

# Work Placement as an Effective Learning Experience for Undergraduate Students; Work-Based Learning & Professional Competencies; a Reflection by Case Study

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Work Placement has been regarded as an important feature of undergraduate education. This paper reports on findings from a research project that reflected upon the effectiveness of the work placement process of third year Construction Management undergraduates, enrolled in the academic year 2011-2012 in the Dublin Institute of Technology (DIT) Construction Management Program. The project was undertaken to reflect upon the work placement process in order to determine the effectiveness of the module and its contribution to professional competencies development. The Kolb Learning Styles Model was applied to capture the student experiences and to provide a basis for observation and reflection. The research adopted a qualitative methodology and gathered the perspectives of students and supervisors (faculty) involved in the work placement process. Interviews and questionnaires were used to collect the data, which were assessed against the learning outcomes and the Construction Management Program structure. The key findings of this research suggest that the overall work placement process is an effective student centred learning experience and an excellent way of expanding the student's knowledge in the construction area within the DIT Construction Management Program.

**Key Words:** Undergraduate Work Placement Learning, Effectiveness, Student Learning, Learning Outcomes

## Introduction

“Education is all a matter of building bridges.” Ralph Ellison

The value of the work placement to the student is the learning experience itself, which integrates all of the knowledge that the student has acquired on the program and enables the student to develop and demonstrate analytical, judgmental, presentation and communication skills. The work placement process provides the student with an experiential learning experience as a direct result of the students' active participation in the process, as described by Kolb (1984). Furthermore, as part of the process the student develops the ability to analyse, evaluate, reflect and resolve a range of issues that occur during the management of the construction lifecycle. With this, Assiter (1995) highlights the need for students to develop transferable skills and to be aware of the changing needs and requirements of employers.

The experience and reflection of students and supervisors (faculty) contains valuable tacit knowledge that the Program Team believes should be captured and utilised to assess the effectiveness of the learning experience and aid continuous improvement. It is for this reason that the department has undertaken a project to reflect upon the work placement process from inception to completion, to ensure an effective reference point and a high quality for the further enhancement of this particular process within the DIT Undergraduate Construction Management Program.

The purpose of this paper is to reflect and evaluate on the Work Placement module as an effective learning experience for students and faculty in the DIT Construction Management Program. It aims to contribute to a discussion in published literature and attempt to identify recommendations that can help to further develop this area (Harvey et al, 1998). The paper is divided into three main sections, firstly a review of the available literature specifically relating to the Work Placement process. The following section provides an assessment of the relationships between the Work Placement processes, the learning outcomes and the student and faculty learning

experiences in the DIT Department of Construction Management and Technology. The final section of this paper sets out a discussion, recommendations and suggestions for further improvement.

## **Work Placement**

In defining workplace learning, Boud and Garrick (2004) describes the workplace learning as being associated with two quite different purposes, the first being the development of the enterprise through contributing to production, effectiveness and innovation and the second being the development of individuals through contributing to knowledge, skills and the capacity to further their own learning both as employees and as citizens. Bennett, Dunne and Carre (2000) point out that not only should students in higher education receive an academic, professional or vocational education, they should also exit with the competencies, skills, attitudes and values that allow them to contribute to the realisation of the economy. Coco (2000) suggested that work placements are a planned transition from the classroom to the job, and are a natural bridge between college and the work world.

According to Tucker (2006) in the work environment students can engage in real work practices, learn how to communicate with colleagues and deal with work related problems. Learning becomes less theory based and more practical and contextual. Exposure to actual or simulated workplace tasks and problems allows learners to experience ever-widening variation in knowledge application, and to see the limits to their understanding and how that needs to be addressed; both of these are said to be essential to deep learning and for a capacity to deal with new situations (Bowden, 1997).

It is widely acknowledged that the undergraduate work placement opportunity is special to the students. From the students' point of view, a significant component of their third-year study is this independent learning experience. A recent study conducted by Jackson (2006) with work placement supervisors revealed that the supervisors perceived the learning potential of a work placement "as being huge and varied". The placement supervisors observed that the diversity of learning, the fact that learning is contextualised and socialised, and forms of learning (for example, emotional intelligence and coping with the unexpected) that are not generally recognised in disciplinary learning contexts all make the work placement an important environment for learning.

A typology of learning outcomes at work developed by Eraut (2004) summarised that there is little that people cannot learn at work. The typology included the following of learning outcomes: Task performance, including subcategories such as speed and fluency, range of skills required and collaborative work; Awareness and understanding, involving understanding of colleagues, contexts and situations, of one's own organisation, problems, risks etc.; Personal development with aspects such as self-evaluation and management, handling emotions, building and sustaining relationships, and the ability to learn from experience; Teamwork with subcategories such as collaborative work, and joint planning and problem solving; Role performance, including leadership, supervisory role, delegation, crisis management etc.; Academic knowledge and skills, such as assessing formal knowledge, research-based practice, theoretical thinking and using knowledge sources; Decision making and problem solving, involving, for example, dealing with complexity, group decision making, and decision making under conditions of pressure; and Judgement, including quality of performance, output and outcomes, priorities, value issues and levels of risk.

To capture the valuable knowledge and experience of both students and supervisors (faculty) and to ensure an effective learning experience the department has undertaken a research project to evaluate and reflect upon the work placement as an effective learning experience for students within the DIT Undergraduate Construction Management Program.

## **The case study**

Case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Yin defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin, 1984).

The Bachelor of Science in Construction (Management) Work Placement, which is the case study presented as the subject of reflection in this paper, took place in the 2011-2012 academic year in the Dublin Institute of Technology, Ireland. The Work Placement module is a 30 ECTS-credit compulsory module, studied over one semester. The third year of the BSc in Construction Management is broken down in the table 1.1 below.

Table 1.1

*ECTS Credits - Bachelor of Science in Construction (Management)*

Bachelor of Science in Construction (Management)	ECTS Credits
Construction Technology 3B – Building Structures 2	5
Construction Technology 3C – Building Services	5
Construction Management 3	5
Construction Finance	5
Legal Studies for Construction Managers	5
Contract Administration	5
Quantity Surveying 2	5
Work Placement	30
Total ECTS	65

Weighting for Work Placement is therefore 46.1%.

All other modules are weighted at 7.69%.

The European Grade Transfer System (ECTS) grading scale is a grading system defined in the ECTS framework by the European Commission. Since many different grading systems co-exist in Europe.

1 ECTS credit = 20 learning hours (Total Learning Hours)

5 ECTS credits = 100 Learning Hours

Learning Hours covers all aspects of learning.

Students from the DIT Undergraduate Construction Management Program take this optional module in the first semester of the third year of their degree course. Within this placement the industrial supervisor and placement supervisor provide an environment in which the student can develop key skills, which are necessary for the world of employment. Students are assessed by means of a reflective learning journal, a placement report, an oral presentation.

In the 2011/12 cohort there were 34 students in the third year programme. Each student was assigned a supervisor who had the function of providing the necessary support and direction for that student. The meeting arrangements were a matter of agreement between the supervisor and the student. The work placement is subject to continuous assessment through the deliverables listed in Table 1.2 below:

Table 1.2

*Work Placement deliverables and Marks Allocation*

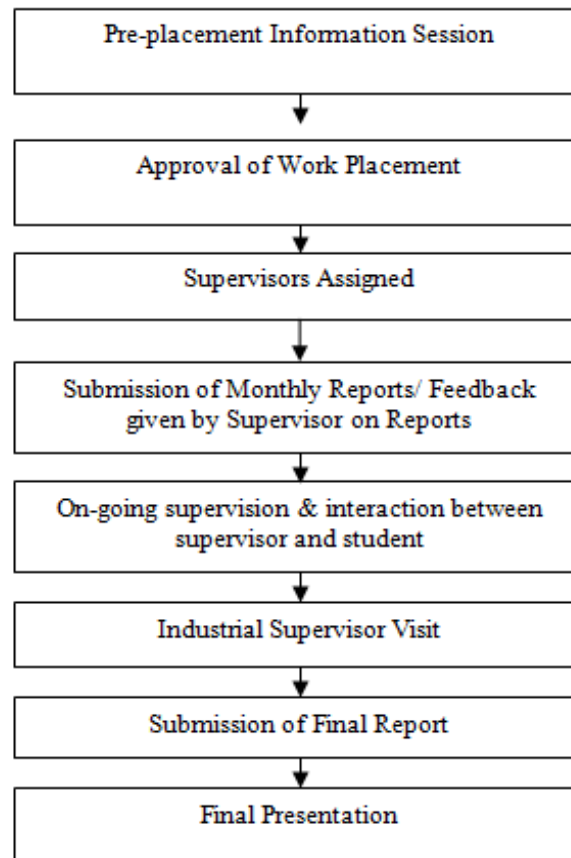
Action	Allocation of Marks (%)
Four monthly reports	40
Mentor's/Lecturers assessment at work place	20
Employers Report	15
Final report and presentation	25

An assessment strategy for the assessment process was developed (ref Figure 1.2).

The Modular Descriptor provides the module aims, objectives, learning outcomes and provides guidelines for the students and supervisors to complete the placement successfully. It clearly sets out the roles of the student, the supervisor as well as timelines, content and learning and teaching methods and project deliverables.

The modular descriptor plays a central role in providing the student with a platform for further academic development in the DIT Construction Management Program. In recent years the DIT has facilitated and resourced a number of initiatives in learning, teaching and assessment in order to move the program towards this student-centred environment and a more aligned educational process (Scott, Fortune 2008).

*Figure 1.2*  
*Construction Management Work Placement Process*



According to Adams (2002) the 'learning outcomes are statements of what a learner is expected to know, understand and be able to demonstrate at the end of a learning experience.' On successfully completing the work placement module within the DIT Undergraduate Construction Management Program, the student is expected to be capable of demonstrating the ability to integrate the knowledge and skills gained on the programme for the previous two years. With this in mind the student can analyse, evaluate and resolve a range of issues that occur during the management of the construction lifecycle.

The supervisor shall act as a guide to the student and provide advice to the student on the work involved in each of the stages of the process. The supervisors assess the students work through all stages of the process and refer to the Assessment Matrix for clear, detailed and acceptable grading guidelines. The Assessment Matrix also ensures consistency and that all supervising staff are "singing from the same hymn sheet" within the Department.

The module will begin in September with a pre-placement information session designed to fully brief the student and to impart an understanding of the objectives of the unit and the method of assessment. A detailed presentation will be given on 1) the process of supervisor selection, 2) the role of the supervisor, 3) the relationship between student and supervisor, 4) submission requirements and regulations.

## Study design

The purpose of this research was to evaluate and reflect upon the effectiveness of the undergraduate work placement process in the DIT Construction Management Program. To do this it is important to capture the experiences of the students, supervisors (faculty) involved in the undergraduate work placement module for the academic year 2011–2012. The criteria applied to measure the effectiveness of the DIT undergraduate work placement process were related to the Kolb Learning Styles framework in order to capture the student experiences and to provide a basis for observation and reflection. The effectiveness and quality were assessed against the learning outcomes which are set out in the Modular Descriptor for the undergraduate work placement module with code CONS3007.

The effectiveness in the context of this research project is defined as the ability of the undergraduate work placement process to accomplish its purpose and learning outcomes. Kolb states that ideally this process represents a learning cycle where the learner 'touches all the bases'; a cycle of experiencing, reflecting, thinking, and acting. Immediate or concrete experiences lead to observations and reflections. These reflections are then assimilated (absorbed and translated) into abstract concepts with implications for action, which the person can actively test and experiment with, which in turn enable the creation of new experiences (Kolb, 1984).

The research study undertaken was small in scale and exploratory in nature. The project involved two main points of data collection:

1. Self-completion postal questionnaire to students

A self-completion questionnaire was designed and administered to all 34 of the students taking the work placement module, with responses received from 27 of the 34 students (79% of the complete sample). The questionnaire consisted of 5 open questions covering a range of topics related to the work placement.

2. Staff interviews

A semi-structured interview was conducted with six members of staff who were all work placement supervisors within the DIT Construction Management Program. The interview questions for the supervisors reflected the questions in the student's questionnaire in order to compare and contrast and to "unveil both sides of the coin". The length of the staff teaching experience in higher education ranged from 5 to 20 years, with specific experience supervising undergraduate dissertations ranging from 1 to 20 years.

The data from the interviews and questionnaire were analysed by the author. The aim of the analysis was to identify themes and clusters within the student experiences and compare them to the expectations and experiences of staff. From the analysis of the data a picture emerged about the students' experiences of the work placement process.

## Analysis and Findings

The aims of the undergraduate work placement process are as following:

- 1) To provide the student with industry experience and to consolidate the theoretical content from the modules covered on the programme to date.
- 2) On successful completion of the module, the student will be able to: Show a strong understanding of how construction industry operates; Analyse and evaluate worked based problems; Justify actions taken on decisions made during work placement and demonstrate an ability to meet deadlines set for monthly reports, visits, and diaries.

The majority of the students identified that they expanded their knowledge through the Work Placement process. They felt they gained a better understanding of the industry which would be highly beneficial for employment in the industry. All students represented in this research found work placement to be a positive unique learning experience, which was a good fit with their third-level programme, and helped prepare them for their future careers. From the open ended questions both from the students and the supervisor's noted the issue of 'confidence' and in many cases described this as the development of 'self-confidence.' Communication skills and time management also rated highly amongst superiors and students.

The students commented on improvements of their time management and organisational skills. Due to the individual nature of the placement the students were dependent on their own abilities to manage their time and work load.

*Very good way to expanding knowledge and how to manage both time and prioritise work load, -  
D06540281  
A great feeling of real exposure to the workplace- D06549954*

Although most students reported challenges at some point during the placement process the feedback was mainly positive and referred in various ways to a great sense of personal development and achievement. The majority of the students found the process a very worthwhile learning experience that would be very useful to them in the future. In addition, the students believed the process was a real opportunity to learn.

*A great feel of personal development - D06543981  
Very worth- while experience. Gives you a chance to interact with others in a work environment. -  
D06548958*

Some students reported challenges at some point during the placement process. A large number expressed the difficulty with finding a placement in the current economic climate and continued with stating the majority of the applications did not get a response.

*Very difficult to find a placement - D06547281  
I sent so many applications but got no responses, very difficult to find placement - D06548978*

The supervisors identified the work placement as a tremendous learning experience for the students. The process offers the students an opportunity to put their academic learning to date into a real life context. All the supervisors believe that the placement opportunity is an invaluable contribution to the overall student learning experience and very helpful to the students.

*Invaluable contribution to the overall student learning experience - Supervisor*

The supervisors realize that the placement for some is a first attempt for the students to undertake real life construction experience. Most students do not understand the amount of work involved which causes challenges for the students in planning their workload. The supervisors indicate that they continuously advice their students that 'organisation is the key'. Overall they believe that the increased workload offers the students an opportunity to learn to cope with setbacks and developing alternative strategies.

*It is actually quite tough to keep the daily diary completely updated. Most of the time the priority is the job you have to do every day. So often you have to do the reports outside of working hours and it is quite a bit of extra work. - D06548987  
I think the work load is too much and as you are being assessed on the job very day. - D06548978*

The supervisors indicated that some of the students were (much) more dependent on the supervisor guidance than others. The students would request more help with the monthly reports, the sources of the relevant materials, their work planning and a lot of advice during the placement. The students' dependence on the supervisor guidance requires a lot of commitment and involvement from the supervisors. Concerns were raised over possible difficulties for some supervisors maintaining this level of involvement whilst placed abroad.

*Some students are more demanding of lecturer's time than others concern for weaker students being placed abroad - Supervisor*

## **Reflection and Recommendations**

On entering the workplace for the first time students are usually lacking in confidence and are unsure of their abilities. Students can worry about how the theories learnt to date in third level University can be transferred to the reality of the day to day interface of a working environment. According to Slotte and Tynjala (2003), employees

who cannot network with others to share and construct knowledge will fall visibly behind their peers in the possession of such abilities. Interaction between novices and experts is also of crucial importance in learning at work.

“What we have to learn to do, we learn by doing” - Aristotle

The key findings of the research suggest that the student’s belief that the overall work placement process was indeed a very worthwhile learning experience and an excellent way of expanding their knowledge in the construction area. The feedback, comments and recommendations reflect the students’ satisfaction with the process, and their overall learning experience throughout the module. However, the research also highlighted a number of challenges for students. Students should take every opportunity to exploit the learning potential of their situation. It is likely that during the work placement, students will take on the responsibility for managing their own learning and professional relationships. To help in the process of managing their own learning, students could consider personal development planning and learning logs.

Going forward from this research some recommendations for consideration are suggested in the context of pre-placement, placement and post-placement. For pre-placement, a student should endeavour to familiarise themselves with the learning outcomes and assessment strategies relevant to the placement process within their programme; engage with the application and preparation processes within the institution and prepare appropriately for the specific placement.

Bandura (1977) discusses that learning is embedded within activity, context and culture, but social interaction and collaboration are also essential components of learning. He further observed that students become involved in a “community of practice” which embodies certain beliefs and behaviours to be acquired. With this in mind during placement students should conduct themselves professionally at all times; take responsibility for the management of their own learning and seek opportunities to develop a network of professional contacts.

Following the period of work placement, students should take the opportunity to reflect on the learning gained and endeavour to integrate aspects of this learning into their programme of study. Students should share lessons from their placement experiences with peers and faculty this is reinforced within the programme by means of the Final report and presentations. Students learn from each other and benefit from this activity that requires them to articulate and share their knowledge.

The key issue for practice is developing a balance between freedom and structure, enabling student autonomy while also providing contact, support and training (Hughes, 2002). This paper is based on the early findings of a research project that is attempting to reflect upon work placement practice on an undergraduate programme and evaluate if the learning experience has been effective for both student and faculty. Albeit that evidence is based on only one cohort so far, there is encouraging evidence that all participants believe the work placement learning experience to be effective.

Going forward the Program Team need to reflect upon the overall experience and refine certain areas within the process in order to develop and enhance the work placement learning experience to the full potential for both student and faculty.

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