Issues & Advice

These comments come from a workshop on Learning through Projects at the LTSN Engineering Workshop on Project and Group Work in Engineering held on 3 September 2003 at Loughborough University.

Groups at the workshop were asked to work on the following topics to identify issues or concerns and to offer advice:

- Learning Outcomes
- Assessment
- Assessing Group Projects
- Resources

This handout consists of transcripts of the groups' flipcharts.

We are grateful to the participants for their contributions.

Achieving Student Learning Outcomes

- Jargon and how to word things
    - Sterile language

    - Remember: What do you want students to **be able to do**? Put in your own language first

- How do you frame and structure projects to cover outcomes – some of the benefits to students are qualitative and immeasurable/better open

    - What is **essential** in skills or knowledge frame L/Os around these.

- How do you set "skills based" outcomes?
    - PBL can't be standalone
    - Look at **how** you assess
    - Word outcomes so that they are generic

- How do you select outcomes?
    - Depends on the type of project. Don't need to cover all possible outcomes
    - Consider if you want **deep** or **surface** learning

- Do you reduce a programme to a set of tick boxes?
    - Use projects where appropriate
    - Do not expect PBL to deliver the same outcomes as a traditional programme: they are not interchangeable

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Learning Outcomes

Issues

- Do all people in a group learn all outcomes?
- Who is achieving the outcomes?
  - students or staff?
- How to demonstrate what has been learnt?
- Prescriptive nature of learning outcomes + TQA
- Open-endedness of projects……
- How to assess the individuals and the group?
- How to resit a group piece of work?
- Should all outcomes be assessed?
- Moderation of assessment

Advice

- Individual assessment
- Define outcomes before designing project
- Define technical outcomes separately from transferable skills
- Asses technical and transferable skills separately
- Don't over assess

Assessment

Concerns	Advice
Comparability between supervisors e.g. expectations of student	Moderation essential Staff training essential
Compression of marks	Moderation essential
Assessing individuals in groups	Peer assessment Supervisor views
Objective assessment	Reasonable milestones
Assessing industrial projects	Only seek advice of industrial supervisor but not marker
Personality conflict between student and supervisor	
Forming groups (individual ability, gender, race)	Do projects!
Staff time	
Financial limitations	
Resource limitations (space, equipment, time)	
Incentives for teaching (encouraging staff involvement)	

Assessing Student Performance in Projects

Concerns

- Equitability
- Reliability
- Staff effort
- Group vs. Individual
- Subjectivity
- Validity
- Accreditation requirements
- Matching to learning outcomes
- Assessing diverse outputs:
  - Video
  - Presentations
- SENDA requirements
- Assessing a range of skills:
  - Problem solving
  - Transferable skills
- Peer assessment

Advice

- Clarity of information
  - Staff and students
- Input and feedback
  - Close the loop
- Set milestones (millstones?)
- Careful assessment design
- Diversity of methods
- Set group roles
- Team formation
- Use time wisely
  - Students
  - Staff!

Do you really want to do this??

Assessing Group Projects

1. Assigning of tasks to individuals may lead to specialised knowledge **not** of whole project
2. Project direction may be dominated by the most vocal student who may **not** necessarily have the best ideas.
3. Attempt to ensure that each student learns something of the other assigned tasks.
4. Need to ensure continuous involvement with project even if an individual has completed task.
5. Keeping within budget.
6. **Communicate** - verbally, writing and graphically

ADVICE

Assessing Group Projects

- Individual – Student selects
- Group – Probably given
- Qualitative vs. Quantitative
- Assessment Objectives
- Process clearer with individual final submission
- Peer assessment – The difficult person, student objectivity
- Assessing individual contribution within a group – need for continuous assessment during group meetings
- Assessing resources

Resources

Staff Time

- Full Cycle:
  - Plan, develop, run, evaluate
  - Training as to how
    - Staff/student

- Repetition of help
  - FAQ – Learn tech
  - Discussion groups
  - Presentations
  - ALS: Groups

Physical

- Infrastructure
  - Space, Networks, Library
  - Diverse Library material
  - Critical appraise web etc (publish on web)

- General Purpose (design and make)
  - Ownership space (studio)
  - Industry sponsorship (problem based)
  - Safety and lack of predicted activity
  - Student materials fee
  - Student fundraising

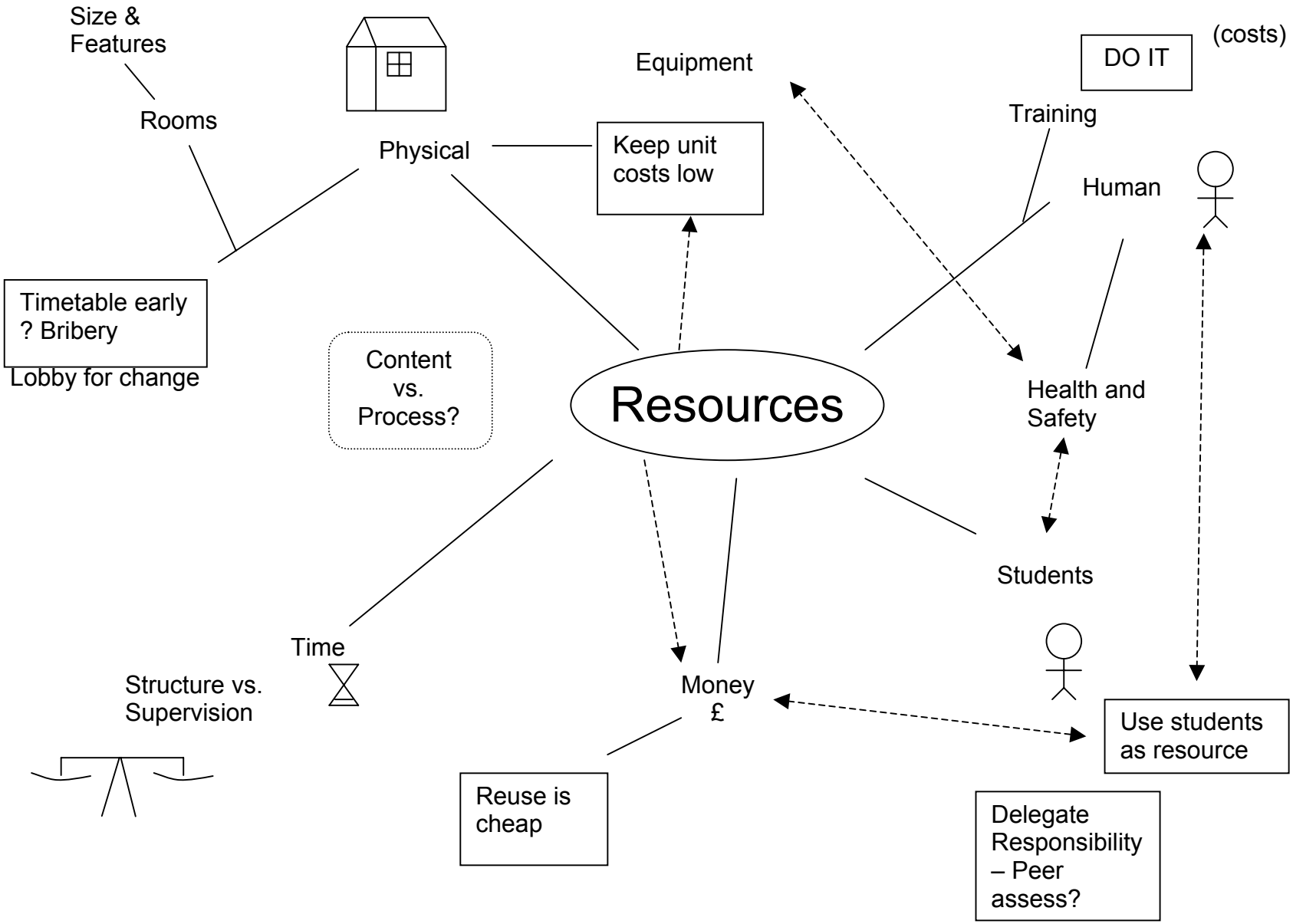
Resources

Issues

- Staffing < Numbers / Staff skills
- Timetable
- Group size
- Funding
- Pre-requisite knowledge
- Getting the right mix of resources
- Being available when needed < Physical / People
- Prior preparation for staff and students

Advice

- Keep it simple
- Prepare students with projects in previous years
- Provide adequate feedback
- Top-down support required
- Get friendly with your library
  - Ensure information is available physically or virtually
- Think about creating a dedicated space
- Contact local industry for ‘real world’ ideas
- Balance between group size and resources
  - You shouldn’t have more groups than you have places to put them
- Clear the timetable towards the end of the project!


Size &
Features
Rooms
Physical
Keep unit
costs low
Equipment
DO IT
(costs)
Training
Human
Timetable early
? Bribery
Lobby for change
Content
vs.
Process?
Resources
Health and
Safety
Students
Time
Structure vs.
Supervision
Money
£
Use students
as resource
Reuse is
cheap
Delegate
Responsibility
– Peer
assess?

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