Chapter 4

Learning Through Successful Digital Opportunities for Effective Competition Preparations

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ABSTRACT

Education of the built environment is moving towards more collaborative practices. The intent behind the collaborative approach of teaching is to encourage students to explore the unknowns and unravel the problems themselves with the professor acting as the facilitator. This chapter presents the case for collaborative pedagogical approaches that was adopted to teach students from two geographically distant universities. The occasion used was preparation of student teams for Associated Schools of Construction (ASC) student competitions. The underlying philosophy behind this initiative is to provide the context for the future leaders in the AEC to learn by doing in a safer and potentially rewarding environment.

INTRODUCTION

There is a growing demand for closer collaboration within the design and construction disciplines in the Built Environment. Penttila and Elger (2006), suggest that diverse multidisciplinary understanding and knowledge about various factors of design and construction will be essential in the near future (architectural) design profile and so to provide for industry. There has always been a collaboration of sorts in the Architecture, Engineering and Construction (AEC) sector, this has been more based on co-operation than true collaboration in most cases (Tran, Nguyen &Faught, 2017) Buildings would not get built without the inputs from the various stakeholders but it could be defined more as co-operation based on the requirement of necessity. The co-operation has tended to be cautious and protective of one's information and much has been based on the culture with the AEC sector. This co-operation as opposed to collaboration has led to miscommunication within the process. The apportioning of the 'blame culture' has resulted in a litigious, conflict driven and difficult process. BIM promotes methodologies of integrated design, integrated project delivery and signposts towards closer collaboration as opposed to co-operation. There are case studies which show a major improvement in building delivery where better communication of design and construction information have led to much less problems on site. The case study will be referred to later in this research study.

If this is the case and BIM technologies and methodologies can and are providing an alternate to this traditional process in the AEC industry then it is legitimate that these technologies and methodologies should to be reflected back into the teaching and learning practices of educators in the disciplines of design, measurement and construction. How will this benefit both the educators and the students? What effects will these new process have on the pedagogy of teaching and learning in Higher Education Institutions. One of the challenges higher education institutions will face is to break down silos of built environment education and provide opportunities for the development of collaborative skills for students poised to enter into the design and construction industry.

Will educators need to create new learning environments to fully utilise the potential of BIM as a learning tool? What will be the benefits of these new learning environments for both educators and students? How will these new learning environments be structured so as to achieve the learning outcomes for the new roles in the industry?

Building upon previous research which set out to observe and record a collaborative design project taught in the Department of Construction Management at the Dublin Institute of Technology (DIT) the author observed a developing learning environment that accelerated the students learning. Literature provides evidence of effective collaborative practise in the industry, further strengthening the case for both BIM

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