

“Activity Led Learning: Changing cultures and building the teaching environment to achieve industry ready engineering graduates”

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## Faculty of Engineering and Computing

- Faculty covering broad range of Engineering, Computing and Mathematics subjects
- 5000 students: 3700 undergraduate, 1100 taught postgraduate and 200 research
- 500 staff of whom 400 are academic
- League table performance, especially teaching, was not good enough

# Presentation plan

- Why change?
  - Local drivers
  - Industry and employer drivers
  - Government drivers
- Defining a Faculty view for a new pedagogy
- The change process
  - What went well and why? What went wrong?
- Activity Led Learning in practice
  - Broadly defined activity led process
  - Developing supporters
- Learning spaces for ALL

# Drivers for change (1)

## – Government

- Student course completion rates
- Good honours and employment rates
- Student satisfaction rates
- League tables
- Tuition fees

## – Industry and employers

- Developing an industry ready culture
- ‘Soft’ skills (project management, team working, communication)
- Current knowledge

## Drivers for change (2)

### – Local drivers

- Students and satisfaction with learning
- Possibility of a new building
- History of technical education

### – Pedagogy

- Desire to develop a coherent learning approach
- Reputation for learning and teaching

# Faculty vision for teaching, learning and assessment

- Learning should be led by activity
  - Projects, industry posed problems, case studies, practical challenges, design exercises should be cross cutting, demonstrating integration
- Learning should be linked to the laboratory or workshop
- Learning should be in an industrial or commercial context
- Learning in close partnership with practice

# Putting the vision into practice

- Activity Led Learning: moving from vision and strategy to real examples.
- A strong and often repeated message
- Find a willing pilot
- Make sure that the study is academic – these are academics after all
- Bring the students into the team
- Refine the message and repeat it again and again and again and again and .....

# Managing change – with an academic community!

- Involve the community in developing a strategy
- Create a group of supporters
- Fund activity that underpins and supports the project
- Communicate, more than you can imagine
- Publish the results
- Gain some international support
- Develop staff to become facilitators
- Be persistent



# What worked? And what was more difficult?

- Pilot project, funded projects, group of supporters
- Mass communication events, international support
- Subject related difficulties, need examples from practice
- Staff buy-in
- Workload planning, staff profile needed change (TA's)

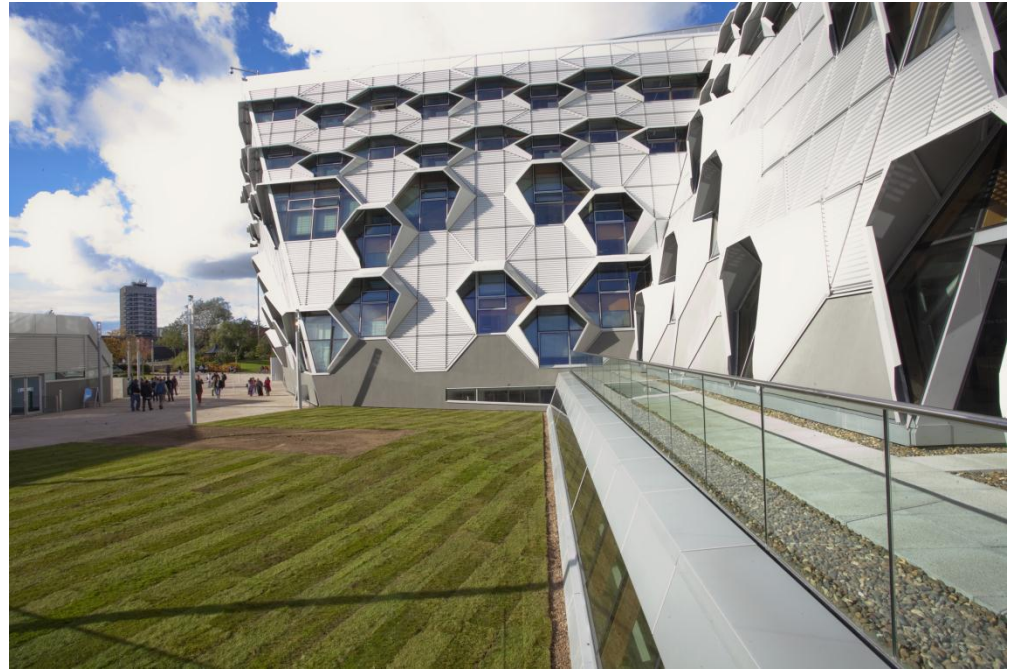
# Designing learning spaces for ALL – external view



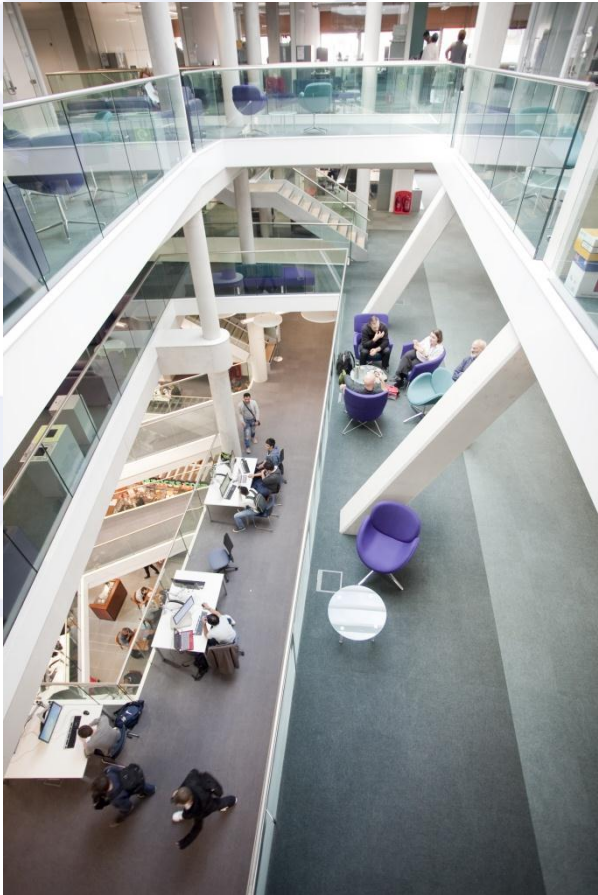
# Designing learning spaces for ALL – Campus approach



# Designing learning spaces for ALL - Courtyard



# Designing learning spaces for ALL – Collaborative space



# Designing learning spaces for ALL – Student space



# Designing learning spaces for ALL – Student space



# Designing learning spaces for ALL - Classrooms





# Designing learning spaces for ALL – Lecture spaces



# Designing learning spaces for ALL - Laboratories



# And what is next?

## – So far we have

- A 10-15% improvement in completion
- A 10% improvement in grades
- Enhanced employment of graduates
- Some staff turnover, unfortunately

## – Next steps

- More projects across year groups and with more interdisciplinarity
- More investigation into learning styles and matching approaches to teaching to students