The Use of Project Case Histories to Assess Undergraduate Students' Understanding of Professional Practice Issues within Architecture

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Context

Discipline/Course/Subject area: Architecture Studies/ Building Design Engineering

Impact: High. The practice was introduced within a course unit/module

Length of time project has been running: 3 Years

No. of students: 98 (2007-08 session)

Level/Year of students: 3rd year Architecture and Engineering students (3rd year of 4 year Honours programme)

No. of staff involved: 6 teaching support staff and up to 20 practitioners/tutors

Summary of Case Study

This case study documents and reflects on the experience of introducing a practice-based assignment into the professional practice curriculum that enabled third year Architecture students at Strathclyde University to deepen their understanding of practice through the development of project case histories. It outlines the issues involved including the benefits which may be gained and the problems encountered in the process of assessment.

Key Words: Professional Studies, Reflective Practice, Architecture

Key Points of Good Practice

- The students' learning and understanding of practice issues is embedded within an active practice environment.
- The students' understanding of the concept of professionalism and wholeness of practice is enhanced through a structured engagement with practitioners working on real-life projects..

- The students' life long skills of communication, good time management and consideration for others' roles in a teamwork environment are enhanced in the process of developing the project case history.

- The students learn how to formulate questions and opinions in respect to a project case history and thereby to scrutinise the processes and structure of architectural practice and firms.

- The students' abilities to collate, analyse and evaluate information quickly are developed through the process of preparing the case study report.

- Students are provided with an opportunity to reflect on and evaluate their own experience and those of their peers, thereby facilitating personal reflection and constructive criticism.

Description of Implementation

Introduction

The subject of 'An Introduction to Practice' (ITP) was revised in 2005 to embed teaching and learning within an active practice based environment. Run over 10 weeks with a cohort ranging from 52 (2005) to 98 (2007) third-year students, this 10-credit first semester programme has proved to be extremely successful, but not without problems which were exposed during the student appraisal. The subject introduces and explores multiple issues that surround architecture practice; topics explored included in part or in whole: the role of the professional architect in the building process; the professional workplace; business environment; practice organisation and managing a design project.

At the conclusion of the subject the student should have developed:

- An understanding of the concept of professionalism.

- Life-long skills of good communication, good time management and consideration for others' roles in a teamwork environment.

- An ability to analyse and evaluate a problem quickly within a small group environment.

- Verbal communication skills.

- An awareness of the role of the architect and the changing nature of the architectural profession.

The bulk of the students are BSc Architecture Studies students, however, a small number of BEng Building Design Engineering students also take the subject. The Architecture and Engineering students would have completed two years of study prior to the start of the ITP subject class.

The subject is taught through a series of lectures and assessed by assignment. The assignment involves an investigation that attempts to discover, define and describe the characteristics of exemplar architecture practice. Working in groups of four, each group of students is required to investigate and document a case history of an architecture project and produce an illustrated written report according to a prescribed format.

Assignment process

The case study assignment draws heavily on the expertise of the Architecture Department's Studio Design Tutors. Around 40 practitioners are employed by the Department on a part-time basis. About one month before the start of the academic year, discussions are held with tutors on their involvement with the project case history assignment. Typically, between 10 and 20 design studio tutors volunteer to assist with the assessment. At this stage, practitioners are sent an information sheet that explained the purpose of the assignment and what their likely input would be in the project case history assignment. In the first week of the academic session each group of students are allocated to specific tutors. Students are provided with tutor contact details to facilitate the process. The role of the tutor is to assist the group in preparing the project case history on either a completed or partially completed building they have worked on in the preceding year or so. Each group is responsible for making contact with their tutor/practitioner and making an appointment to interview him or her in practice or elsewhere to suit. Typically, students make arrangements to meet tutors in their offices rather than on campus and this usually happens either during lunchtime or after hours. In most cases, meetings take place during the non-teaching week, week six, of the first semester. The students are provided with guidance on the duration of the interview and this was agreed with the practitioner prior to the meeting. Typically, a two hour session was agreed to be followed with email communication as appropriate, and if required.

As part of the formal teaching programme, the teaching staff offer informal surgery sessions to help students prepare appropriate questions for the interview and to answer questions related to the format of the report and presentation.

At the end of the process, around week 10 or 11, students are required to submit a project case history report incorporating an appendix of key reference material, project programme charts, site and progress photographs and drawings. The students are asked to include individual reflections on the assignment including how their group functioned in the process of completing the project case history. All students are also asked to submit self and peer assessments to assist the teaching staff in evaluating individual performance in teams. The students are asked to submit the self and peer assessments separately and not attached to the main report. Finally, the students are asked to make a PowerPoint presentation to a panel of teaching staff and practitioners.

Assessment process

The reports were submitted to teaching staff at towards the end of week 10/11 of the first semester for assessment. In 2007, several of the groups had prepared extremely professional reports that would surpass material that is currently presented in practice. The students were rated from excellent, through very good, satisfactory, and marginal poor under each of the marking criteria presented in Table 1.

Table 1: Group Report Assignment Marking Scheme

Scope
Adequate breadth of coverage of interview questions
Adequate breadth and balance
Adequate critique and appraisal
Presentation
Synthesis of verbal presentation including ability to answer questions
Report structure, neatness, legibility, layout and presentation
Spelling and grammar

In 2007, about 10 of the 24 groups were found to be in the satisfactory band. The remaining 14 groups ranged in varying degrees between very good and excellent in their reports. The group reports were marked under two main criteria; scope and presentation (as in Table 1). On three occasions, it was necessary to downgrade students who had failed to perform or contribute towards the assignment effectively based on the peer assessment of others in their group. All students within each group are expected to contribute towards the verbal presentation and marks awarded accordingly.

Perceived Benefits

For Students…

- It exposes students to the *wholeness of practice* and promotes professional development within practice.
- It provides a basis for mentoring and a structure for knowledge exchange between academia and practice.

For Teaching/Support Staff…

- It facilitates the development of a knowledge/data base of practice using case histories – similar to medical case histories and case law.

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- It provides an opportunity for practitioners to reflect on their practice and approach to future projects, and to incorporate novelty into their work.

Issues/Challenges for Students

A number of issues and challenges have arisen since the introduction of the assignment in 2005. This case study addresses two substantive issues related to the selection of appropriate case study projects and to the critical nature of the analysis.

Critical nature of case histories

Our experience has shown that undergraduate students do not have enough experience and understanding of how projects should be managed to really give a critical edge to case histories. It might be appropriate to involve an outside practitioner on the case history team. This practitioner could help students formulate questions of how a project truly evolved, delving deeper into project processes and the firm. This would need to be handled with sensitivity so as not to antagonise the practice, which would not further the cause of getting firms to participate. Teaching staff need to make clear what the expectations are from practice in respect of their involvement in the assignment from the outset. If there is reluctance to air the 'nitty gritty' of projects, then it may be best to choose another firm to work with on the assignment.

Issues Challenges for Teaching/Support Staff

Selection of project cases

The experience of teaching staff over the last three years has shown that firms and practitioners were more likely to select projects that were successful, from both a design and management perspective. Obviously, practices are far more reluctant to offer up a project that was a dismal failure, no matter how important the "lessons learned" may be. Therein lies the potential problem with the case history process. Students should be given the opportunity to scrutinise 'successful' projects but also ones that had a less than positive or truly catastrophic outcome, which could greatly advance the knowledge of how a project can go wrong. In medicine or law, examples of misdiagnosis and malpractice are well represented, catalogued and available for scrutiny and discussion. There is, however, an anonymity that exists with the publication of many of these case histories. While it may be more difficult to guarantee anonymity in the case of 'architecture gone wrong', it would nevertheless be valuable to include some projects with critical mistakes, in either design or in the project management process.

Enablers that helped the project to work

The case history assignment was particularly successful, we felt, in introducing the students to the concept of architecture practice and professionalism. The

involvement of practitioners in the whole process and their input in developing the scope of the assessment was particularly useful, as was the pre-planning and organisation carried out by the teaching support staff. The distribution of a *practitioner information sheet* highlighting the role of the practitioner was especially useful in managing expectations as to the input required from them as well as likely information requested.

Details of project evaluation

In 2007, a questionnaire was devised to solicit specific feedback on the case history assignment. This was distributed to students on the submission of the assignment and prior to the grading of work. In the analysis we sought to identify what they thought about the assignment as compared to others used in taught classes; what they thought about group work and whether the academic assistance provided was sufficient.

How is case history assignment different from other coursework?

In answering this question we were hoping that the students would consider if there was any difference between the case history assignment and a more typical assignment issued in other taught classes. They were asked to note any specific areas where differences may lie, for example in the amount of research they had to undertake or in the approach to the interview with the practitioner. We noted recurring themes from the students in response to this question. They noted the need for less research as compared to other assignments. They also found the assignment to be more practical and realistic. Some of the students noted that they had not prepared adequately for the interview and were not clear what they needed to discuss with the practitioner.   They reported that several meetings had to be scheduled with the practitioner in these circumstances. Fewer students noted that the case history assignment required the same amount of effort but applied it differently as the work required the analysis of a real-life situation. Some of the students considered that the assignment did not address one single topic but a group of topics, with students required to define the scope of inquiry and analysis within the development of a project case history.

Did you like or dislike the group activity?

Ten students in the class felt that they would have preferred to work as individuals. Perhaps this was related to the formation of the groups, but this was not clear from the responses. The remainder of the students were unanimous that they preferred to work in groups or teams.

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Was the academic assistance sufficient?

Twelve students reported that there was insufficient assistance provided by the teaching staff. The balance of students however, reported otherwise for the purposes of completing the case history assignment.

Overall, we found it difficult to assess whether the learning outcomes were achieved by the students from the case history report alone. We found the reflective part of the assignment report useful nevertheless and we were left with an impression that students had developed a greater understanding of professional practice issues. The requirement to present their work through a PowerPoint presentation was particularly useful, we felt, for the purposes of reflecting on the work undertaken and for evaluating the students' learning process. We noted a high level of enthusiasm for the subject and for the opportunity to find out more about professional practice through the development of a project case history. Some of the work produced was inspirational and we were left with the impression that this was related to the amount of input from the practitioner to the group work.

Possible improvements/enhancements

The teaching staff and students have noted that firms are not always forthcoming about divulging what they considered sensitive information. There also seems to be a tendency for firms to filter information and to present themselves in the best possible light. As highlighted above, questions that address the relative success or failure of projects would provide a more critical edge to the case histories. Clearly, practices may be reluctance to delve deep into many of these subjects. However, this is the real heart of what practitioners have to deal with on a daily basis. The importance of including the client's voice in the case history to aid the understanding of the relative success or failure of a project cannot be stressed enough. Other matters worthy of consideration in respect to potential improvements to the assignment relate to improving student engagement with the process more effectively and the development of research and analytical skills.

- How to engage the students more effectively

  Students should be allowed to select their own case study subjects. While clearly some guidance is necessary from teaching staff, allowing the students some degree of choice (even if it is from a given list of acceptable options) helps them to engage with their work.

- Development of research and analytical skills

  Time should be allocated during the semester to teach research and analytical skills prior to the commencement of the project case study. A seminar or tutorial dedicated to the development of case study skills and the case study process would also be worthy of consideration.

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Points of advice for others who may wish to replicate the techniques used

It is important from the outset that the practices and practitioners are engaged in good time to allow time for discussion and agreement on the nature of the projects required for the assignment. There are a number of factors to be considered in this respect, including the location of the practice and access to information, the location of the project, and possibility of a site visit. It is then helpful to outline the learning objectives of the case project with representatives of the particular firm initially, and then with the students. While a case study that documents a project from the initial concept through completion is particularly valuable for studying practice issues, a more focused study may be appropriate to examine a particular aspect of a project or a series of comparable projects. Finally, it is important to establish a realistic timeline for the completion of the work, from both the students' as well as the practitioners' perspectives. An allowance of about 150 hours (notional student effort) is required of students working together with six hours input from the practitioner. It is critical the assignment is scheduled around key hand-in dates for studio work and other submissions, but this goes without saying. At Strathclyde University, students have the option to go on international exchange in the second semester of the third year. The case history assignment must therefore be completed and submitted prior to their design studio crit at the end of the first semester, and before their departure on exchange.

FURTHER READING

Publications in the research literature

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