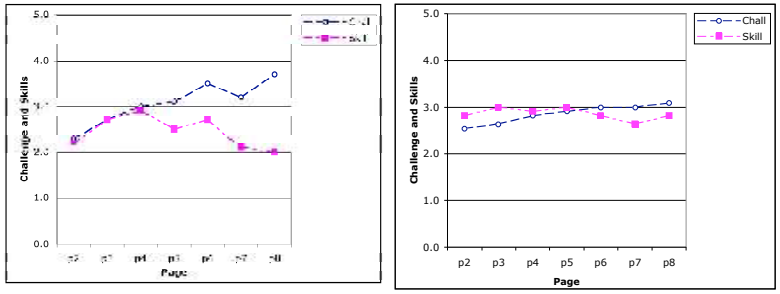

Distribution of Flow States
250
200
150
100
50
0
155
129
112
Anxiety
Flow
Boredom


Flow states for IS students
70%
60%
50%
40%
30%
20%
10%
0%
Movie
Simulation
Anxiety
Flow
Boredom

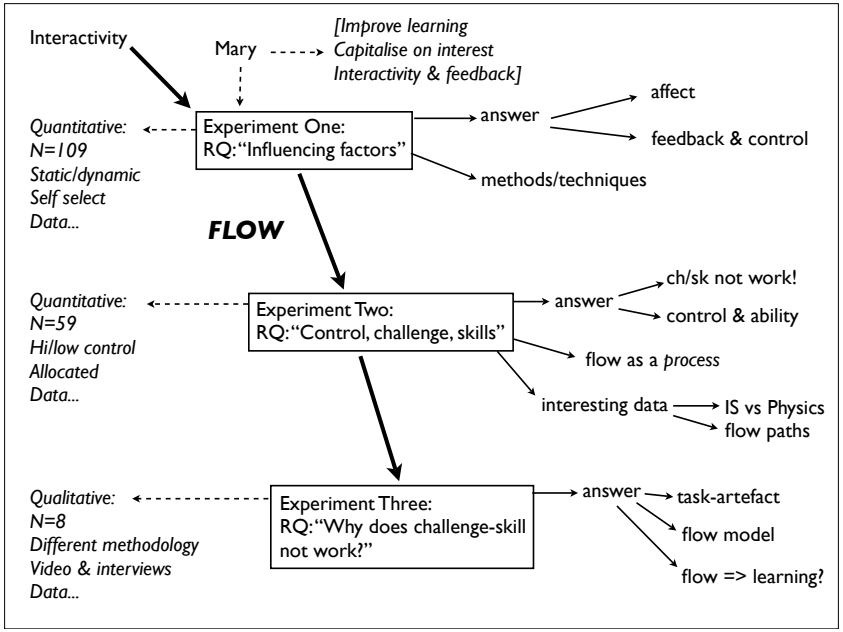

Flow states for Physics students
70%
60%
50%
40%
30%
20%
10%
0%
Movie
Simulation
Anxiety
Flow
Boredom

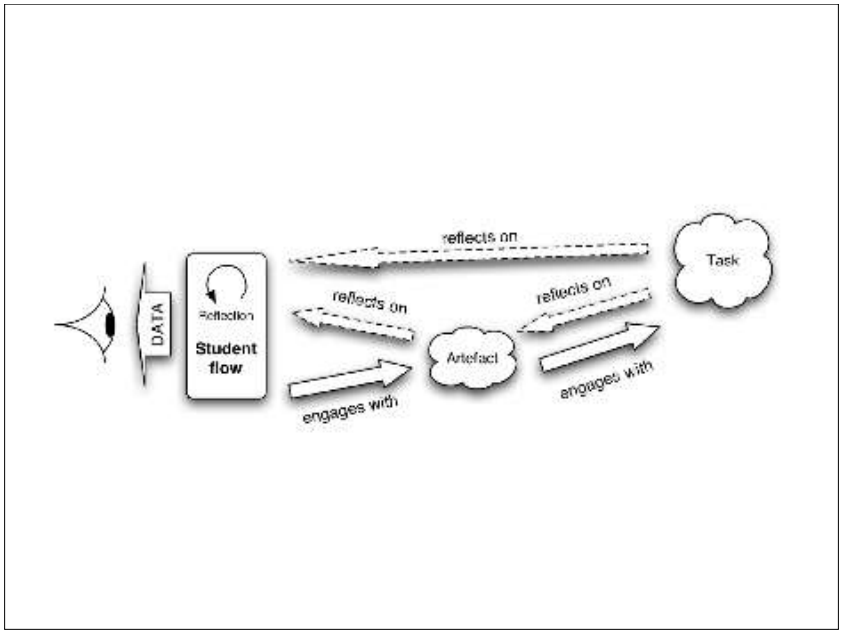


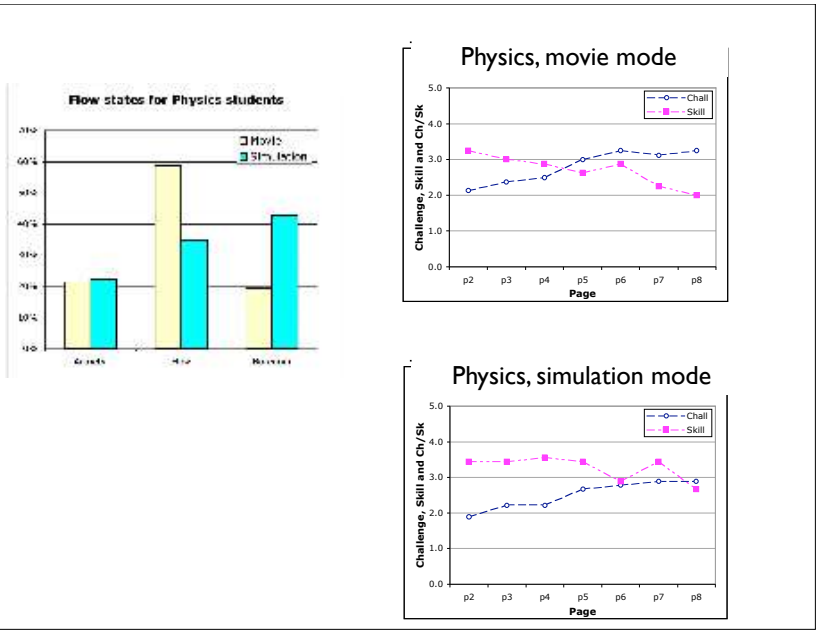


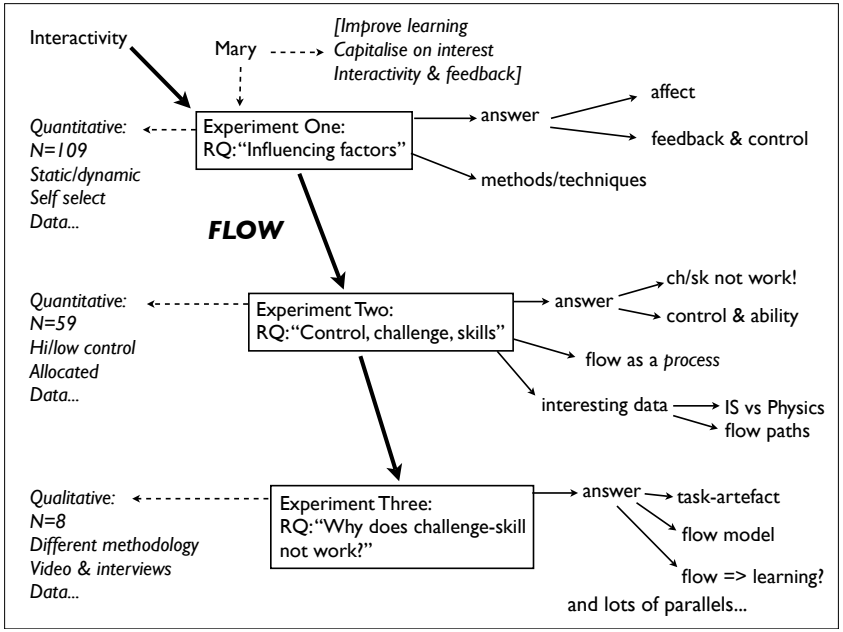


"learners" "unlearners"









Challenges...

Retrofitting & separating

Brain space

Regrets...

Writing lit review

Outcomes...

Mess & formalism