THE DEVELOPMENT OF PROJECT MANAGEMENT SKILLS FOR CONSTRUCTION: A COMPARATIVE STUDY

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Objectives

• To provide a review of the development of teaching practice for project management skills in the construction sector
• To compare the experiences of students located in the UK and Hong Kong
• To propose an integrated approach for teaching project management skills incorporating online support and role play activities
Introduction

• The use of blended learning incorporating the use of both traditional forms of learning, such as lecture and seminars, with role play and online forms of delivery have grown in popularity in recent years.
• The development of educational practice for construction and the built environment has developed from the traditional approach of “describe and do”
• This process has been driven by student need and the changing context of the subject discipline
• Milestones changing the context of construction management include
  – Rethinking Construction (Egan, 1999)
Teaching & Learning

- E-learning infers development of online socialisation at an early stage
- This process is seen as one to enable communication and the transfer of ideas in an open manner in much the same way as one would encounter in a room with colleagues and friends
- There should be a structured approach to learning and developing interaction between students
- Studies show that learners prefer to gain access by a variety of learning tools
- Developing a knowledge base and encouraging the interaction between students, role play and an ability to assess the application of knowledge in a working scenario would represent key challenges
Educational Definitions

- UK subject benchmark statements relating to building and surveying is open to interpretation (QAA 2005)
- Professional bodies / CIC Common graduate learning outcomes focus upon leadership and team working
- CIC attributes:
  - Personal skills
  - Technical Knowledge
  - Professional Knowledge
- Engineering programmes:
  - CIBSE, cite the inclusion of health and safety, environmental management and quality systems
Case Study Research

- In this study, the evaluation of approaches to project management for undergraduate students are investigated.
- The University of Central Lancashire, Department of Built Environment, operates an undergraduate degree in Construction Project Management.
- A 20 credit module in Project Management is provided to students.
- This module is franchised to the Hong Kong College of Technology.
- Both programmes are fully accredited by the Chartered Institute of Building.
Study Objectives

- Evaluation of delivery and content
- The survey technique adopted involves the use of a 3 part survey tool.
  1. Personal data, such as age profile, status, role and working experience.
  2. The self perception of students of the relative importance of management skills. The listing of the skills used was abstracted from the Egan regeneration skills report (Egan M, 2005).
  3. Viewpoint of students regarding the most appropriate and effective means of approaching the study of these factors as part of their education: lecture, tutorial, on line learning, group based project, role play exercise, case study and simulation exercise.
- The case study sample involved students registered on the same project management modules located in both the UK and Hong Kong.
Questionnaire / Egan Skills Set

- Inclusive visioning
- Project management
- Leadership
- Breakthrough thinking/brokerage
- Team/partnership working within and between teams
- Making it happen given constraints

- Process management/change management
- Financial management and appraisal
- Analysis, decision making, evaluation, learning from mistakes
- Communication
- Conflict resolution
- Customer awareness & feedback
Focus Group Interviews

- Representative groups of students were interviewed following the analysis of the questionnaires.
  - Consideration of the top three ranked project management skills and the student’s perceptions of these skills;
  - Consideration of the three lowest ranked skills and student perception;
  - Perceptions of preferred teaching methods and relating these to the project management skills
Results and Discussion

- 70 students were surveyed
- 47% response rate
- Primarily part time students
- 55% of the respondents were +30 years of age
- 48% of the sample were site agents or managers
- 27% of the sample were project managers
- 40% of the sample stated that they had 10 or more years of working experience
## UK Students – Management Styles

<table>
<thead>
<tr>
<th></th>
<th>Inclusive visioning</th>
<th>Project Management</th>
<th>Leadership</th>
<th>Break through thinking</th>
<th>Team / Partnership working</th>
<th>Making things happen</th>
<th>Process Management</th>
<th>Financial Management</th>
<th>Analysis / learning from mistakes</th>
<th>Communication</th>
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### HK – Management Styles

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<th>Team / Partnership</th>
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<th>Process Management</th>
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<th>Analysis / learning from mistakes</th>
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Review – UK Students

• Highest rated skills
  – project management skills
  – analysis
  – communication skills
• Lowest Rated scores
  – Inclusive visioning
  – Conflict resolution
  – Customer awareness
  – Although each aspect still scoring at around the 0.7 mark
Review – HK Students

- Consistently high preference values are recorded across the entire range of skills
- Top scoring skills
  - Partnership and team working skills,
  - analysis and learning from mistakes
  - communication
- Lowest scoring skills
  - process management
  - making things happen and
  - customer awareness
Teaching Methods

- The preferred modes of learning are diffuse.
- The use of pure online learning is not seen as a prime means of delivery.
- Group-based exercises and role play are seen as important methods of developing team-based and leadership skills.
- The use of lectures is seen as a prime method of learning for subjects such as planning or financial management and interestingly customer awareness.
# Teaching Preferences - UK

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<th>Project Management Skill</th>
<th>Lecture</th>
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<th>Exercise</th>
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Focus Group Interviews

- The UK cohort saw the Egan skills as not necessarily being fully exclusive to the needs of the project manager.
- The more lower ranked skills were viewed with equal weighting in terms of importance, but of lower priority with regard to current needs in terms of work and study.
- It was felt that lectures allowed questions to be posed and in-depth information to be imparted.
Focus Group Interviews

- The use of online or e-learning technologies was seen as of value, but not as a replacement to the total learning experience. The use of discussion boards or chat rooms could not replace face to face experience.
- Positive class room experiences: Group based activities and role play.
- The high degree of work experience of the students often inferred that simple information provision was not required.
- The students valued exercises such as team building events, which tested concepts such as communication skills in simulated environments.
Discussion and Conclusions

- Analysis and learning from mistakes and communication skills are key project management tools.
- Customer awareness and feedback were less important to their current needs.
- This result was found to be primarily due to current work and study needs rather than relevance to the role.
- Face to face contact is of great value in developing team skills.
- E-learning is useful in terms of presenting knowledge and providing course management tools.
- Interactive teaching and learning methods are preferred, including the use of team based exercises, role play and case studies.