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**Northumbria
University**
NEWCASTLE

***From student to young professional:
Exploring the impact of work-based
placements on the transformation of
undergraduate construction students.***

John Weirs

EdD

2021



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University**
NEWCASTLE

***From student to young professional:
Exploring the impact of work-based
placements on the transformation of
undergraduate construction students.***

John Weirs

A thesis submitted in partial fulfilment of
the requirements of the University of
Northumbria at Newcastle for the degree
of

Professional Doctorate

Research undertaken in the
Faculty of Health and Life Sciences

November 2021

Abstract

From education to accountancy, nursing to tourism, literature is awash with studies relating to work-based placements yet there appears to be little which specifically addresses the construction industry. Work-based placement literature often argues that students return to university from their placement a different person, somehow transformed. However, the majority of this literature focusses on the transformative outcome, with little empirical research investigating the transformational process itself. The following thesis offers a phenomenological study which seeks to address these two gaps in knowledge by exploring the transformational journey upon which construction undergraduates travel during a work-based placement. Framed within Jack Mezirow's transformative learning theory, it investigates work-based placements from the student's perspective, examining the issues they face and searching for answers to how and if a placement can affect the transformation of students.

A mixed methods approach consisting of semi-structured interviews and a self-administered explorative questionnaire was used to examine the experiences of placement students before and after their placement. The qualitative data were subjected to a thematic analysis to establish key themes, while the quantitative data were subjected to a series of statistical tests and summaries to uncover patterns, associations and differences.

The data revealed that at the beginning of their placement students had an overwhelming sense of inadequacy, a lack of confidence and an uncertainty as to how they would perform and, while learning was clearly taking place, at times it was almost on an ad-hoc basis. Transformation was occurring but many students were unaware of this change. There were many factors which contributed to their transformation with the key finding being a self-perpetuating cycle of an increase in knowledge and experience leading to increased confidence which gradually changed them from student to young professional.

Key Words: Work-based Placement; Transformation; Knowledge; Experience; Confidence

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Acknowledgements

The journey I have travelled with my doctorate has, like the focus of my thesis, been a transformational one and would not have been possible without the support of many people.

First of all to my supervision team. To Professor Liz Atkins who helped me take my first tentative steps on the path to my doctorate and was there to offer her support, guidance and belief in me when I doubted myself. To Dr. Sean McCusker - I am sure it was difficult to pick up my supervision halfway through when I was perhaps floundering betwixt and between a clear direction. Through his patience and sound advice, he helped me reset my course which has resulted in the completion of my thesis. To Dr. Sophie Cole - For her insightful advice during the whole process and, having recently "*been there and done it*" she knew what was needed and her guidance and encouragement proved invaluable.

My thanks also go to the Faculty of Engineering and Environment at Northumbria University for their financial support and to the many staff within the Department of Mechanical and Construction Engineering who offered me the benefit of their own doctoral experiences. Their help and advice kept me going during the times when I thought I couldn't. My thanks also go to the many students within the faculty who were willing to tell me about their placement experiences. Without their valuable input there would be no thesis.

To "*the girls*", my daughters Rachael and Laura. I hope my achievements can be an inspiration to them to achieve in life what I know they can. And finally, I reserve my deepest and most profound thanks for my wife, Clare. She has shown me unwavering love and support throughout this whole process and has endured my frequent sabbaticals from family life. I know, as hard a journey this has been for me, at times it has been even harder for her, and I couldn't have done this without her. You were always there for me and I will be forever grateful.

Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Ethical clearance for the research presented in this thesis has been approved by Northumbria University Ethics committee, reference No: RE-HLS-16-161109-5822fe7f09517

I declare that the Word Count of this Thesis is 59,300 words

Name:

John Weirs

Signature:

Date:

19th November 2021

Structure of the Thesis

It is perhaps useful, at the outset of this study, to provide an outline of the structure adopted for this thesis. The section that follows details each chapter offering a brief description of its content. It is hoped this will assist the reader in navigating the work

Chapter 1 provides the introductory section of the thesis. It helps set the work in context by giving the reader a flavour of the research topic, the background to it and a rationale for its choice. Key sections of the thesis are introduced and briefly explained to give an overview of each and so contextualise the overall study. The introductory chapter concludes with a clearly stated research aim and well-defined objectives.

Chapter 2 deals with the theoretical framework. It provides a description of the lens through which this study has been viewed and which has shaped and guided the research. It briefly recognises a number of alternative theoretical frameworks which were considered, describing how they influenced the direction of the work and eventually led to the theoretical framework used. The chapter goes on to discuss the chosen framework of Jack Mezirow's transformative learning theory. An explanation of the theory's development is provided together with an examination of the theory itself and a rationale as to why it is the preferred framework through which to view this research.

Chapter 3 provides a critical appraisal of key literature relating to work-based placements. The opening section of the chapter is used to contextualise work-based placements by tracing the historical development of work experience and detailing how Government policy influenced and impacted on higher education and specifically work experience. The chapter goes on to examine the main aspects of experiential learning and work-based placements with the emerging key themes identified and taken into the next stages of the study.

Chapter 4 offers a detailed discussion of the philosophical and methodological approach adopted and the data collection methods employed. The chapter describes the philosophical position of the research, the rationale for the methodological approach and the data collection methods used.

Chapter 5 provides a detailed analysis of the qualitative and quantitative data collected through semi-structured face to face interviews and self-administered questionnaires. The thematic analysis is illustrated with the key themes emerging from this used to structure the chapter. The analysis uses iterative coding methods and statistical tests and summaries to identify themes and establish similarities associations and differences within the data.

Chapter 6 draws together the analysis from chapter 5, and presents a discussion of the analysis and the findings of the research. It discusses the issues encountered by students during their placement experience and builds up the theoretical construct and foundations on which the theoretical model presented in chapter 7 is built.

Chapter 7 revisits the aim and objectives to illustrate how they have been met and presents the theoretical model as a visual representation of the student's journey during their work-based placement.

Further Research During this study a number of areas were identified as possible topics for further research, these are presented in this section.

Reference List: contains a full list of alphabetically listed references cited throughout the thesis, presented using the Harvard method of referencing.

Appendix A: Ethics statements used for the questionnaires and interviews.

Appendix B: An outline structure of the questions used for the semi structured interviews

Appendix C: A blank copy of the self-administered questionnaire

Chapter 1: Introduction and Background to the Study

“The only source of knowledge is experience”

Albert Einstein
(1879 – 1955)

1.0 Introduction to Chapter

To improve an experience, it first must be understood. But what is experience? Is it a particular event from which we learn, or is it something we look back on as a series of events which eventually lead us to conclude that we are experienced? This study focusses on experiences and how they shape, develop and may transform someone from one type of person into another.

The following chapter sets out the context within which this thesis is set. It identifies the aim and objectives of the research and describes the rationale for the development of a theoretical model detailing the learning journey of work-based placement students from construction related disciplines. The chapter will also introduce the research philosophy, methodologies and the theoretical framework which has guided this study, illustrating how each has informed and influenced the approach to the research.

A work-based placement can be described as a bridge between university learning and practical learning. But understanding who a person is during a placement is as important as understanding the placement process itself. The key area of investigation of this study is students, how they develop an understanding of themselves and how they may change as they progress through their placement. While much of the literature does acknowledge this change, little considers the ‘*how*’. How does a student arrive at this understanding and recognise the change in themselves?

Work-based placements can offer students’ an opportunity to improve their discipline specific knowledge and enable them to experience their discipline first hand, in real life situations. Raelin (2008) suggests growth in a person is a human instinct and learning in the workplace can be part of this process. A work-based placement allows an individual to examine themselves, their ability and to question whether they are capable of performing the role to which they aspire. It provides them with the opportunity to work with more experienced people, observing how they act in the role and so explore new ways in which they themselves can act. Reconciling academic knowledge from university with practical knowledge from placement and implementing that knowledge in real world situations can increase their self-efficacy and maturity and bring about a change in their persona. It also provides the opportunity to reassess their existing knowledge and, by doing so, generate new knowledge (Raelin, 2008), what Mezirow (1978) refers to as a change in ones frames of reference and contributing to a transformative experience.

1.1 Bracketing the author's position within the context of this research

Self-reflexivity is described by Tracy (2013) as the past experiences and points of view the researcher brings to a study and how they might influence it. McNiff (2013, p. 39) refers to this as "*researcher positionality*" to describe where within their study the researcher is situated and whether they are inside the study looking out or outside looking in. At this early stage of the thesis the "*researcher positionality*" is described as follows.

A full career spent working in the construction industry at many different levels has meant a detailed knowledge of the industry has been brought to this study. Working in senior positions resulted in responsibility for employing placement students and acting as a mentor to them. After moving into academia, the use of this industrial knowledge enabled the provision of teaching and learning experiences to students studying construction related degrees. Working within a higher education environment also provided the opportunity to work with many placement students and employers, acting as both module tutor and visiting placement tutor. During this time there were many comments espoused by academic colleagues regarding students returning from placement with an increase in technical knowledge and so able to perform to a higher standard which, in turn, resulted in them achieving at least one degree classification higher than they had previously been predicted. One colleague even went as far as to describe students returning from placement as "*coming back cleverer*". It is perhaps questionable whether this is an accurate description and, rather than a student '*coming back cleverer*' from placement, they are '*coming back as different*', somehow changed by their experience. It is recognised that the experience brought to this study is steeped in the construction industry as well as higher education and that this will shape the approach to this study. However, possessing this experience is seen as being positive as it enables a deeper understanding of both industrial and academic practice. It is with this background and experience that a keen interest in the placement process, and student's development through it, has evolved and resulted in it being the focus of this thesis.

1.2 Background to the Study

Whether the role of higher education is to provide students the opportunity for intellectual development regardless of their programme of study, or prepare them directly for employment is a debate which has raged for centuries (Williams, 1985). The Robbins Report (Robbins, 1963) identified a commonly held assumption that universities were able to prepare students for work but this was something which employers repeatedly challenged (Shah & Nair, 2011; Wilton, 2014). In its proposals for restructuring higher education, the Government's White Paper (DES, 1987) made it clear that the provision offered by higher education must take into account the need the country had for highly qualified workers (Harvey, 2005). While it is often suggested that employers are dissatisfied with the lack of skills graduates possess (Arsenis & Flores, 2019; Atkinson,

2016; Harvey, 2000; Little & Brennan, 1996; Peet, 2015) it would seem they are not prevented from sourcing employees from the graduate market. In their 2019 / 2020 manifesto (Institute of Student Employers, 2020), the Institute of Student Employers (ISE) identified that a significant number of graduates were recruited by their members from British universities and that satisfaction levels with those recruited were extremely high. However, the ISE went on to say, that to improve and extend the already excellent relationships employers have with universities, it was important that employers contribute to such things as curriculum development, employer-led projects and particularly industrial placements.

Work-based placements (*from here the term placement(s) is used*) have been an integral part of undergraduate degrees for many years (Wiseman, Roe, & Parry, 2018) yet, between the years 2000-2010 there was a fall in students taking up this option. The number of higher education students undertaking a placement as part of their university degree declined from 9.5% in 2002/2003 to 7.2% in 2009/2010 (Brooks & Youngson, 2016). By 2012/2013 this number fell further to 5% (Jones, Green, & Higson, 2017). This decline was attributed to the general economic situation in the UK, a change in the composition of students studying at UK higher education institutions (Bullock, Gould, Hejmadi, & Lock, 2009; Kaye, 2020) and students questioning whether a placement would lead to them being more employable (Brooks & Youngson, 2016; Jones et al., 2017).

Each year graduates enter a labour market which is challenging as they face stronger competition from their peers for employment (Brooks & Youngson, 2016). To compete in this challenging marketplace, it is important for students to stand out from the competition and offer prospective employers more than just a good degree. It would seem that students recognised this as placement numbers again began to increase. In the academic year 2014/2015 there were 155,340 students enrolled on sandwich degrees across all higher education programmes and by 2018/2019 this figure stood at 181,355, a 16.75% increase over only four years (HESA, 2020). This total figure was made up, in part, by programmes within the Higher Education Statistics Agency (HESA) code K2 'Building', the discipline on which this research is focused. Within K2-Building in academic year 2014/2015 the number of enrolled students on sandwich degrees was 2,925, by academic year 2018/2019, it stood at 3210 an increase of 9.75% (HESA, 2020). Therefore, higher education programmes with a placement option are again proving popular with undergraduate construction students as they recognise the importance a placement can bring in their search for employment on graduation (Inceoglu, Selenko, McDowall, & Schlachter, 2019).

However, knowledge is not enough to demonstrate expertise in a discipline but must be further advanced in an authentic context where essential skills can be developed to

produce practice ready students (Barradell & Kennedy-Jones, 2015; Cope, Cuthbertson, & Stoddart, 2000; Jackson & Collings, 2018). The completion of a placement, and the experience gained from it, is often a key aspect which contributes to a student securing full time employment on graduation (Brooks & Youngson, 2016). During their placement, students have the opportunity to apply their university knowledge to real life situations, develop key transferable skills within the authentic context of the workplace and so begin to make sense of their theoretical knowledge (Inceoglu et al., 2019; Minnes, Mayberry, Soto, & Hargis, 2017). While it is perhaps a little optimistic to suggest that a placement can make students practice ready, the application of their knowledge and the development of key transferable skills will mean they are significantly closer to it. Therefore, as Minnes et al. (2017) suggest a placement can serve an important role in providing a bridge between university learning and a professional career (Minnes et al., 2017).

The positive effect of placements is widely recognised among students, employers and academic institutions alike (Kerrigan, Manktelow, & Simmons, 2018; Wilton, 2012). Consequently work experience has long been a feature of UK undergraduate study, with the model of placements being traced back several decades (Auburn, 2007; Berruenco, Reina, Tauna, & Devins, 2016). In the 1950's, institutions offering engineering and technology subjects were encouraged by the National Council for Technical Awards to include work experience in their undergraduate programmes (Little & Harvey, 2007). The 1997 Government funded National Committee of Inquiry into Higher Education, commonly referred to as the Dearing Report, (Dearing, 1997) emphasised the need for students to gain both skills and knowledge to enable them to demonstrate an understanding of their discipline and called for greater links between industry and Higher Education (HE). The Dearing report identified that an integral part of a university degree should be that all students were exposed to a period of work experience, which increased the attention on universities to provide this, particularly in engineering disciplines (Brooks & Youngson, 2016). By providing this link students are able to supplement the skills and knowledge gained at university with practical experience (Barradell & Kennedy-Jones, 2015)

As far back as 1938, Dewey (1938, p. 20) argued “... *there is an intimate and necessary relation between the process of actual experience and education.*” However, experience is not the same as learning from experience. Students' first need to have an experience then, to learn from it, must make sense of it by being given the opportunity to reflect upon it and test their understanding in a relevant context. Lucas and Leng-Tang (2014) explored the role placements play in developing the student as a reflective practitioner, arguing that knowledge is contextual and can only be assessed within a specific context. When an individual reflects on experiences, both consciously and critically, they can better understand and enhance their practice (McNiff, 2013). Therefore, as will be discussed in

greater depth in chapters 2 and 3, critical reflection on experiences becomes an important consideration in the development of knowledge and a key component in the transformational process (Beer, 2019; McNiff, 2013; Snyder, 2008) Some time ago Bromly (1993) suggested that, despite the widely held view that placements add value to a student's education, there was a great deal of variation in the quality of placements. It was not uncommon for students to be given tasks which were uppermost in the employers mind or, top of their 'to do' list, without any thought of a student's abilities, skills, previous knowledge or learning requirements and, as a result, the quality of placements can vary significantly (Karunaratne & Perera, 2019) Consequently, at times, learning on placement can be somewhat ad-hoc and not take full account of a student's learning needs.

A placement can be a rich learning ground for students, but they must recognise these learning opportunities when they are presented. This is perhaps one of the most difficult areas for a student to grasp. It is not the duty of those providing the placement to teach students or for students to sit back and be taught, as so often may be the case in the classroom, they must recognise the learning they require and actively seek it out. But placements are not only about acquiring knowledge, they are as much about personal development. A placement will enable students to step on to what Covey (1989, p. 49) called the '*Maturity Continuum*' moving gradually "*from dependence to independence to interdependence*" and, by doing so, undertake what can be a transformational journey.

The positive impact a placement can have on students is widely accepted (Green, 2011; Mandilaras, 2004; Mendez & Rona, 2010) but many of these studies are concerned with outcomes and focus on the product of a placement rather than its process. This study is centred on the process in an attempt to understand it and explore the journey undertaken from student to young professional

1.3 Sandwich Degrees

Many construction degrees provided by UK universities are offered as Sandwich Degrees where students undertake a placement, sandwiched between their academic studies (Berrueco et al., 2016; Naughton & Naughton, 2016). There are some disciplines, such as nursing and teaching, for which a placement is compulsory whereas for construction disciplines undertaking a placement is optional. The standard model used is for students to complete the first two years of their degree at university then spend a year in industry on placement before returning to university to complete their final year of study. Sandwich degrees therefore, give students the opportunity to put into practice their university learning within an authentic, real world environment (Berrueco et al., 2016; Clark & Zukas, 2016). While it is recognised there are other forms of placements available such as summer internships and thin sandwich placements, consisting of shorter but more regular

placement durations, for the purpose of this research, the standard year-long placement model described is that which is used for this study.

1.4 The role of the visiting tutor:

When a student goes out on placement, they are allocated a member of academic staff as their visiting placement tutor. The tutor acts as the link between the university and the student and is available to offer advice and guidance during the student's placement. In addition, the tutor will make two visits to the student at their placement location. The visits are spaced evenly across the duration of the placement. During the visits the tutor will discuss the progress the student is making and deal with any issues the student may wish to raise. It is during these visits when the monthly and quarterly logs are considered to ensure the student is completing these as required. On completion of the placement, the visiting tutor is responsible for assessing and signing off the student's final placement portfolio.

1.5 The structure of the programme and where the placement is situated within it:

The programmes considered in this study are structured in the same way. Students arrive at university to study the first year of their programme and, on successful completion of II modules, move into their second year. The completion of their second year is the point at which students have the option to undertake a work-based placement in their third year. If electing to undertake a placement, students will work with an employer's organisation for a minimum period of 40 weeks, the duration being set as part of the relevant professional body's programme accreditation. Students then return to university to complete the final year of their programme.

While on placement students have the same terms and conditions as other employees of the placement company however, they are still studying an academic module within the context of their overall university programme. As such, there are a number of tasks which students are required to complete and which form part of the formal assessment to successfully complete their placement. These tasks take the form of a series of informative and reflective logs.

Monthly Logs:

At the end of each month the student is on placement they are required to complete a monthly record of the tasks they undertake, any training they receive and a brief description of what they feel they have learnt. The monthly logs act as a record of the student's progress and are discussed with their line manager to plan subsequent stages of the placement. The student's manager will then sign them off as a true record of the placement.

Quarterly Logs:

On completion of each three-month period, students draw together their monthly logs to produce a quarterly log within which they reflect on their placement, considering what they have learnt and the progress they are making together with the areas they feel they need to develop. As with the monthly logs, the quarterly logs are discussed with, and approved by the student's line manager. These discussions offer the opportunity to evaluate the student's process to date as well as agreeing future learning and development opportunities as they progress through their placement.

The monthly and quarterly logs form part of the overall assessed placement portfolio but are primarily used during the placement to help guide the student's development. However, on completion of their placement, students are required to complete further tasks to complete their portfolio as the formally assessed part of the placement module.

Reflective Report :

The first of these tasks is a twelve-hundred-word reflective report in which students have the opportunity to take a holistic view of their placement. Using the logs maintained during their placement and reflecting on the placement process, students reflect on the whole placement experience to detail what they have learnt. It is here that students have the opportunity to reflect on the whole placement experience, their learning on placement and how their experience can help them with their future career.

Updated Curriculum Vitae:

Students are asked to develop and update their curriculum vitae to include the skills and knowledge they have developed whilst on placement. This encourages them to start preparing important information required when commencing their search for graduate employment.

Poster Presentation:

The final part of the formally assessed part of the placement process gives the students the opportunity to showcase their placement experience. Students are asked to produce an A1 poster detailing their placement and highlighting their key areas of their learning. A poster presentation event is arranged where students have the opportunity to discuss their experiences with academic staff and employers. In addition, both first and second year students, who are hoping to undertake a placement, are also invited to attend and use the opportunity to discuss issues such as how to secure a placement, the experiences whilst on placement and the benefits and challenges of going on placement.

Final Assessed Submission:

The placement is a pass or fail module and is based on the final assessed work submitted by the student in the form of a placement portfolio. The student's portfolio, containing the monthly and quarterly logs, the 1200 word reflective report, updated curriculum vitae and the poster, is assessed by the visiting tutor who provides feedback on each of the elements to determine whether the placement has been formally passed.

1.6 Theoretical Framework

One of the most important aspects of any research project is a theoretical framework (Grant & Osanloo, 2014) as it provides a lens through which the research can be considered (Merriam, 1998). A theoretical framework can provide clarity and guidance to the researcher and influence their approach to solving a research problem (Savin-Baden & Howell Major, 2013). However, establishing a suitable framework can be one of the most challenging aspects of any research project (Iqbal, 2007; Savin-Baden & Howell Major, 2013). Grant and Osanloo (2014) suggest the challenge is due to the frustration of selecting a suitable framework and applying it throughout the research project. As Dunleavy (2003, p. 38) astutely identifies, *"Nothing disrupts the fit between question and answer in a thesis more effectively than a theoretical framework"*. While there are many different frameworks which can be applied in many different disciplines and in many different ways, seldom does one theory fit exactly with what the researcher is trying to achieve. Therefore, in identifying a suitable theoretical framework, the aim is to adopt a theory which is considered the 'best fit' to the research question being considered.

The theoretical framework used to underpin this study is Jack Mezirow's Transformative Learning Theory (Mezirow, 1978). Whilst a more detailed discussion of the framework is given in Chapter 2, an overview of it is provided in the following section.

1.6.1. Overview of Transformative Learning Theory.

There is no clear definition of transformative learning (Nerstrom, 2014) but the accepted meaning suggests that learning results from making meaning of one's experience, involving an examination of one's beliefs and underlying assumptions of these experiences, resulting in a change in these beliefs and assumptions (Hodge, 2019; Taylor, 2008). Donald, Baruch, and Ashleigh (2019) suggest that people are different after a transformative experience and that this difference is often recognisable by others, a point which appears to link to the comments espoused by many tutors regarding students *'coming back cleverer'* from their placement.

To undergo a transformation, Mezirow (1978) argues that an individual encounters a series of phases which contribute to their transformation as they journey through

them. It is the use of Mezirow's theory which frames this study as it seeks to explore the challenges and opportunities of a placement and what effect they may have on the transformation of students "*in the lived-in moment*" (Malkki & Green, 2014, p. 6).

1.7 Research Philosophy and Methodology

Social Constructivism was the term Vygotsky (1978) gave to the work he carried out on language and learning and the way in which learning is supported by others. Just as Dewey (1938) had argued that meaningful experiences were the way in which knowledge was assimilated, Vygotsky (1978) argued that these meaningful experiences were linked to the social context in which they were set. This social context, as Rummel (2008) argues, should consist of those who are more knowledgeable practitioners. This study is focussed on students working with more knowledgeable people in a specific environment to explore how they assemble and construct meaning from their experiences consequently; it is considered from a constructivist phenomenological perspective by considering the direct experiences of students.

Constructivism, as described by Bryman (2012) is an ontological viewpoint which contends that it is the social actors, experiencing social phenomena, who make meaning of their experiences, a desire that both Brown (2015) and Bryman (2012) suggest is in most people and, as such, making meaning is a dual process of the social phenomena being created by external conditions and the social actors experiencing them (Yin, 2016). As placements, in the context of this study, are year-long, the constant interaction between these actors result in the experiences gained and the meanings made from them being continually revised (Bryman, 2012).

A mixed methods approach to data collection was adopted, formed of two distinct strands, with both methods providing the opportunity to collect rich data (Bryman, 2012). Being based on a constructivist approach where the research seeks out, and tries to understand, the experiences of placement students, interviews were used to collect data from those students currently on placement and questionnaires to collect data from students who had recently completed their placement. This enabled the exploration of student experiences under real-world conditions and to record their thoughts and experiences which are representative of their actual lived experiences (Yin, 2016).

A consequence of the adoption of a constructivist viewpoint is that the data collected is usually qualitative in nature (Quay, 2016). Berryman (2019), Billett (2009) and Yin (2016) suggest that qualitative research allows the researcher to understand how people interact within their social context and manage their experiences in a real-world setting. Qualitative research also enables the researcher to immerse themselves in the culture being

examined, explore the circumstances within that culture drawing conclusions, and ultimately theories, from it (Tracy, 2013)

A review of literature was undertaken to inform and shape the interview questions and twenty individual semi-structured interviews, and one group interview were carried out with students who were currently undertaking a placement. The interviews were recorded, transcribed and, using analytic memos and an iterative coding process, the resulting qualitative data further distilled until the saturation of categories was reached (Tracy, 2013) and a number of themes developed. This study was keen to capture the views of students who had recently completed their placement to gain a more rounded and complete picture of the placement process. The findings from the literature review were again used to develop a series of questions making up the questionnaire which was then administered once per year over a three-year period to gather the views of final year students who had recently returned from their placement. The questionnaires primarily generated quantitative data which were subjected to statistical tests and summaries to establish similarities, differences and associations. The questionnaire also provided the opportunity for students to respond with comments, generating additional qualitative data, analysed in the same manner as the interview data described above. The mixed methods approach provided the opportunity for the triangulation of data to further support and strengthen the findings. The interview data detailed student's experiences as they were actually happening, while data from questionnaires allowed for a more reflective approach to student's views. The participants to the study were drawn from across a range of construction disciplines from the researcher's own institution, a breakdown of their profile is detailed in Chapter 5.

1.8 Ethical Considerations

This study has been conducted under the ethical regulations of Northumbria University (Reference No: RE-HLS-16-161109-5822fe7f09517). Full ethical approval was given for the issue of questionnaires to former placement students and interviews with current placement students.

For the issue of the questionnaires, a statement was included on the lead page of the questionnaire dealing with the ethical issues therefore ensuring informed consent was obtained. Participants were required to check a box to confirm their understanding of the ethical issues before being able to access the main questionnaire. At the beginning of each interview the ethical issues were fully explained before the interview proceeded. Agreement was sought from all taking part in the interview that they were happy for it to be recorded and subsequent information used in the thesis and any subsequent publications. Again this ensured informed consent was obtained. (*See Appendix A for details*). All data collected were securely stored on one flash drive and two external hard

drives, with all three devices held in a lockable fireproof mini safe at the home of the researcher.

1.9 Contribution to Knowledge and Practice

The main objective of doctoral research is framing a study around phenomena which requires explanation (Dunleavy, 2015) and through this make a contribution to knowledge (Newby, 2014; Savin-Baden & Howell Major, 2013; Yin, 2016)

An initial search of literature was carried out to investigate previous research into placements to seek a clear direction for this study. This search has identified areas where further investigation is needed and has provided further focus for this research. Therefore, the contribution to knowledge this study will make into placement research is set out as follows:

- a) There is a substantial body of research which deals with placements. Sectors such as hospitality and tourism, business and management, accountancy, psychology, nursing and teaching are awash with placement research. However, there appears to be little which focusses on the general engineering sector and less relating specifically to construction disciplines. It is therefore expected that this thesis will address what appears to be lacking in placement research.
- b) The predominant focus with placement research is whether students change as a result of their experiences. However, few studies appear to consider the actual placement process through the eyes of the students themselves. This study does not necessarily seek to establish if students have changed after a placement but rather explore how they may be changed by the process itself.
- c) The Research Excellence Framework (www.ref.ac.uk) specifically requires research to have an impact on business and industry. It is hoped findings from this study can be used to help organisations better understand the importance of providing students with industrial experience through placement opportunities.
- d) There is a large volume of research into placements from the late 1990's to the mid-2000's, but a reduction after. What is particularly noticeable is that much of the literature published between the years 2015 – 2020 cite the older literature, suggesting placement research stalled somewhat between 2005 and 2015. It is hoped this study can reignite this area of research and contribute to bringing it up to date.
- e) The final contribution to knowledge and practice is in the form of a theoretical model which draws together Mezirow's transformative learning theory and the

themes of this study to provide a guide through the placement process which can be used to prepare future students for their placement.

From the initial literature search and the contribution to knowledge and practice established, the following aim and objectives.

1.10 Aim

The aim of this thesis is to examine the transformative impact the experiences of a work-based placement may have on undergraduate construction students.

1.11 Objectives

- 1) Critically evaluate previous research into work-based placements to establish key areas for investigation.
- 2) Investigate the challenges and opportunities work-based placements offer.
- 3) Examine the work-based placement process to identify key stages through which a student will journey.
- 4) Evaluate the transformative effect these stages may have on students.
- 5) Produce a theoretical model which illustrates the experiences of students through a work-based placement and the transformative impact they may have.

Chapter 2 : The Theoretical Framework

“Every theory is a self-fulfilling prophecy that orders experience into the framework it provides.”

Ruth Hubbard (1924 – 2016)

2.0 Introduction to the Chapter

A theoretical framework is used to guide the researcher in their research in order to explain a situation (Imenda, 2014; Savin-Baden & Howell Major, 2013) Anfara and Mertz (2006 p. xxvii) however, argue “*No theory, or theoretical framework, provides a perfect explanation of what is being studied*” and so this was the case at the beginning of this study. This chapter begins by identifying the importance of theoretical frameworks to the research process and goes on to discuss several frameworks illustrating the influence they had on this work. Transformative Learning Theory (Mezirow, 1978) was the theoretical framework eventually chosen and the remainder of the chapter provides a detailed discussion and explanation of how it has shaped and guided this study.

2.1 The Importance of theory to research.

A theory can be described as a way of explaining “*observed regularities*” (Bryman, 2012, p. 21). It provides the foundations on which a research project sits and how data can be gathered to provide an organised and coherent understanding of the concepts of a particular phenomenon (Franklin, 2012; Grant & Osanloo, 2014; Inceoglu et al., 2019). But, while some concepts may at times be difficult to explain, the best theories are those which explain the most but are presented in the simplest form (Cohen, Manion, & Morrison, 2011). Theoretical frameworks, therefore, attempt to frame understanding and explain concepts so individuals can make meaning of their experiences (Bryman, 2012; Handfield & Melnyk, 1998)

There is broad agreement among researchers regarding the general character of theory although how it is used is often debated (Savin-Baden & Howell Major, 2013). Scientific theory can be considered a “*rule book*” of principles that the academic community has readily accepted as legitimate through previous testing (Newby, 2014, p. 73). The principles of scientific theory tend to focus on quantitative data, drawing, for example, on scientific laws such as those used in chemistry or physics, but, as Franklin (2012, p. 43) so succinctly states, “*the laws of physics do not apply to human subjects*”. Education theory however, in which this study is framed, is concerned with specific topics such as curriculum design or learning, enabling conclusions to be drawn from real-world experiences within a specific context (McNiff, 2013). Therefore the use of educational theory relies upon the concept of qualitative research to investigate people’s perceptions of particular issues and discover why they think and act as they do (Fellows & Liu, 2008).

While there is a distinction between educational and scientific theory it is not as clear cut as perhaps suggested, particularly in the context of the research approach adopted, the type of data generated and the analysis to which it can be subjected. It is therefore reasonable to use both to generate data and for both to support findings from them (Bryman, 2012).

2.2. The consideration of alternative Theoretical Frameworks

During the early stages of this study, the search for a suitable framework with which to underpin and move the work forward proved to be troublesome and was possibly one of the most difficult hurdles to overcome. Several theoretical frameworks were considered but it seemed, at one point, the discovery of a suitable framework was never ending as first one was considered suitable only to be rejected in favour of another. However, as one was rejected, the previous ones would resurface as possible options. There was a sense of moving back and forth between possible frameworks without fully committing to any. Whilst many frameworks did contain elements which did prove relevant to this study, the difficulty in committing to any of them led to the realisation that perhaps they were not the frameworks which got to the heart of the issues this study sought to investigate. The clear focus and direction which it was felt a suitable framework would offer just did not seem to materialise and the eventual choice of Jack Mezirow's Transformative Learning Theory (Mezirow 1978) was arrived at with some difficulty. As such, it is considered beneficial to the reader that space be given to describe this troublesome journey, briefly discuss the alternative frameworks, why they were considered but ultimately rejected and, importantly, describe how the evaluation of each and the decision-making process that ensued eventually led to choosing Mezirow's framework to underpin this study.

Working in the construction industry, experience has shown that there is often a difference in knowing how something is done and actually being able to do it. It is this concept of 'Professional Know-How', at the heart of the theoretical framework presented by Christopher Winch (Winch, 2015) which sparked an initial interest in this framework and led to its consideration. Winch discusses the application of professional knowledge within a practical context and argues it can only be assessed in performance where skills and knowledge are used to make decisions in often complex situations. The concept of knowing what and knowing how certainly did strike a chord in terms of the level of construction experience brought to this study. Within the context of a work-based placement there are many situations where students will learn how something should be done without actually being able to do it.

Winch was the first of several theoretical frameworks to be considered. However, it was recognised that it is not enough to argue the way in which these should be used, but to also consider how students can develop the confidence to use them. So, whilst not

dismissing Winch at this point, the search for a more suitable framework, particularly in the context of developing confidence, led to the consideration of Social Cognitive Theory (Bandura and Walters 1977) who seemed to offer this additional dimension. They argue that addressing a person's confidence, and so increasing their self-efficacy, will lead to improved performance.

Consisting of four main concepts, Bandura and Walters (1977) argue self-efficacy can be developed through: Mastery experience: offering authentic evidence that a person has the competency to succeed; Vicarious experience: the opportunity to observe others execute particular roles and so create expectations within themselves that they too can successfully perform such roles; Social persuasion: receiving feedback from colleagues, helping to confirm a person's ability; Physiological and psychological states: built around reducing such things as anxiety and stress. As such, there are several areas within Bandura and Walters (1977) framework which link to this study. The exploration of a placement is set within an authentic environment from which evidence can be gathered, (Mastery Experience). Placement students have the opportunity to observe more experienced people performing the role to which students can aspire thereby creating an expectation that they too can perform the role (Vicarious Experience). Placement students are often assigned a mentor from whom they receive guidance and feedback on their performance (Social Persuasion). Until students become integrated within their organisation and understand how they fit, they can experience difficulties in settling into their placement (Physiological and Psychological states).

Consequently, it was now felt there were two possible frameworks which could be considered and used to underpin the study, both dealing with key aspects being explored. The acquisition and use of skills and knowledge within a practical context, posited by Winch and Bandura and Walters, to encompass confidence, observation of others and receiving feedback on performance.

Both Winch and Bandura and Walters appeared to be addressing key areas of the study and initially it was encouraging that there existed two possibilities yet, there remained a reluctance to commit to either. This reluctance seemed to suggest some doubt remained as to whether either of these frameworks were the ones to take the study in the direction envisaged. So, whilst neither Winch or Bandura and Walters were dismissed outright, it became clear that this lack of commitment to either meant the search for a framework needed to continue. However, it seemed that the evaluation of different frameworks was beginning to muddy the waters somewhat and the focus and direction hoped for from a suitable framework were being lost. Therefore, rather than just moving on to the next possible framework, the decision was taken to adopt a more reflective approach to this research. It was decided therefore, to return to the beginning of the study to review the

original aim and objectives to re-establish and clarify what this study had originally set out to achieve.

Establishing the original aim had gone through several iterations before arriving at one which encompassed the original idea of the doctoral topic. These iterations were reviewed and reflected upon to regain clarity as to what this study sought to explore to provide more focus in the search for a suitable framework. This clarity was achieved as the key themes originally developed were revisited and once again identified. This study was seeking to explore the workplace as a learning environment and how learning through practical experience can enhance knowledge and skills development. So, through reflection on the original thought process this was distilled down to learning from experience. Having reviewed the original aim of this study, the search for a suitable framework could recommence. With the overarching theme of learning from experience firmly re-focused, it quickly led to the consideration of David Kolb's experiential learning theory (Kolb 1980).

Following a review of over seventy experiential learning models Coffield et al. (2004) suggested that the one which made a significant contribution to learning theory was that of David Kolb. Developed in the 1980's, Kolb's Experiential Learning Theory (Kolb, 1984) built upon previous work by key theorists such as John Dewey, Jean Piaget and Kurt Lewin (Miettinen, 2000) and is seen as a process which links education, work and personal development. Kolb's theory is based on the premise that "Learning is a process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38) and that knowledge is created, not by instruction alone, but by individuals and the experiences they have (Bergsteiner, Avery, & Neumann, 2010). Sewchuk (2005) supports Kolb's theory by arguing that knowledge is constructed by transforming experience into a cognitive structure which results in a change in an individual's behaviour and thinking.

The consideration of Winch, Bandura and Walters and now Kolb did create a feeling of edging ever closer to a suitable framework but yet again, the reluctance to commit to any of these, still fostered some doubt as to whether a suitable framework had been found. Where perhaps an advance in this search began to present itself was found within one recurring word from Kolb's theory, that of transformation. This began to crystallise the focus to learning from experience and the transformative impact this could have on students. There was, at this point, the sense of having made a breakthrough in the search for a suitable framework as the search shifted to frameworks with a greater focus on student transformation. Further reflection on, and research into, the concept of transformation and the idea that experiences could foster a change in individuals led to the exploration of Meyer and Land's Threshold Concepts Theory (Meyer & Land, 2003).

Threshold Concepts framework was introduced by Erik Meyer and Ray Land (Meyer & Land, 2003) and has at its core the idea that some concepts are in conflict with existing

understanding and are often troublesome to students. Meyer and Land theorised that this troublesome knowledge is often central to understanding particular concepts of a discipline and, until this understanding occurred, students were in a state of liminality as they transition between stages of personal development, trying to understand those concepts which prove troublesome (Adler-Kassner, Clark, Robertson, Taczak, & Yancey, 2016; Cousin, 2006).

The consideration of Meyer and Land again created the feeling of moving closer toward a suitable framework, but there was still the issue of the other possible options of Winch, Bandura and Walters and Kolb which to this point had not been fully dismissed. It was now clear that the possible frameworks were increasing, and it was at this point that it was felt necessary to once again revisit these and make a final decision as to whether they should remain as possible frameworks or dismissed.

The development of technical knowledge and skills are key areas this study seeks to explore; however, they are only part of it. Reflecting on Winch's framework it was clear that there were too many gaps in the areas that this study was trying to investigate such as how knowledge and skills are acquired to consider this a suitable framework. Consequently, it was clear that Winch would not fully address the study's aim and objectives and the decision was taken to dismiss it as being unsuitable for this study. The examination of the concepts contained within Bandura and Walters in the context of placements did provoke further thought as to the suitability of Social Cognitive Theory, particularly in the areas of emotions, an ability to perform and observing others. However, as with Winch, while addressing some of the areas important to this work, they are considered snapshots of a larger process and, as such, did not fully address the aim of this study which is studying the whole placement process. As such, Social Cognitive Theory was also dismissed as being unsuitable for this work. Learning while on placement is very much based around learning from, and reflecting upon, experiences and, as such, Kolb's experiential learning theory was considered a possible framework which could take this study forward. However, reflecting further on Kolb, and the principal reason for its dismissal was that it is based on very clear, perhaps neat, stages with little consideration of what happens between these stages and consequently pays little attention to an individual's personal development which are key aspects of the placement process.

The decision to dismiss Winch, Bandura and Walters and Kolb left Meyer and Land and, for some time, this seemed to be the framework which could underpin this study and drive it forward. Indeed, their assertion that a substantial shift in student perception and understanding being a transformative one certainly resonated with the aim of the study. Further reflection on, and research into, the concept of transformation and the idea that

experiences could foster a change in individuals led to a detailed exploration of Meyer and Land's Threshold Concepts Theory (Meyer & Land, 2003).

Threshold Concepts framework was introduced by Erik Meyer and Ray Land (Meyer & Land, 2003) having at its core the idea that some concepts are in conflict with existing understanding and are often troublesome to students. Meyer and Land theorised that this troublesome knowledge is often central to understanding particular concepts of a discipline but until this understanding occurred, students were in a state of liminality as they transition between stages of personal development, trying to understand those concepts which prove troublesome (Adler-Kassner, Clark, Robertson, Taczak, & Yancey, 2016; Cousin, 2006).

The five main characteristics of Meyer and Land's framework are: Transformative: where students make a substantial shift in their perception and understanding of a concept; Irreversible: in that once something is learnt, it cannot be easily unlearnt; Integrative: when the inter-relatedness of various phenomena are understood; Bounded: the boundary markers which delimitate a concept; Troublesome: describing concepts which are potentially difficult to understand. It was the critical moments defining a student's development and helping them gain a shift in the perception of their discipline which resonated and the transformative concept of Meyer and Land's framework which further shaped the direction of study. Indeed Meyer and Land do acknowledge the influence of Mezirow on their theory in relation to a change in values and attitudes (Meyer & Land, 2006). As with the other frameworks considered, there were aspects of Meyer and Land's framework which were a 'good fit' for this study, such as the transformative and irreversible learning aspects but others which did not appear to sit as comfortably. Despite the integrative concept, boundary delimitation suggests separation of concepts where in construction integration is a key aspect of a successful project.

Therefore, whilst remaining the probable framework to be used, what did prove a little uneasy was that there were parts of Meyer and Land which did not fit as comfortably as was hoped. One key area was the concept of knowledge being troublesome and overcoming this to enable students to step over the threshold of understanding. However, recalling the suggestion from Anfara and Mertz (2006) that no framework provides a perfect fit, it was decided to use those parts of Meyer and Land which were relevant. It seemed at this point that progress was made using Meyer and Land's framework, particularly in relation to transformative learning. However, despite this apparent progress and an acceptance that parts of threshold concepts framework may not apply, such as troublesome knowledge and being in a state of liminality, it became increasingly difficult to disentangle these from the transformative learning section of which they seemed to be such a key part. As such, the now familiar doubt of whether the most suitable framework

had been found again resurfaced and whether Meyer and Land was indeed the preferred framework. However, what was clear during this period was that the transformation of students remained the central theme. While researching Meyer and Land, the name of Jack Mezirow was encountered as being a key influence on their threshold concepts theory particularly in relation to transformative learning. Given the doubts which had now surfaced in relation to Meyer and Land, it was decided Mezirow's work warranted further examination.

Initially, there was little to suggest Mezirow would be anything other than just another in a long line of frameworks to be considered. However, further examination into Mezirow's transformative learning theory began to suggest this framework could finally take this study forward. What was particularly interesting with Mezirow was twofold. It combined areas of other frameworks which had originally been considered such as Kolb's reflective practice, Winch's application of knowledge in a practical context and Bandura and Walters increase in self-efficacy. These, together with Meyer and Land's idea of transformation seemed to suggest that at last a framework had been found which contained key areas of the other frameworks previously considered but then offering more. This was due to the fact that Mezirow's framework was broken down into a series of phases, each contributing to the transformative experience. What was of particular interest was the parallels being drawn between the phases of Mezirow's theory and the phases students may go through during their placement. As a result, after more in depth research into and reflection on, Mezirow's theory, the conclusion was reached that not only would Jack Mezirow's transformative learning theory provide a framework with which to underpin this study, but it would go beyond this by shaping and guiding the subsequent research into placement learning and its transformative impact on students.

Writing this section of the thesis and reflecting on the process gone through in finding a suitable framework has proved to be a troublesome experience. Just as Meyer and Land had identified, it resulted in a period of moving back and forth between possible frameworks within a state of liminality and not being able to move forward. However, again as suggested by Meyer and Land, discovering Mezirow's Transformative Learning Theory enabled a threshold to be crossed and this study to finally move forward not only underpinned but now shaped and guided by Jack Mezirow's transformative learning theory. Having finally found a suitable theoretical framework, the following section describes the development of Mezirow's theory and details the stages within it.

2.3 The development of Transformative Theory

What follows and is perhaps expected when any new theory is introduced into the academic community, is a plethora of critical analysis and Mezirow's transformative learning theory was no different. What is interesting when examining this critical analysis

however is that much of it is focused on the final transformative outcome and whether the individual has been transformed or not (Beer, 2019). However, Snyder (2008) suggests that rather than assessing whether a student has been transformed, it is more useful to explore the transformation process itself, an area both Clark and Zukas (2016) and Malkki and Green (2014) suggest is often neglected and is in need of further qualitative research (Brooks & Youngson, 2016). Indeed, Mezirow himself seems to focus on the final transformative outcome, without considering in detail the “*in between micro-processes*” that take place during the transformative process (Malkki & Green, 2014, p. 7).

Taking inspiration from theorists such as Kuhn (1962) and Habermas (1971), Jack Mezirow introduced his transformative learning theory in the 1970's (Mezirow, 1978) from research he had carried out into women returning to study and work after an extended period away (Calleja, 2014; Kitchenham, 2008) and continued to develop it over a number of years (Abbas, Bharat, & Kumar Rai, 2013; Mezirow, 1991; Tien, Namasivayam, & Ponniah, 2019). Since its introduction, Mezirow's theory has been subjected too much scrutiny. Both Collard and Law (1989) and Illeris (2004) criticise the theory for its focus on the individual and so lacking greater consideration of the social influences on transformation. Malkki and Green (2014) revisit this and expand upon it by suggesting the theory lacks an understanding of the emotional dimension of transformation. Dirkx (1998) feels it necessary to provide a detailed explanation of the theory arguing that it is too complex while Christie, Carey, Robertson, and Grainger (2015) suggest it fails to take context into account, particularly in terms of diversity. The criticism that was most fierce however, came from Newman (2012) who questioned whether transformation actually existed at all. Despite this critical analysis, its strength and continued relevance can be seen in its growth and the development of a wider transformative academic community. There are now regular international transformative learning conferences as well as transformative learning institutes and dedicated transformative learning journals (Enkhtur & Yamamoto, 2017). It therefore remains one of the most robust theories addressing learning in higher education and has changed the way adult learning is understood (Calleja, 2014; Cranton & Kasl, 2012), providing a solid base from which to explore student transformation (Bridwell, 2013; Buechner, Dirkx, Konvisser, Myers, & Peleg-Baker, 2020; Cranton & Kasl, 2012; Hoggan, Mälkki, & Finnegan, 2017; Malkki & Green, 2014; Nerstrom, 2014).

Mezirow's theory argues that learning which allows individuals to change a set of fixed assumptions and expectations, and so make meaning of their experiences, can be considered transformational (Brock, 2010; Enkhtur & Yamamoto, 2017; Keegan, 2009; Mezirow, 2003; Taylor, 2008). Donald et al. (2019) suggest that people are different after experiencing transformational learning and that this difference is recognisable by others and the individual themselves, the view espoused by academic tutors of students

returning from placement as changed and demonstrated in the anecdotal “*coming back cleverer*” comment. Many tutors comment that students are somehow different when they return to their studies after a period away on placement, not only in the knowledge they have acquired but, in their attitude, confidence and maturity. It is therefore argued that transformative learning theory is more than just learning and applying specific subject information, but rather an approach which enables the individual to grow and develop personally and professionally as well as developing occupational knowledge and readiness (Hodge, 2019; Kasworm & Bowles, 2012; Magro, 2009).

Nerstrom (2014) suggests that the process of transformative learning is still not fully understood, however, the development of Mezirow’s transformative learning theory does provide guidance and a clear path towards this. It has its roots in transformation which focusses on cognitive actions to encourage critical reflection (Enkhtur & Yamamoto, 2017). Meaning perspectives are essential to an individual’s transformation and are the assumptions and previous experiences which they bring to a particular situation (Berrueco et al., 2016; Kitchenham, 2008). Mezirow contends that the transformative learning process involves an examination of one’s beliefs and underlying assumptions of experiences and this examination brings about a change in these beliefs and assumptions. The theory has its origins in constructivism in that learning is a way of constructing meaning from an individual’s experiences. In the context of this study, placement students are at an early stage of their professional career, are still learning and trying to make meaning of the experiences they are encountering but, it is suggested, that their beliefs and assumptions about their role are already being shaped. While undertaking a placement may indeed initiate a change in a student’s attitude and a significant shift in their approach where they “*explore new roles, relationships and actions*” (Mezirow 1991 p. 169) being practice ready as Barradell and Kennedy-Jones (2015), Cope et al. (2000) and Jackson and Collings (2018) suggest, is perhaps still some way off.

2.5 The Ten Phases of Transformative Learning Theory.

In addition to the critical scrutiny of Mezirow’s theory, it has also been the subject of much development and modification by others. In the context of online learning, Beer (2019) condensed Mezirow’s theory to her own seven phase model while Nerstrom (2014) devised a completely new model containing four phases. Illeris (2014) however, building on his previous critical appraisal of Mezirow, developed his own approach to consider the influence of emotional and social conditions. Indeed Mezirow himself developed and modified his theory over time (Enkhtur & Yamamoto, 2017), developing his original ideas on reflection and an individual’s frames of reference and habits of mind. These changes and modifications lend weight to the assertion by Nerstrom (2014, p. 327) that the “*transformative learning process is still not entirely understood*”. However, it is still

Mezirow's original ten phase model which is commonly used when considering transformation in an educational setting. Despite these developments and modifications, and for clarity to the reader, the theory used for this study is the original ten phase theory presented by Mezirow in 1978, (Mezirow, 1978) and illustrated in Figure 2-1.

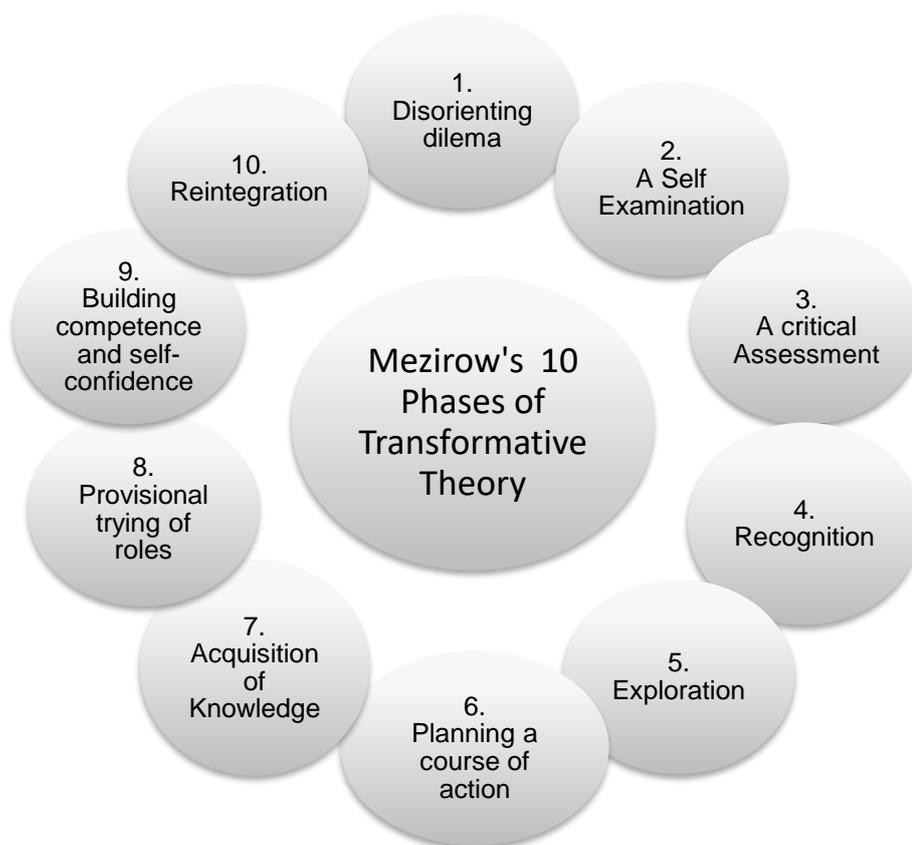


Figure 2- 1: Ten phases of Mezirow's transformative learning theory

Mezirow's transformative learning theory consists of ten distinct phases which contribute to transformation. Mezirow suggests that not all phases need be experienced for transformation to occur (Brock, 2010) nor need each be followed in a particular order however, they all represent part of the transformative learning process (Nerstrom, 2014) . The following section identifies these phases and offers an explanation of each.

Phase 1 – A Disorienting Dilemma:

Phase 1 of Mezirow's transformative learning theory proposes a situation or experience which is new and questions an individual's previously held assumptions (Kerins et al., 2020). Disorienting dilemmas can be described as discomfoting transitions (Buechner et al., 2020) with which individuals must first come to terms (Malkki & Green, 2014) but must be experienced for the transformative process to begin (Mezirow, 1978).

Phase 2 – Self-Examination:

Increasing one's self-awareness is addressed in the second phase of Mezirow's theory which he titled self-examination. It is within this phase that individuals begin to question their ability and thus their capability to perform a particular role. Self-examination is also the point at which individuals become aware of the limitations of their knowledge and bring past experiences to their present situation in an attempt to make meaning of their current experiences (Myers, 2015). Kerins et al. (2020) suggest that the realisation of these limitations and uncertainty can bring with it feelings of anxiety, trepidation and worry.

Phase 3 – A Critical Assessment:

Within the critical assessment phase, Mezirow (1978) identifies reflection as a key concept in his transformative learning theory. It is argued that transformation starts when an individual begins to critically reflect on their current beliefs and assumptions (Cranton, 2006; Mezirow, 1978). Therefore, it is during this phase that an individual re-examines their existing frames of reference to make sense of their experiences. It is here where they recognise that their knowledge and skills may not be enough to undertake the role to which they aspire (Kerins et al., 2020). Therefore critical self-reflection becomes key to transformation (Beer, 2019; Enkhtur & Yamamoto, 2017; Mezirow, 1978) as it enables an individual to change their understanding of key concepts, transform their perspective of them and begin to change their behaviour and how they act in a particular role (Haber-Curran & Tillapaugh, 2015).

Phase 4 – Recognition:

Recognition is the point at which individuals begin to share their uneasiness of new experiences with other people (Brock, 2010). The opportunity to share their feelings and experiences can often reassure an individual that they are not alone in this situation and, in turn, allow others to offer them the benefit of their own experiences (Buechner et al., 2020). From this communicative process individuals are also able to identify gaps in their knowledge and work towards addressing them (Snyder, 2008).

Phase 5 – Exploration:

Exploring Options, as Mezirow suggests, is about individuals considering a new identity and being more aware of themselves as they develop. Having critically assessed their beliefs and assumptions as well as recognising the gaps in knowledge, it is here where individuals begin to consider the implications of a new way of being (Haber-Curran & Tillapaugh, 2015). What they do, how they do it and how they interact with those around them improves as they start to develop their

new identity. Opportunities to perform may begin to present themselves and enable individuals to begin to move beyond where they currently are (Hoggan et al., 2017; Nichols, Choudhary, & Standing, 2020).

Phase 6 – Planning a course of action:

It is at this point where individuals begin to put in to action those things they have experienced and reflected upon. Observational learning is a key part of this phase as they watch how others perform (Kerins et al., 2020) and so begin to enact that which they are observing. Planning a course of action involves the beginning of an understanding of their role, how they see themselves in the role and what they believe they can, with more experience, begin to perform. It is perhaps, as Bridwell (2013) suggests, the beginning of an individual realising their full potential.

Phase 7 – Acquisition of knowledge:

By considering the scenarios and problems encountered, individuals are able to identify the gaps in their knowledge (Beer, 2019). It is in this phase when they are able to identify what they need to know, to better equip themselves with the skills and knowledge required to implement their plans, deal with potential problems and become more able to find solutions (Briese, Evanson, & Hanson, 2020)

Phase 8 – Provisional trying of roles:

This is the point at which an individual could be said to be actively beginning to make a change in themselves. They are experiencing the role to which they aspire and are beginning to perform aspects of it through the application of the knowledge they are gaining (Briese et al., 2020), developing a plan to implement their learning and experience. From the previous phases of discussing, watching and learning, individuals now feel ready to try the role for themselves (Cranton & Kasl, 2012).

Phase 9 – Building competence and self-confidence:

As experience increases and so the ability to perform their role, self-confidence will increase (Hodge, 2019). Individuals are more able to determine their own actions and become more autonomous (Briese et al., 2020). As their competency increases so then does their confidence and in turn their motivation to pursue the possibilities to transform their identity further (Illeris, 2014). It is at this stage that individuals begin to view themselves as professionals with the ability to perform their role (Kitchenham, 2008).

Phase 10 – Reintegration:

The final phase of Mezirow's theory can be described as a reconnection with their discipline but this time from a new perspective (Snyder, 2008). It is this phase

which sees a change in an individual's frames of reference and habits of mind, transformed through their experiences (Briese et al., 2020). Individuals are not only able to understand their own role but also how it is interrelated with the others. Through the accrual of experience, knowledge, competency, confidence and a new set of skills comes a perspective transformation (Kitchenham, 2008)

2.7 Collective Transformative Learning

One area within transformative learning which seems to have been neglected somewhat is the area of collective transformation (Buechner et al., 2020), the premise being that the transformation process is centred in an experience which is shared with others. However, Buechner et al. (2020, p. 3) go on to suggest that while individuals may not be aware of having this shared experience, it does provide a sense of community. As individual transformational experiences occur within a collective dimension, the role of relationships within the transformative process should not be neglected (Taylor, 2008). Buechner et al. (2020, p. 11) further stress the importance of this community within the transformative process in creating a connection between those involved, enabling individuals to explore "*new roles and identities*" and enhance their learning. Reflections on collective experiences can bring about a realisation of individual transformational change and present the potential to look within oneself to facilitate personal growth and transformational possibilities (Buechner et al., 2020; Malkki & Green, 2014).

However, within this collective dimension an individual may have a feeling of being 'betwixt and between', not quite able to move to the next phase until they gather sufficient knowledge or experience to move forward, something similar to what Meyer and Land (2005) defined as a state of liminality or, the place a person inhabits as they transition between stages of personal development. The concept of shared space is a key part of collective transformational learning as it provides students with the context in which meaning can be made of their collective experiences. Matoba (2013) suggests this shared space not only enables the opportunity to communicate but provides some sense of being part of a community.

2.8 Frames of Reference

Each stage of a journey does not begin with learners being vacant of knowledge, but with a particular set of assumptions relating to the situation in which they find themselves (Hodge, 2019). The way in which a person's experiences are interpreted is based upon these assumptions which in turn influence their beliefs and actions, what Mezirow describes as habits of mind or their frames of reference (Kitchenham, 2008; Mezirow, 1990; Taylor, 2008). Mezirow argues that a person's frames of reference can limit understanding, but it is possible for them to change. The problematic and, perhaps, conflicting assumptions which individuals have, and which are currently fixed, can be

revisited and mind-sets transformed (Mezirow, 2003). Within his theory, Mezirow stresses the importance of a change in a person's frames of reference within the transformative process (Enkhtur & Yamamoto, 2017; Snyder, 2008) and identifies the specific dimensions within the frames of reference construct being habits of mind and meaning perspectives (Mezirow, 1978).

Often referred to as a perspective transformation, change can occur from a crisis experienced personally or socially or through the transformation of personal accrued experiences (Taylor, 2008). As a result, habits of mind and meaning perspectives become two key areas of transformative learning which, when changed, lead to a perspective transformation (Kitchenham, 2008). However, it is important to recognise, and be sensitive to, the existing meaning perspectives an individual may bring to their new situation. While the extent of current meaning perspectives can bring into focus the opportunities for transformative learning they may also present risks to those who may wrestle with their new environment (Hodge, 2019; Raelin, 2008). Consequently, transformative learning theory is set within a context of the need for growth and achievement of an individual's potential (Hodge, 2019), and is a process which focusses on an individual's perspective change to achieve this (Kasworm & Bowles, 2012). However, it should be recognised that the level and speed of growth cannot be predicted so providing the opportunity for growth is the important consideration in the transformational process, rather than the time it might take (Hodge, 2019).

Mezirow's transformative learning theory is characterised by critical reflection (Beer, 2019). Indeed Snyder (2008) argues that the key to transformative change is through critical self-reflection. It is introspection and self-reflection that enables perspective transformation and becomes a process of moving from one set of frames of reference to another, leading to growth and building oneself a new identity (Buechner et al., 2020; Hodge, 2019; Minnes et al., 2017; Schunk, 1996). Therefore, although not a specific phase in Mezirow's theory, reflection is considered essential to the transformative process (Enkhtur & Yamamoto, 2017) and will have a significant impact on enabling a change in an individual's frames of reference and so the transformative process (Beer, 2019; Taylor, 2008).

2.9 Critical Reflection

It is argued that the point at which an individual begins to critically reflect on their existing beliefs, what they think is real, is the point at which the transformative process begins (Cranton, 2006; Mezirow, 1991; Nerstrom, 2014).

Critical self-reflection is described as an awareness of a person's perceptions of knowledge (Cranton & Carusetta, 2004) and a form of self-learning (Kreber, 2004). It allows individuals to examine their perspectives and provide insight into how they feel they

are developing in their professional role (Minnes et al., 2017). Altering frames of reference and so changing beliefs, understanding and making meaning of one's experience can all be achieved through self-reflection (Beer, 2019). Learning to become critically self-reflective and engaging in discourse with others enables previous assumptions to be challenged and beliefs changed and should be a continuous process and feature at every phase of the transformative process (Beer, 2019; Mezirow, 1978). Hodge (2019, p. 149) argues that this discourse or the "*communicative domains of human interaction*" is where self-reflection is perhaps more easily initiated, particularly when encountering occupational knowledge and as such individuals should be encouraged to reflect on their experiences and share these reflections with others (Enkhtur & Yamamoto, 2017; Kasworm & Bowles, 2012).

2.10 Summary of Chapter

"A theorist is considered great, not because his theories are true, but because they are interesting" (Davis, 1971, p. 309). This is perhaps the case for Mezirow's theory. Indeed, as Davis (1971, p. 309) goes on to say, *"...a theory can continue to be found interesting even though its truth is disputed – even reputed"*, which could be considered true of Mezirow's theory. While in the intervening years since its introduction, his transformative learning theory has been debated, criticised, developed from many different perspectives and even disputed, it remains an important theory and one which is continually returned to when learning in higher education is considered (Enkhtur & Yamamoto, 2017; Hoggan et al., 2017; Taylor, 2008). There has been a focus recently to bring the various derivatives from Mezirow's theory together into one, unified theory (Enkhtur & Yamamoto, 2017) which perhaps illustrates that, while Mezirow may not have considered himself great, his theory has proved to be interesting. Magro (2009) suggests that the potency of transformative learning theory lies in its relevance from both a technical and vocational perspective, and the prominence given to active participation, critical and reflective thinking.

This chapter has offered an explanation of transformative learning theory, its development and the scrutiny under which it has come. It has also illustrated the influence other theoretical frameworks have had on this study and how they have led to Mezirow's theory being the preferred choice of framework with which to underpin this research. It has discussed the key aspects of transformative learning theory including collective transformation, frames of reference and critical reflection and provided an explanation of each of the theory's phases. In subsequent chapters these phases will be revisited and used to help guide the research and the final model illustrating the transformative journey undertaken by students undertaking work based placements.

Chapter 3 : Literature Review

"If I have seen further than others, it is by standing upon the shoulders of giants."

Sir Isaac Newton (1642-1727)

3.0 Introduction to Chapter

In his series of books, *The New Modern World*, Robert Owen identified that not all learning was acquired "*within four walls of bare buildings*" but from many sources, none more so than work experience (Owen, 1836, p. 97). This study seeks to explore placement experiences and the role they may play in the transformational learning of students. While Mezriow's transformative learning theory is used to underpin the study it is framed by previous research.

The following chapter presents a critical review of literature, addressing key concepts and identifying possible areas which may yet lie unexplored. It will seek to develop an understanding of the relevant issues surrounding placements, inform the study's data collection and enable the subsequent findings to be contextualised within current literature. The chapter begins by briefly examining the role Governments have played in shaping learning before addressing issues including human capital; employability; placement stakeholders and the structure and elements of placements.

Throughout this study literature is examined relating specifically to placements and to wider experiential learning concepts. These are considered from the position they occupy in higher education and how higher education engages with work based learning in the ever changing world of work (Roodhouse, 2010).

3.1 Education for work – Government Influence on higher education

In the pre-war Britain of the 1920's and 1930's education was seen as class based and the privilege of the middle and upper classes (Jansson, 2016), Where the working class, many of whom still lived in relative poverty, had access to a form of education, it was basic in its provision and only took children up to the age of 14 (Gathmann, Jürges, & Reinhold, 2015; Ku, 2013).

In 1940's post war Britain education was considered distant from other, more important Government departments, and regarded as somewhat insignificant (Batteson, 1997). During the preparation of the 1944 Education Act Churchill, still UK Prime Minister, displayed an attitude of benign neglect towards it (Gilbert, 1986). Despite deep antagonism between Margaret Thatcher and Edward Heath in the 1970-1974 Conservative Government, Heath kept Thatcher at the Education Department considering it a department detached from what was considered the more important areas of foreign and economic policy (Heppell & Hill, 2015). However, even with this apparent laissez-faire approach, over the years there were some valuable educational initiatives undertaken by

Government which helped shape higher education to how it is today. Eustace Percy (Percy, 1945) presented his report recommending degree standard courses be offered at Technical colleges, The Robbins Report (Robbins, 1963) led to the expansion of universities and The Oakes Report (Oakes, 1978) considered measures to improve higher education management. However, it would take the intervention of a British Prime Minister to launch what is now considered to be a seismic shift in education policy (Ball, 2017).

In 1976, the then Labour Prime Minister, James Callaghan made his famous Ruskin College speech and sparked what became known as the 'Great Debate'. His speech and the 'debate' that followed focused on education and the need to ensure equality and opportunity for the wider population. What made the Ruskin speech all the more significant was that it was delivered by a Prime Minister. Speaking on the 30-year anniversary of the Ruskin speech, the then Labour MP Andrew Adonis (Later Lord Adonis) in an article for the *Guardian* said "*Prime Ministers simply didn't make speeches about education. It wasn't important enough*" (Adonis, 2006)

Callaghan set out what he believed to be the issues facing education with, amongst other things, an emphasis on those entering the workplace as opposed to those already there. At Ruskin, Callaghan identified the problem as an anti-industrial attitude toward education and as a solution proposed a curriculum which was more vocationally orientated. This resulted in a greater focus being placed on vocational education and the importance of work experience to make young people ready for full-time employment (Ball, 2017; Leach, 2017). Portwood (2000) identifies a key factor in this intervention as being the unfavourable economic performance in the 1970's and 1980's of the UK, in comparison to other major industrialised nations and the existing range and extent of education and training at the time.

A significant area of Government involvement in higher education reform came from the Labour Government of the 1990's (Greenbank, 2006) in the shape of The Government funded National Committee of Inquiry into Higher Education, commonly known as the Dearing Report (Dearing, 1997). It was the perceived disparity in the skills and knowledge of graduates compared to those required by industry which prompted the Dearing Report (Marshall & Cooper, 2001). As part of his report, Sir Ron Dearing called for greater links between industry and Higher Education with the importance of work experience again surfacing as a key issue for higher education to address (Sannadan, Lang-ay, & Guidangen, 2016). Although work experience has been in existence for some time (Auburn, 2007), the Dearing report reaffirmed its importance for higher education students, resulting in an increase in the number of degree programmes offering a work placement to enable experience and key employability skills to be acquired (Brooks & Youngson, 2016). In his report, Dearing suggested that universities should improve the

way in which they prepare graduates for the workplace and recommended that a closer relationship between industry and higher education was required with the emphasis being on collaboration to increase sponsorships and placement opportunities. Garrick and Clegg (2000) further clarify Dearing's conclusion for the need for greater partnerships as not only being financial but in relation to course design and delivery. Just as Dearing had helped influence and shape higher education so then did subsequent Government sponsored reviews. In the period following Dearing, other Government commissioned reports have also had an impact on higher education.

In 2010 Lord Browne delivered his "*Securing a sustainable future for higher education*" report (Browne, 2010). The main terms of reference for Browne were to consider the funding structure in higher education with a focus on student fees (Hillman, 2013). However, just as Dearing had done in 1997, Browne linked university education with career choices and so considered programme quality (Holborow, 2012), employability and skills development (Jameson, Jones, & Strudwick, 2012). The issue of employability and skills formed part of the Wilson Review (Wilson, 2012) which recognised the importance of the collaboration between universities and industry and the need to form closer links between the two (Alrajhi & Aydin, 2019). It had its emphasis on the exchange of knowledge and expertise with the recognition that part of this can come from skilled graduates (Bravenboer, 2018). Some seven years later, Phillip Augar produced his Augar Review (Augar, 2019) which, as with Browne, focused on university funding, including the headline recommendation of a cut in fees. However, Augar also considered the purpose of universities, their strengths and weaknesses and questioned the quality, particularly in relation to the widening participation initiative and skills development provision (Deem & Baird, 2019). While each of these reports and reviews had a specific focus, they all identified the importance of skills development to ensure university programmes were equipped to offer a workforce required by industry and the employability opportunities needed by graduates. To meet the challenge of improving the quality of graduates, a partnership between all stakeholders in the higher education system is required (Berrueco et al., 2016; Cox & King, 2006). This should include not only educators, but employers, government and students themselves. What is interesting is that in naming the various stakeholders and calling for their greater involvement they all echo the words of James Callaghan in his Ruskin speech.

3.2 Employability

The wide range of literature relating to employability offers an equally wide range of definitions. Harvey and Knight (2005) describe it as securing employment whereas Yorke (2006) argues it is not about gaining employment, but rather the ability to perform when in employment. Harvey and Knight (2005) and Yorke (2006) may have been influenced by Hillage and Pollard (1998, p. 2) who had combined these two areas and defined

employability as “*about being capable of getting and keeping fulfilling work*”. In their guidance framework for higher education institutions, Cole and Tibby (2013) explained what they considered employability to be but went further and also suggested what it was not. Rothwell and Arnold (2007) offer their definition that employability is concerned with the skills and other attributes to find and stay in any kind of work they wish, while Bowden, Hart, King, Trigwell, and Watts (2000) consider a wider context arguing that employability should extend to preparing students to make a contribution to the wider society. Despite the efforts of these authors, Tibby (2012, p. 2) suggests that “*defining what is meant by employability is as much of an issue today as it was 30 years ago.*”, a point echoed by Eden (2014) who argues that there is still a lack of consensus in the literature as to how to define employability. Despite the difficulties in establishing a definition on which there is general agreement, it is clear that employability and the development of key skills is a core principle for higher education and a key priority for Government to demonstrate the role HE plays towards social and cultural development, wider economic growth (Clarke, 2018; Cole & Tibby, 2013; Eden, 2014; Tomlinson, 2012) and the improvement of student’s employment prospects (Finch, Peacock, Levallet, & Foster, 2016; Knight & Turnbull, 2008). However, some argue that rather than just improving their employment prospects it is actually the principal issue impacting on securing employment on graduation (Inceoglu et al., 2019; Kerrigan et al., 2018; Wiseman, Roe, & Parry, 2018).

As students who have undertaken a placement move into the final year of their studies, they not only recognise their increased knowledge and experience and from that an increased confidence in their personal development but they have a different perception of themselves as more employable (Donald, Ashleigh, & Baruch, 2018). However, in their final year they will also be more aware of the competitive graduate market (Brooks & Youngson, 2016), perhaps already having had several job applications rejected (Jackson, 2013) and so, students may be more employable but not employed (Donald et al., 2018; Holborow, 2012; Holmes, 2013). However, Donald et al. (2018) goes on to argue that despite this, students place great value on their human capital and career ownership and consider them important aspects of their employability.

The value of an individual to an organisation in relation to their knowledge, skills, experience and attributes define the concept of human capital (Boon, Eckardt, Lepak, & Boselie, 2018; Goldin, 2016; Lanzi, 2007). The concept of human capital can be traced back to the Scottish economist Adam Smith who, as early as 1776, recognised the economic benefit of people acquiring education through apprenticeships (Goldin, 2016). However, the popular use of the term arose following key work by Mincer (1958), Schultz (1961), and Becker and Collins (1964). However, many people rejected the notion of workers as capital as to suggest such was to reduce them to something akin to property (Schultz, 1961). Further criticism of the concept was levelled at Gary Becker, considered

to be the main exponent of human capital theory through his book '*Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*' (Becker & Collins, 1964). Becker's use of the term was heavily criticised at the time as it was thought to consider workers as machines, or worse, slaves (Goldin, 2016). Since those early, critical days however, the concept of human capital has grown and developed and is now an accepted and important part of a company's operations (Lee & Lee, 2016; Nafukho, Hairston, & Brooks, 2004) with the investment in an organisation's workforce seen as providing it with a competitive advantage (Boon et al., 2018; Roodhouse, 2010; Wright & McMahan, 2011). The investment in human capital also addresses the wider requirements of Government policy on workforce provision (Basit et al., 2015; Boon et al., 2018; Major, 2016). But importantly, it enables individuals within the workforce to improve their knowledge, personal attributes and skills (Martin, McNally, & Kay, 2013) and so, in turn, improving company performance.

Lanzi (2007, p. 428) divides human capital into three broad categories. In addition to the learning of elementary skills such as reading and writing, he identifies "*Professional competencies*", consisting of the application of technical knowledge and "*Complex functions*" of self-learning, problem solving, teamwork and self-confidence as key components for increased employability. In relation to students in higher education, who are the next generation of the workforce, the improvement of their knowledge, experience, personal attributes and skills can be achieved through work experience (Basit et al., 2015; Martin et al., 2013), with those motivated to actively engage with the placement process improving their employability and personal human capital (Donald et al., 2018; Wright & McMahan, 2011). Consequently, it is important for students to use a placement opportunity to develop their personal human capital in terms of knowledge, personal attributes, experience and skills and so stand out from other graduates and improve their employment prospects (Basit et al., 2015).

3.3 Reflection

A situation which can be considered normal and which can be addressed using previously acquired knowledge is often dealt with instinctively, with little thought (Schon, 1987). But, when the situation is unusual or unfamiliar it will require more thought and so, from this, an individual has experienced something from which they can learn (Eraut, 1994). However, for this learning to be effective the individual must reflect on their experience to consider what happened, why it happened and what it was they learnt from it (Hickson, 2011).

There are therefore two aspect of reflection to consider, reflection-in-action, involving thinking about how the unfamiliar experience can be dealt with, and reflection-on-action, when the what and why questions are considered (Hickson, 2011; Schon, 1987).

Consequently, exploring and reflecting on experiences is crucial for effective learning to take place (Eden, 2014; Roodhouse, 2010). For students undertaking a placement, reflection on their experiences is essential if they are to understand and learn from them (Clark & Zukas, 2016) as reflecting on, and making meaning of, these experiences will enhance the transformative effect of their placement (Minnes et al., 2017; Sykes & Dean, 2013). As Major (2016, p. 18) contends, as well as the classroom the workplace is also a “*site of learning*”.

Although not a specific phase in Mezirow’s transformative learning theory reflection is an integral part of its process (Briese et al., 2020; Enkhtur & Yamamoto, 2017; Mezirow, 1990). But for transformation to occur, reflection must be more than just thinking about an experience (Hickson, 2011), it must go deeper and be more critical by examining existing values and the assumptions on which they were built (Mezirow, 1990). This critical self-examination enables the learner to deconstruct their experiences and, using their newfound skills and experience, create new ways of doing things and new ways of thinking (Berruenco et al., 2016; Fook & Gardner, 2007; Nichols et al., 2020). While reflection within higher education is not a new concept, it is not always addressed as effectively as perhaps it should be due to the difficulty in guiding and evaluating student learning from reflection (Daszkiewicz, 2019; Whalen & Paez, 2021) and the fact that it can take some time for students to understand and develop their reflective skills (Pretorius & Ford, 2016). Consequently, some students may go to their placement lacking an understanding of the reflective process and the benefits it can bring.

The importance to learning within the workplace requires critical reflection to be encouraged but this is not always the case (Helyer, 2015; White, Fook, & Gardner, 2006), often due to management control over role responsibilities, limited time within the day and access to limited work experiences due to the requirement to conform to recognised practices (McEwen, Mason O’Connor, Williams, & Higson, 2010). However, colleagues should be encouraged to engage in the process as where reflective practice in the workplace can be particularly effective is when others are included and so provide support and encouragement to students (Helyer, 2015; Walker, Cooke, Henderson, & Creedy, 2013). This support enables students to understand how their activities fit within the context of the workplace and with those of more experienced people in the organisation. Therefore support within the workplace through interaction with their managers, mentors and peers is a vital part of workplace learning (Roodhouse, 2010).

This is made even more important as by maximising access to knowledge and experiences students can, through reflection, be transformed and so increase their ability to perform (Nicolaidis & Poell, 2020; Siebert & Walsh, 2013). Lucas and Leng-Tang (2014) however, suggest that students reflect less on their experience and more on the

work culture and fitting in. Given the advantages to be had from reflection in the workplace they see this lack of reflection as an area of concern and one universities should address to increase the success of a placement (Jones et al., 2017; Lucas & Leng-Tang, 2014).

The construction industry, as with many other sectors, is experiencing rapid growth and development in the use of information technology (Kapliński, 2018; Maskuriy, Selamat, Maresova, Krejcar, & David, 2019). Building Information Modelling (Gledson & Greenwood, 2017), Inclinometers and Levels for excavators and the use of drones for surveying (Sepasgozar, Davis, Loosemore, & Bernold, 2018) and blockchain technology for data management (Prakash & Ambekar, 2021) are becoming increasingly widespread in the industry. Consequently, those students entering today's industry need to be able to adapt to this changing landscape. Learning to reflect on new experiences will help them develop the important skill of learning how to learn to enable them to maintain their currency with new technology (Helyer, 2015) as well as developing their IT use, a skill identified as a key aspect of the wider employability skill set. Lucas and Leng-Tan (2014) see this lack of reflection as an area of concern and one it is suggested that universities address. Universities should adopt a pedagogic approach to curriculum development which discourages separation between an academic and practical approach to learning and encourages students to recognise the link between academic and practical knowledge (Billett, 2009; Guile & Griffiths, 2001).

Lucas and Leng-Tang (2014) explored the role placements play in developing the student as a reflective practitioner, arguing that knowledge is contextual and can only be assessed within a specific context. Guile and Griffiths (2001) however, suggest that placements should be seen not as a context about which they learn, but a context through which they can learn. Roodhouse (2010, p. 3) argues that learning in the workplace has its focus on the role being undertaken and the knowledge, skills and experience gained from it. However, placement students need to consolidate this learning "*by exploring their own experiences*" and make meaning of them by reflecting upon them. Therefore, reflection on learning is crucial in consolidating these experiences and aiding with the transformative process which can result from their placement and improving their personal human capital (Clark & Zukas, 2016; Inceoglu et al., 2019; Minnes et al., 2017).

3.4 Skills Development

Despite the importance placed on employability in relation to its contribution to graduate employment and the report by the Institute of Student Employers (Institute of Student Employers, 2020) suggesting employers are satisfied with the graduates they employ, some suggest employers continue to express some concern as to the quality of young people entering the labour market (Arsenis & Flores, 2019; Clarke, 2018; Peet, 2015; Succi & Canovi, 2020). While Wilton (2014) argues there is a lack of research which

shows high level skills attainment leads to high level graduate employment, employers still expect graduates to possess not only discipline specific technical knowledge but also a range of skills which makes them more employable (Jackson, 2014). This places the acquisition of employability skills firmly at the door of higher education (Basit et al., 2015; Clark & Zukas, 2016; Cox & King, 2006; Minocha, Hristov, & Reynolds, 2017; Sannadan et al., 2016) so much so that many universities seek to embed them in all aspects of their provision both as an internal measure of student success (Clarke, 2018; Pegg, Waldock, Hendy-Isaac, & Lawton, 2012; Yorke, 2006) and externally to improve their standing in league tables (Donald et al., 2019; Tomlinson, 2012). However, both Eden (2014) and Bauer, Festner, Gruber, Harteis, and Heid (2004) suggest that learning in a work environment has little in common with learning at university and argue that employability cannot be taught in the classroom but needs some form of work experience to improve graduate employment prospects (Kerrigan et al., 2018; Minocha et al., 2017). Cole and Tibby (2013) argue that, for a student to develop an attitude or approach to 'life-long learning', their engagement with employability is essential and a student's recognition of their own development achievements throughout their lives (personal, academic and career developments) will contribute to their long-term success.

Employability skills can relate to a specific role within an organisation and so be considered context dependant, or relate to a broad range of skills, relevant across a variety of roles and so considered context independent (Anfara & Mertz, 2006 ; Forrier, De Cuyper, & Akkermans, 2018). When discussing skills in the context of employability there is a wide range of literature which use the term '*Soft skills*' to describe non-technical or non-discipline specific skills for example see: (Cimatti, 2016; Clarke, 2016; Succi & Canovi, 2020; Tang, 2018; Yao & Tulliao, 2019). This study steers away from the term soft skills as it suggests something which is 'soft and fluffy' and perhaps nice to have but perhaps not that important. However, these 'soft skills' may be critical in a context dependent role. Someone whose job is to agree contracts would find negotiation and communication skills critical. Therefore, the use of the term transferable skills is preferred as it is considered more suitable to convey the importance of these skills and the clarity that they are able to be used in a range of different circumstances.

The development of transferable skills is essential for students to enhance their employability, although the two strategies used by universities, embedding them into the curriculum and through work placements, and the effectiveness to which they have been employed have been variously questioned (Clarke, 2018; Cranmer, 2006; Minocha et al., 2017; Yorke, 2006). Pegg et al. (2012) for example questions if the requirement of universities to provide students with the opportunity to assemble skills somehow devalues a university education by reducing it to providing vocational provision in line with colleges. However, what makes this more difficult is identifying a definitive list of skills as opinions

vary as to what should be included (Griffiths, Inman, Rojas, & Williams, 2018; Succi & Canovi, 2020), although in his report Dearing did make an attempt to do so. As Griffiths et al. (2018) point out, if a common list of employability skills cannot be established, then how are universities to know which skills to embed in their programmes or for students to know which to develop when on placement. The difficulty of establishing a definitive list was highlighted during this study. While preparing this chapter a substantial amount of literature was considered in an effort to establish a list of the key transferable skills which would inform the data collection. Table 3-1 illustrates the attempt by various authors to do this however, what is clear is that while there are some skills which many agree on for example, communication, teamwork and self-management, there are many which are included by some and not others, illustrating the difficulty in defining a clear list of skills. This is further illustrated by the phrases used in the literature to identify these skills with many of the authors using non-committal phrases such as “*skills include...*”; “*some of the skills required...*” and “*among others...*” suggesting they too had difficulty in establishing a definitive list.

Despite this, what is important to recognise is that the acquisition of employability skills is a significant feature of higher education and while those skills identified are important, they should extend to personal attributes such as an understanding of the learning opportunities of placements, an evaluation of one’s experiences, a consideration of a person’s self-efficacy, self-confidence and self-esteem (Eden, 2014; Thompson, Bates, & Bates, 2016). Within the context of transformative learning, the emphasis is on students examining their current frames of reference and attempting to understand themselves and their existing beliefs (Beer, 2019) but this self-examination should be underpinned by the development of key skills (Peet, 2015). However, the key to their understanding, and so to the transformative process, is through critical self-reflection (Enkhtur & Yamamoto, 2017; Snyder, 2008). In particular students should be encouraged to develop their critical reflective skills to enable them to reflect on their own learning experiences, the importance of which was identified by Mezirow (1978) and later stressed by Dearing (1997).

Dearing (1997)	Harvey and Knight (2005)	Mason, Williams, and Cranmer (2009)	Cole and Tibby (2013)	Jackson (2015)	Finch et al. (2016)	Ruge and McCormack (2017)	Clarke (2018)	Wiseman et al. (2018)	Donald et al. (2018)	(Succi & Canovi, 2020)
	Technical Knowledge					Technical Knowledge				
Communication	Communication	Communication	Communication	Communication	Communication	Communication	Communication	Communication	Communication	Communication
	Teamwork	Teamwork	Teamwork	Teamwork	Teamwork	Teamwork		Teamwork	Teamwork	Teamwork
	Self-Management		Self-Management	Self-Management		Self-Management	Self-Management	Self-Management		
				Time Management	Time Management		Time Management		Time Management	
									Organisation	
	Self-Confidence									Self-Confidence
	Problem Solving	Problem Solving	Problem Solving	Problem Solving		Problem Solving		Problem Solving		Problem Solving
						Leadership / Responsibility			Leadership / Responsibility	Leadership / Responsibility
	Interpersonal Skills				Interpersonal Skills					
			Business Awareness					Business Awareness		
					Critical Thinking					Critical Thinking
	IT Use	IT Use	IT Use	IT Use		IT Use		IT Use		
Learning		Learning							Learning	Learning
	Adaptability				Adaptability		Adaptability			
Numeracy		Numeracy	Numeracy					Numeracy		
	Literacy	Literacy								
			Creativity							Creativity

Table 3- 1 : The range of employability Skills identified in literature

As identified in the preceding pages, the concept of employability can mean different things to different parties depending upon their perspective. For students it relates to the acquisition of key skills to assist in their employment, where employers consider it to be the ability of their staff to use these skills in their role. Whilst academia has made some effort to develop student's employability in the classroom through learning and teaching initiatives, it is suggested that its success is questionable. These initiatives do not always appear to filter down to the student population or result in the desired outcomes. Within this context, this study argues that more needs to be done to ensure initiatives around employability at university level should be re-examined to establish how they can have a greater impact. But, in the knowledge that these skills can be introduced in the classroom it is argued that they can only be fully developed and tested beyond it, within a real-life working environment. Consequently, it is argued that employability within higher education, whilst an important concept to promote, continues to be primarily linked to institutional outcomes providing key performance indicators which demonstrate institutional achievements to influence their ranking in various league tables.

Tibby (2012) and Eden (2014) identify that there remains difficulty in clearly defining what employability is. However, the view taken in this study is clear in that a student's employability centres on their acquisition of key skills. While these key skills should include such things as teamwork, communication and self-management (See Table 3-1, pp 44 for more), this study argues that employability skills should extend beyond these to encompass personal attributes including initiative, adaptability and a willingness to learn as well as personal values such as an ethical approach to business dealings, dependability, integrity and a respect for others. By acquiring this wider skill set, not only will graduates be able to pursue a successful career but, whilst doing so, make a significant contribution to the wider society in which they live and work.

3.5 Industrial Placements

Since their decline between 2000- 2010, placements have since experienced an increase from 2015 (HESA, 2020). Despite this upsurge in popularity (Inceoglu et al., 2019; Major, 2016), the general uptake of a placement by students in the UK is still considered low (52%) in comparison to other countries such as the USA (73%) and Australia (75%) (Jones et al., 2017; Kerrigan et al., 2018). Jones et al. (2017) go on to suggest the reasons for this are twofold, the lack of investment by employers to provide good quality placement opportunities and the failure of students to recognise the value a placement can bring to their employability. However, it is work experience which many employers value over qualifications (Wiseman et al., 2018) and is shown to have a significant transformational impact on a student's career (Inceoglu et al., 2019; Kerrigan et al., 2018). Students have access to authentic work environments, the opportunity to observe and listen to what is going on around them and access to more experienced colleagues from

which to learn (Smith, Taylor-Smith, Smith, & Webster, 2018). But it is necessary to understand the individual and the environment in which they are working and recognise these learning opportunities and so what a successful placement is (Clark & Zukas, 2016). Research into placements tend to focus on outcomes and very rarely considers an individual's learning and development throughout the placement process (Clark & Zukas, 2016).

The Quality Assurance Agency describe work-based learning as

“...learning through work, learning for work and/or learning at work. It consists of authentic structured opportunities for learning which are achieved in a workplace setting or are designed to meet an identified workplace need. This type of learning typically has a dual function of being designed to meet the learning needs of the employees, developing their knowledge, skills and professional behaviours, and also meeting the workforce development needs of the organisation.”

(QAA, 2018, p. 1)

Many construction degrees provided by UK universities are now offered as a Sandwich Degree and are structured in a similar way (Inceoglu et al., 2019). Students complete the first two years of their degree at university then, having spent a year in industry on placement, return to complete the final year of their degree (Berrueco et al., 2016; Jones et al., 2017). During their placement, students have the opportunity to link many of the theoretical principles learned at university to the practical application of these principles in the operation of live projects (Clark & Zukas, 2016; Kerrigan et al., 2018; Wiseman et al., 2018). In addition, it is whilst out on placement that students are able to develop a range of transferable skills to enhance their employability (Berrueco et al., 2016; Kerrigan et al., 2018).

There is a substantial body of work relating to learning through work placements focussing on such things as skills development (Chikumba, 2011; Freudenberg, Brimble, & Cameron, 2011; Jackson, 2016), augmenting employability (Arnold, Loan-Clarke, Harrington, & Hart, 1999; Eden, 2014; Jackson, 2013) and the effect it can have on final degree classifications (Crawford & Wang, 2016; Jones, Green, & Higson, 2017; Mendez & Rona, 2010). However, in many cases, the focus is on the output of a placement and the final outcome of a student's development and whether, and to what extent, the student has changed as a result of their placement (Clark & Zukas, 2016; Inceoglu et al., 2019). However, there appears to be very little research which considers the actual journey a student travels during their work placement and the effect a placement can have on their transformation during this journey (Beer, 2019)

Education should not stop in the classroom but extend beyond it and work based learning is the point at which theory and practice, knowledge and experience can merge to offer as

much learning from the workplace as the classroom (Berrueco et al., 2016; Raelin, 2008). This supposition is also identified by Portwood and Costly (2000) who acknowledge that employers recognise that to succeed in the global market they must ensure the progressive development of their employees. As Portwood and Costly (2000, p. 10) so succinctly put it "... *there is a curriculum in the workplace as well as the campus.*"

The concept of improvement in academic performance as a result of undertaking a placement is a theme which is addressed throughout the literature but is a topic which divides the academic community and perhaps links to the "*coming back cleverer*" comment discussed in Chapter 1. Therefore, the benefits of a placement in relation to academic performance has become somewhat of a contentious issue and an area in which research has remained inconclusive. While Kerrigan et al. (2018) suggest a placement will add value to achieving learning outcomes and so an enhanced degree classification, Driffield, Foster, and Higson (2011) and Crawford and Wang (2016) suggest it is previous academic performance that improves subsequent academic performance rather than the placement, but both Green (2011) and Reddy and Moores (2012) argue this is not the case. Mandilaras (2004, p. 39) is more specific, suggesting "... *participation in the placement scheme significantly increases the chances of obtaining an upper second- or higher-class degree*". In their analysis, Crawford and Wang (2016) found that students showed an increase in degree classification following a placement suggesting they achieve an increased in their average mark by 3.34% while non-placement students only increased the average mark by 0.87%. However, they also found that some placement students experienced a fall in their degree classification (Crawford & Wang, 2016). Gomez, Lush, and Clements (2004) found final year students, who had undertaken a placement, could increase their final grades however, SurrIDGE (2009) argues it is the academically able students who are likely to undertake a placement and so achieving higher grades should be expected. While the literature above illustrates there is empirical evidence suggesting a placement will result in an enhanced degree there is an equal volume of empirical evidence which suggests this is not the case.

From a range of studies using a number of different research methodologies, Little and Harvey (2007), and Reddy and Moores (2012) all argue that a placement has little effect on a student's subsequent academic performance. Little and Harvey (2007) conducted in excess of eighty interviews with students across seven universities and, whilst found students did gain tangible benefits from their placement such as improved confidence, teamwork, better organisation and time management skills, there was little difference in terms of degree performance with non-placement students. Research by Duignan (2002) did compare placement and non-placement students to arrive at his conclusions however, this was based on the exam results of one business studies cohort from one university, although he also found non-placement students increased their final year marks in

comparison to placement students. In a wider study, Reddy and Moores (2012) implemented a series of statistical tests using a sample of 6000 students across a number of programmes at one university and taking into account ethnicity, gender and socio-economic background found a small grade improvement in only one part of the sample. Bullock et al. (2009) meanwhile, from a study involving 145 placement students and 136 non-placement students from two departments in one university, confirmed the findings of Reddy and Moores (2012) that placement students return to university with increased confidence, interpersonal skills and a greater maturity but demonstrated a reduction in their final year grades.

Conversely however, Gomez et al. (2004), using a slightly imbalanced sample of 122 placement students and 42 non-placement students, used the average marks across all years of one programme to suggest improvements in academic performance. SurrIDGE (2009), using a similar methodology as that used by Gomez et al. (2004) tested the final examination marks of 181 accounting students across their programme to arrive at his conclusions. Mansfield (2011), again using a slightly imbalanced sample size of 81 non-placement students and 336 placement students, also used marks across each year of a surveying programme to demonstrate an improved academic performance of placement students in comparison to non-placement students. Nowhere is this 'conflict' better illustrated than by Shepherd (1998). Having published widely on the positive aspects of placement, he presents a strong argument that the skills acquired on placement could be quite as easily gained in the classroom (García, 2016). In an extensive statistical study of academic performance involving 6645 students from two UK universities, Jones et al. (2017) concluded that the investigation into student performance as a result of placements in past studies may have overestimated the impact. Interestingly despite the apparent conflict in the research both Lock, Bullock, Gould, and Hejmadi (2009) and Crawford and Wang (2016), while not reaching any conclusions in degree classifications did find that students returning from placement expected to improve their academic performance in final year. While the results obtained and the conclusions drawn are not disputed, the examples given show the difficulty in reaching a definitive conclusion as to the impact a placement can have on subsequent academic performance. Many of these studies, however, are based on figures between the years 2000-2015 when the decline in placements was prominent, with very few addressing the years following 2015.

Notwithstanding the issues around the improved academic performance a placement may or may not bring, there is widespread recognition of the benefits a placement can offer (Gomez et al., 2004; Green, 2011; Mandilaras, 2004; Mendez & Rona, 2010). However, take up of placements continues to be lower than many stakeholders would like (Jones et al., 2017; Kerrigan et al., 2018). It is suggested that students prefer to complete their studies without a break (Hejmadi, Bullock, Gould, & Lock, 2012). Morgan (2006) and

Brooks and Youngson (2016) however, suggests the issue is how students cope with the transition between university and work and then back again to being a student (Auburn, 2007), while Lock et al. (2009) identifies a reluctance in taking up a module carrying no academic credits. A reluctance to travel (Neill & Mulholland, 2003) and the belief that previous work experience will offer the same skills development as a placement (Lock et al., 2009) are also reasons which literature suggests contribute to students deciding not to undertake a placement.

For students to maximise the value of their placement they must recognise what they need to learn. Brodie and Irving (2007, p. 13) call this “*future learning*” suggesting that whilst the workplace offers students unfamiliar learning opportunities, it also encourages them to develop the skills necessary to recognise and maximise these learning opportunities within their placement organisation (Berrueco et al., 2016). Murdoch (2004) describes this as cooperative education with its goals and achievements being: To provide practical knowledge; to develop knowledge and skills beyond the classroom; to explore career choices; to develop the ability to work with others and improve working habits

Walsh and Kotzee (2010) identify the QAA’s Code of Practice for Placement as being the document on which quality placements should be based and from which higher education institutions can adapt, as required, and design their own placement provision.

Construction related programmes are designed to include an element of work placement with students being based in a variety of environments (construction sites and office based) and working for a variety of organisations. Siebert and Walsh (2013, p. 168) however, suggest that a placement “*blurs the boundaries*” between the understanding of traditional knowledge through formal university learning and informal learning in a work environment. Nevertheless, it is important for students to understand the theoretical aspects of their discipline to then be able to recognise and apply them to the working environment (Clark & Zukas, 2016; Kerrigan et al., 2018; Wiseman et al., 2018). Guile and Griffiths (2001) support this, arguing that universities should adopt a pedagogic approach to curriculum development which encourages students to recognise the link between academic and practical knowledge.

3.6 Stakeholders in the Placement Process

Placements can be seen as an opportunity to do three things; gathering a new skill set through experiencing the work environment, gaining new knowledge from placement experiences and reinforce existing knowledge from previous study (Murdoch, 2004). Whilst placements are viewed as adding value to a programme of study (Bromley 1993, Lock et. al. 2009) the experience can vary. The procedures used to place, monitor and assess students vary greatly across institutions (Lock et. al. 2009). Therefore, for a placement to be considered effective and offer students the opportunity to gain a

meaningful experience, it is important that all stakeholders in the process have an input (Crebert et. al. 2004).

There are three broad groups making up the stakeholders which can influence the placement process: Students, University Staff and Employers. As Gomez, Lush and Clements (2002) point out, a placement is not just about students and their experience, it concerns all stakeholders and is about harmonizing the workplace and university through effective constructive alignment of classroom teaching, experience gained in the workplace and assessment of that learning (Haikari, Virtanen, Vesalainen, & Postareff, 2021; Ruge & McCormack, 2017)

3.6.1 Students

Without work experience, graduates are placed at a disadvantage compared to those who have work experience (Brooks & Youngson, 2016; Kerrigan et al., 2018; Wilton, 2012). For students to maximise the value of their placement they must recognise what they need to learn suggesting that the workplace offers students learning opportunities which are unfamiliar, requiring them to develop the skills necessary to recognise the knowledge and experiences presented to them and to take full advantage of these opportunities (Brodie & Irving, 2007). Morse (2006, p. 741) suggests students need to be “*opportunistic learners*” and take advantage of every kind of learning. However, inexperienced students may be reluctant to question or even challenge more experienced employees as to their practice (Berruoco et al., 2016). Ensuring the placement experience is effective and the expected learning outcomes are achieved will be influenced by the level to which students are prepared for their placement and how they adapt to a different setting (Auburn, 2007; Berruoco et al., 2016; Driffield et al., 2011; McEwen et al., 2010)

Equally important however, is the transition back to university on completion of the placement (Auburn, 2007). Many students agree that a placement is of value (Brooks & Youngson, 2016; Lock et al., 2009; Mansfield, 2011; Morgan, 2006; Morse, 2006) and enables them to develop skills which help on their return to university. Most have identified the development of generic skills such as communication, team-work, confidence and increased motivation (Hejmadi et al., 2012; Kettis, Ring, Gustavsson, & Wallman, 2013; Little & Harvey, 2007; Lock et al., 2009; Morgan, 2006; Reddy & Moores, 2012; Wilton, 2012) a better understanding of their career choice (Lock et al., 2009) and an increased level of maturity from their time spent in a work environment (Morgan, 2006; Surridge, 2009).

3.6.2 Academic Staff

Kettis et al. (2013) and Major (2016) identify a range of benefits from which staff can take advantage of placements, including enriching their research through links with industry and access to real life case study examples to enhance learning and ensuring the currency of their teaching. Morgan (2006) adds to this by identifying the relatively untapped potential of building relationships with smaller local organisations.

One of the main areas in which staff become involved is in the supervision of placement students. When this supervision is poorly structured or inappropriate, learning can be undermined therefore, it is important that the placement process is well managed before a student leaves for their placement, whilst on placement and on their return to final year (Auburn 2007). Good staff supervision improves the integration of theory and practice, encourages a deeper understanding of work practices and ensures the placement is appropriate and offers enhanced learning opportunities (Duignan 2003).

In order to learn effectively, students must strive to become reflective practitioners by reflecting on their experiences (Kolb, 1984). The key challenge for staff is to better integrate learning off-campus (in the workplace) with on-campus reflection (Eden, 2014). It is in this way that the staff role changes from teacher to facilitator by designing curricula which allows students to reflect on their experiences and use it in their academic studies to enhance their learning (Stubbs & Keeping, 2002). However, Eden (2014) argues that placement reflection should start pre-placement with staff encouraging students to explore their own learning styles, provide them with the opportunity to discuss the expectations they have of their placement and how they might learn from the experience to ensure students are well prepared for placement.

Following the placement, Guile and Griffiths (2001) identify the importance of a post-placement debrief to enable students to evaluate their placement learning. Consequently, it is the role of the tutor to pose problems and construct pedagogical spaces enabling students to reflect on their experience and use it to interrogate and understand these problems (Freire, Macedo, & Leach, 1999). Many staff find that placement students, on return to their final year, have a greater level of transferable skills (Reddy & Moores, 2012). Whilst they are more mature with increased motivation and focused on their studies (Gracia & Jenkins, 2003; Jones et al., 2017) and adopt a different approach to their learning, they do fail to express the intellectual benefits of placements (Little & Harvey, 2007) and, in

some cases despite their placement, fail to demonstrate any enhancement of their employment opportunities or indeed academic performance (Wilton, 2012).

In the context of learning through placements, it is important for universities to develop curriculum frameworks that recognise both formal learning (classroom based) and informal learning (within the work context) and encourage students to make this link (Guile and Griffiths 2001). Therefore, a pedagogic approach is required which supports a closer link between academic subjects and the practical context as separation of these increases the difficulty of students trying to relate them (Guile and Griffiths 2001).

3.6.3 Employers

There is a certain level of contradiction in terms of employer preferences to placement students. Bennett et. al. (2008), Harvey et. al. (2007), and Brooks and Youngson (2016) argue that employers are more interested in a student's employability skills and the fact that they have undertaken a placement rather than their academic achievements, whereas Surrige (2009), while acknowledging that employers do recognise the importance of work experience, suggests they prefer students who have achieved a 1st or 2:1 classification. In a study investigating what employers looked for in graduates the value of relevant work experience was only ranked 58th out of the 72 organisations surveyed (Shepherd 1998). Jackson and Collings (2018) also suggested that employers were not as concerned with graduates having relevant work experience. However, Morse (2006) found that businesses, particularly smaller companies, wanted students who were work ready and were able to work effectively from the first day. Cranmer (2006) found that employers took the technical skills of some students for granted and were more concerned with their adaptability and transferable skills, a view supported by Stubbs and Keeping (2002). The technical skills can be taught in the classroom but interpersonal skills and attributes such as communication, confidence, maturity and adaptability are developed in a work environment (Bauer et al., 2004; Major, 2016)

The benefits to companies in taking placement students are wide ranging, with Morse (2006) identifying the key benefits as having work done that may not have otherwise been done were the placement student not there, using the process as a staff development tool for their own staff through effective management of students, engaging with universities, making a contribution to someone's education and enhancing their overall reputation.

To ensure these benefits are forthcoming, employers must provide meaningful work and ensure students are able to work with more knowledgeable staff (Guile

and Griffiths 2001), ensure learning opportunities are offered (Bauer et. al 2004) and offer the opportunity for students to gain the necessary skills to develop their career (Cranmer 2006). Employers recognise these issues and generally consider the workplace has high learning potential for students (Bauer et. al. 2004).

Gomez, Lush and Clements (2002) suggest that employers can contribute to making a placement year more valuable by having an understanding of the academic aspects of the student's programme and how placement learning opportunities can benefit subsequent studies. To facilitate this, Reddy and Moores (2012) recommend a greater input into course design from employers. However, Morgan (2006) highlights the fact that whilst employers are happy to be involved in more academic aspects of undergraduate programmes, there is a reluctance to become involved in areas such as course design and summative assessment even though a closer involvement of employers in course design and delivery does have a positive effect on graduate outcomes (Cranmer 2006)

3.7 Summary of Chapter.

Although work experience, as part of degree programmes, has been in existence for over 100 years, the Dearing report identified the need for students to be exposed to a period of work experience thus increasing the focus of universities in providing this experience, particularly in engineering disciplines. Along with the Dearing Report, there have been several influential Government reports into many aspects of higher education, all with their own specific focus but all highlighting the importance of universities providing students with periods of work experience.

The importance of work experience is also emphasised in the literature illustrating how students are able to increase their discipline specific knowledge and develop key transferable skills which will help on their return to study in final year. Whether the skills and knowledge will enable them to gain a higher degree classification is an issue widely debated among the academic community. Indeed Auburn (2009 pg. 128) suggests that students often have difficulty linking their placement experience with the academic setting, concluding that “...*the learning which occurs during placement has limited value in the academic setting*”, with Bauer et al. (2004) arguing that learning in an authentic, often complex work environment has little in common with the more traditional classroom learning environment. However, the experience gained from a placement would seem to give students increased confidence in being able to perform to a higher standard. Students have the opportunity to link theory (university teaching) with practice (work-based learning) and therefore see how the taught element of their programme links with what happens in industry (Billett, 2009; McEwen et al., 2010). Work experience is identified as a key part of a student's overall development at university and can provide

the skills, knowledge and experience to give them a competitive advantage when entering the jobs market

Chapter 4 : Methodology

“The right Process will produce the right results”

Jeffrey K. Liker (The Toyota Way)

4.0 Introduction to the Chapter

There are many methods with which to investigate research questions, some more suitable and appropriate than others depending upon the phenomena being explored (Hughes, 2008). The following chapter sets out the philosophical and methodological positions of this thesis and how they have influenced and shaped the approach adopted for the work. The ontological beliefs of a researcher as to what constitutes social reality will influence their epistemological views in relation to whether they think knowledge should be produced objectively or subjectively. From these beliefs and views stem the researcher's methodological perspective in relation to knowledge production through scientific testing or data developed theory leading eventually to suitable data collection tools (Hitchcock & Hughes, 1995).

The following chapter breaks down these concepts offering a more detailed explanation of each to demonstrate how they have influenced and shaped this study. It will describe and clarify the ontological and epistemological position and so the methodological approach and finally the data collection methods employed. Population sampling is addressed, together with generalisability, bias and response rates as well as self-reflexivity and the influence these have had on the study.

The process of self-reflexivity provides the researcher with the opportunity to consider the influences which may be brought to their study (Savin-Baden & Howell Major, 2013; Tracy, 2013). Any researcher, particularly when adopting a qualitative approach, must recognise that they, rather than being able to be completely objective in the study, are already part of the world which they are exploring and as such may already have their own biases and assumptions of it (Cohen et al., 2011). It is essential to appreciate possible biases, assumptions and influences as well as experiences and knowledge brought to the study and the influence they may have on methodological choices, data collection and analysis or conclusions drawn (Bryman, 2012). It may be difficult to maintain total objectivity and remove these influences completely; however what is important is to recognise and acknowledge their existence and possible incursion into the research and be aware of the part they can play (Bryman, 2012; Cohen et al., 2011; Yin, 2016). A significant amount of construction industry experience together with several years of managing the placement process at university has been brought to this study and the subjectivity and bias which may accompany it is acknowledged. Therefore, the discussion of the methodology adopted is done in an open and transparent manner to

minimise these influences. This is demonstrated by the following approach used in structuring the research:

- 1) The use of Mezirow's Transformative Learning Theory not only as a theoretical framework with which to underpin this work, but with which to help structure the thesis. This allows the work to stay within the clear boundaries of the framework and deal with the issues relating to the transformational process.
- 2) The data included are the sample population's un-sanitised responses in relation to their experiences rather than '*cleaned*' responses used to confirm or prove a hypothesis.
- 3) All qualitative data collected is coded using the precise language used by the respondents and not restructured into more academically acceptable prose. This maintains the integrity and transparency of the collected data.
- 4) The qualitative data is subjected to an iterative coding process which specifically looks for possible alternative meanings to explain particular phenomena.
- 5) The questions presented in the questionnaire are grouped under specific headings to address topics considered key to the research. The order of the questions and method of response are carefully considered together with the questionnaire being piloted to ensure any question-order bias is diminished.
- 6) Where possible the findings will be verified through triangulation by using different data sources in the form of questionnaires and interviews.

As identified in chapter 1, research into placements is wide ranging in terms of focus, objectives, and disciplines. Therefore, it is important at this stage to clarify the research position adopted in this study as that of an emic researcher, focusing on one aspect of placement research within a specific culture. It is with this in mind that the focus of this research is concerned with students studying a construction related discipline at undergraduate level with a placement forming part of their programme. What is considered essential is that the methodological approach adopted focuses on the student voice and explores their lived experiences from their perspective. To do so, this study uses a mixed methods approach by collecting both qualitative and quantitative data using face to face interviews and a self-administered questionnaire.

Students who have invested time and money in undertaking a placement are unlikely to indicate they were unable to take anything from it and so there can be difficulty in measuring their attitudes and behaviour (Brenner & DeLamater, 2016). Donaldson and Grant-Vallone (2002) recognise that self-administered questionnaires may provide for self-reporting bias, in questionnaire design for example asking the same question in different ways.

They go on to argue that this bias can be introduced when only one data collection method is used and that the reduction in possible bias can be achieved by the introduction of a second method (Donaldson & Grant-Vallone, 2002). Whilst this work cannot claim to be completely free of self-reporting bias, in fact something which Duff, Hanmer, Park, and White (2007) suggest is extremely difficult to completely eliminate, it does attempt to reduce the possibility through the use of two different research methods. In addition, it should be recognised that the data collection process is designed to collect student's views of themselves and, while their comments are not reported as any truth but merely what they say, what they do say is not valueless. Despite any bias which may be inadvertently present, there will still be much to learn and understand from them (Brenner & DeLamater, 2016).

4.1 Philosophy and Methodology

The design of the research methodology and method is influenced by the research problem being explored as well as the philosophical stance of the researcher (Fellows & Liu, 2008). This study adopts a phenomenological approach by exploring the lived experiences of placement students, capturing the uniqueness of their experiences (Alase, 2017; Van Manen, 2020; Yin, 2016) and how these experiences can affect a change in them from students to young professionals. It is also acknowledged however, that care should be taken in offering wide ranging generalisations from the use of a phenomenological approach to ensure the focus of the unique situations do not become distorted (Yin, 2016).

Phenomenological philosophy, as it is understood today, was introduced by the German philosopher Edmund Husserl in the early twentieth century (Husserl, 1901), and seeks to examine life as it is perceived and experienced (Cohen et al., 2011; Savin-Baden & Howell Major, 2013). However, unlike Husserl who argued that the researcher must bracket themselves off and stand away from the phenomena to see it clearly (Alase, 2017; Overgaard, 2015), the phenomenological counter argument of Heidegger (1927) is recognised in this work in that it is impossible for the researcher to disentangle their own experiences from the experiences of those being studied (Quay, 2016; Savin-Baden & Howell Major, 2013). Given the level of knowledge and experience of the construction industry and the placement process, which is brought to this research, the difficulty in bracketing oneself off and standing outside the experience is recognised. However, what is important, and discussed in section 4.0, is to be aware of any influences and address them accordingly.

4.1.1 Phenomenology

How people make meaning of the world in which they live and work, introduces the concept of phenomenology (Neubauer, Witkop, & Varpio, 2019; Newby, 2014)

Observing human behaviour places the researcher within the “*observational frame*” to see things through the eyes of others and become an “*interpreter of practice*” (Boyd, 2008, p. 207) It is therefore concerned with studying events as they are perceived and experienced and interpreting meaning from an individual’s reaction to them (Fellows & Liu, 2008; Zahavi, 2019).

Understanding the journey on which placement students travel calls for a phenomenological approach in order to explore their perceived and experienced world (Newby, 2014) to consider their experiences from their perspective. This approach enables the uniqueness of these actual experiences to be captured. However, what should be avoided with a phenomenological approach is any attempt at generalisation as to do so can detract from the uniqueness of these experiences (Yin, 2016). From the application of an interpretive analysis an exploration of placement student’s own words is carried out to interpret and understand their experiences. As will be seen from the qualitative data in Chapter 5 the student’s own words can be powerful as, in many cases, they lay bare their emotions, feelings and experiences of their placement.

The aim of this study is to explore if transformation results from the stages of their placement. But underlying this aim is the fundamental desire to understand the experiences of students, how they deal with these experiences and how their experiences ultimately effect a change in them. To get to the heart of this understanding, it is important to explore their experiences through their eyes. Talking to students face to face, using semi-structured interviews during placement and examining their experiences after placement using a self-administered questionnaire is considered the most suitable method to apply to the data collection, consequently, a phenomenological approach was the appropriate approach to take.

4.1.2 Ontology

The social world in which people exist can either influence them or be influenced by them (Newby, 2014). Ontological beliefs therefore consider the nature of reality (Berryman, 2019; Tracy, 2013), social entities and what exists (Schraw, 2013). At either end of the ontological scale are the concepts of objectivism and constructivism. Objectivism interprets research objectively devoid of any influence of a researcher’s own world view, whereas constructivism is a subjective approach to knowledge formation which is constructed by the researcher and research participants (Berryman, 2019). Through the interaction with those experiencing the phenomena being investigated and exploring it from their perspective, a greater understanding of these experiences can be had (Franklin, 2012; Savin-Baden &

Howell Major, 2013). However, it must be acknowledged that the adoption of a constructivist ontological position means the phenomena is also interpreted through the researchers own world views (Bahari, 2010). Consequently, they must accept the premise that the perspectives, assumptions and interpretations of the participants can differ from their own and perhaps influence the findings (Fellows & Liu, 2008; Schraw, 2013). To follow an objectivist approach is to be considered a realist, where to be a relativist is to follow a constructivist approach (Audi, 2003; Ryan, 2018; Yin, 2016). A relativist approach argues that no one true reality exists but is relative in relation to how individuals experience their reality (Newby, 2014) so what exists is not one reality but a number of separate constructions of an individual's reality and the meanings they make of it (Bryman, 2012; Yin, 2016). Exploring the lived experiences of placement students through questionnaires and interviews enabled these experiences to be viewed from their perspective, and so sets this study in a subjective, constructivist ontology.

4.1.3 Epistemology

Establishing the epistemological position for this research invites a reflection on how the world should be studied and underpins philosophical beliefs regarding what knowledge is and how it is produced (Krauss, 2005; Lalik & Branigan Felderman, 2009; Ryan, 2018). These beliefs have a fundamental influence on the methodological processes adopted and can often result in staunchly formed academic loyalties to a particular approach (Bryman, 2012; Lowder, 2009). However, there is no academic loyalties driving this research other than an "*epistemological commitment*" to the philosophical and methodological approach discussed in this chapter and considered best suited to addressing the research aim (Kress, 2011, p. 210).

4.2 Positivism and Interpretivism

Researchers often draw a clear distinction between the epistemological positions of positivism and interpretivism (Pawson, 2002), suggesting positivism relates to science and the scientific (Crossan, 2017; Krauss, 2005; Savin-Baden & Howell Major, 2013) while interpretivism is concerned with people and their experiences requiring a different research approach which is grounded in the social world (Berryman, 2019; Linder & Marshall, 2003). Knowledge, rather than formed from scientific objectivity, can be judged equally valid when viewed from a subjective perspective of people making meaning of their experiences (Runeson & Skitmore, 2008; Savin-Baden & Howell Major, 2013). Therefore, an adopted interpretive approach contests the positivist, scientific way and contends that experiences, feelings and beliefs are what guides research and how the world should be examined and understood (Davies & Hughes, 2014). Indeed Heidegger (1927, p. 191) argued that the outside world could not be viewed objectively as it was

impossible to stand outside experiences and so the application of a positivist approach to people's experiences would be unsuitable.

4.3 Inductive & Deductive Reasoning

The assertion that knowledge cannot be justified through experience is the basis of the epistemological position of positivism and thus a deductive approach to research where knowledge is grounded in scientific experimentation (Crossan, 2017; Knight & Turnbull, 2008). Deductive reasoning used in the pursuit of knowledge is, what Franklin (2012, p. 234) labels, the "*scientific way*" working from the top down by starting with theory then proving or disproving it through the use of scientific principles. An inductive approach however, is the generally accepted approach to qualitative research (Bahari, 2010; Imenda, 2014; Yin, 2016) and enables the linking of theory and research through concepts being developed from the data (Bryman, 2012; Yin, 2016). It follows what could be described as a principle of inquisitiveness, developing a curiosity in data collection and analysis which is then used to draw theoretical conclusions (Davies & Hughes, 2014). Thus the quest for knowledge, through an inductive approach becomes a collaboration between the observer and the observed (Franklin, 2012) with the research process being observed within a specific context but influenced by the experiences of both (Krauss, 2005).

However, knowledge cannot be separated from the world in which people live and is embedded within experience (Crossan, 2017). What a person sees is influenced by what their experiences have taught them to see and so an inductive approach becomes "*a journey of explanation and discovery*" (Cypress, 2017, p. 254; Fellows & Liu, 2008). Inductive reasoning recognises this and works in a bottom up way with conclusions and theories only offered once the data has been analysed (Franklin, 2012). The observer in this study is seeking to explore the experiences of placement students who are the observed. Therefore, inquisitiveness is what drives this study in seeking an understanding of the experiences of students within the context of their placement. It is with this aim in mind that this study adopts an inductive approach to the exploration of student's experiences.

4.4 Reliability

Whether reliability can be deemed a criterion appropriate to qualitative research is widely debated among the research community (Hafeez-Baig, Gururajan, & Chakraborty, 2016; Healy & Perry, 2000; Krauss, 2005; McDonald, Schoenebeck, & Forte, 2019) The basic premise of research reliability relates to the ability of a study being replicated over a period of time, using similar participants within a similar context (Aguinis & Solarino, 2019) (Cohen et al., 2011; Robson, 2007; Tracy, 2013). In the context of quantitative studies conducted from a positivist perspective, reliability is a key requirement if a study's findings are to have credibility (Hafeez-Baig et al., 2016; Lowder, 2009). However, for qualitative

research, carried out from an interpretivist perspective, replication can be difficult to achieve and indeed some would argue is not appropriate (Cypress, 2017; Roberts, Dowell, & Nie, 2019). However, it is not perhaps the point that reliability cannot be achieved but, with an interpretivist philosophy, it need not be (Cypress, 2017). The research being carried out for this study is applicable to specific participants with specific characteristics within a specific context and, whilst it may be possible to sample a similar population with similar characteristics their experiences will almost certainly differ in some ways which will result in varying conclusions. This does not mean either study is wrong or lacks credibility, rather it demonstrates how research findings can be enriched through a qualitative interpretivist approach.

This study is focused on understanding human behaviour in the context of placement students, how they make meaning of their placement experiences and how this meaning making can change them personally and professionally. Therefore knowledge formation requires an interpretivist approach which lies at the opposite end of the epistemological spectrum (Crossan, 2017). In establishing this position, this study is making an epistemological commitment and adopting a clear and unambiguous interpretivist epistemology in the collection and interpretation of the data from a specific population sample, with specific characteristics in a specific context.

4.5 Generalizability

For research, usually quantitative in nature, to be considered generalizable, the findings from a sample group can be extrapolated and applied to a much larger population (Gibbert, Ruigrok, & Wicki, 2008; Guenther & Falk, 2019; Healy & Perry, 2000). The ability to generalise qualitative data is more problematic (Cohen et al., 2011; Fuller, Unwin, Felstead, Jewson, & Kakavelakis, 2007; Parker & Northcott, 2016). Where generalizability is sought with qualitative research a substantial population sample is required, this however may reduce the ability to carry out the intensive analysis required (Boddy, 2016). It was never the intention with this study to produce findings, or draw conclusions, which could be applied to the wider student population and it is recognised that the study is “*context bound*” (Savin-Baden & Howell Major, 2013, p. 6). With this context being the focussing on a specific population with specific characteristics, any attempt at generalisation was considered unnecessary or, as Larsson (2009, p. 30) posits, “*irrelevant*”.

While a proportion of the data is quantitative in nature and will allow for the application of statistical tests and summaries, the intention is to use it to compliment the qualitative interview data thus providing the opportunity for triangulation and so enhance the quality of the findings (Fusch, Fusch, & Ness, 2018; Jentoft & Olsen, 2019; Joslin & Müller, 2016; Weis & Willems, 2017). The main driver of this study is to discover what causes the

apparent change in students during their placement. As such, it is hoped that it can provide future placement students with guidance for their placement journey and so, rather than being generalizable, have a broader reach to future placement students.

4.6 Method - The approach to data collection

Having discussed the philosophical and methodological positions of the study, the final part of this chapter deals with method. In most studies, data collection is vital to enable researchers to develop an understanding of the phenomena being investigated (Aguinis, Hill, & Bailey, 2019). The following section describes the data collection approaches adopted and describes the mixed methods approach implemented for the collection of the primary data.

4.6.1 Sampling

If researchers were able to collect data from every person involved in the research subject, generalisability would not be necessary however, time, cost and particularly accessibility will usually prevent this (Bryman, 2012; Cohen et al., 2011; Taherdoost, 2016). Therefore, as the opportunity to collect data from everyone is seldom possible a representative sample of the population being studied must be chosen (Sharma, 2017; Taherdoost, 2016) Sampling is one of the most important parts of the research process as it can influence the data collection method and perhaps the quality of the final research (Cohen et al., 2011; Newby, 2014; Savin-Baden & Howell Major, 2013).

There are a number of approaches to sampling such as random sampling and systematic sampling, which fall under the general heading of probability sampling and involves the random selection of a sample population (Sharma, 2017) or snowball sampling and quota sampling which are part of non-probability sampling. Non-probability population samples are chosen based upon the subjective judgement of the researcher. Unlike quantitative studies where the sample size is often designed to be representative of a wider population, sampling in qualitative research focuses on the selection of a particular population with specific characteristics (Taherdoost, 2016). Non-probability sampling therefore, by its nature, has inbuilt selectivity where a particular population is being targeted but, while known to the researcher, is not representative of the wider population (Boddy, 2016; Larsson, 2009) and as such is only representative of itself (Franklin, 2012). Where a specific population sample is being targeted and generalisation not sought, non-probability sampling is an acceptable position from which to consider a suitable sampling method. There is no particular formula with which to establish a sampling frame but it is important to ensure the sample chosen is balanced and representative of the population under consideration (Yin, 2016). To

explore the experiences of a specific group of students, having specific characteristics and within a specific context, the non-probability sampling technique of purposive sampling was chosen.

4.6.2 Purposive Sampling

The relevance and representativeness of the sample population to the research is important if the sample is to be considered valid (Cohen et al., 2011; Taherdoost, 2016). Purposive sampling is the term used to describe a particular technique with which to select a sample population that will ensure the resulting data is relevant to the topic being studied (Boddy, 2016; Tracy, 2013)

Falling very much into the domain of qualitative research (Bryman, 2012; Cohen et al., 2011; Sharma, 2017), the researcher selects the sample population based upon specific characteristics and with direct relevance to the research problem (Bryman, 2012; Tracy, 2013). However, care is needed with the sample population chosen to ensure these characteristics are present and so ensure the data collected is relevant to the research topic (Silverman, 2001)

Those who have the knowledge and experience of the topic are able to offer their thoughts, experiences, and sometimes emotions from an informed perspective and therefore provide relevant and “*rich information*” (Yang, Kim, & Song, 2020, p. 445) Consequently, purposive sampling provides a depth of study with informed people, allowing a focus on specific issues which, in relation to this study, is the uniqueness of the experiences of a placement. While the sample population chosen for this study is considered representative, but only of itself, it does offer the opportunity to gain a rich understanding of the placement process, from those experiencing it.

As purposive sampling was chosen for this study, the characteristics of those participants to be included in the sampling frame were carefully considered to ensure the relevance and representativeness to the focus of the study. Therefore, the population chosen were required to have the following characteristics:

- An undergraduate student studying a construction related discipline.
- Currently undertaking a year-long work-based placement (*For interviews*).
- A final year student having completed a year-long placement in the previous year (*For questionnaires*).

The original population sample was intended to be construction management students, based on construction sites undertaken, or having recently finished, their placement. One area of concern in this respect was inadvertently biasing the research by only seeking a population sample which might support any

preconceptions held given the level of knowledge and experience brought to the study. This apprehension was addressed by expanding the target population to those students studying across a range of construction related disciplines within different environments. As a result, the population sample consisted of students working for both site and office-based contractors and students working for clients and consultancy companies again, either site or office based. The inclusion of other construction disciplines, from the same university, with which only a general understanding was had, enhanced the sample population, provided an opportunity to gather a broader range of perspectives and prevent inadvertent bias while still allowing the focus to be on the issue of interest.

4.7 Data Collection and Analysis Methods

The final section in this chapter sets out the methods employed in the collection of the primary data. Placing each method within a theoretical context, it also provides a rationale for their choice and offers an explanation of how each was administered.

4.7.1 Questionnaires

The use of online surveys is an effective and popular method of data collection, especially for those conducting research in the areas of business, social sciences and education, providing an insight into the experiences of the participants (Andreadis & Kartsounidou, 2020; Baruch & Holtom, 2008; Mellahi & Harris, 2016; Saleh & Bista, 2017; Van Mol, 2017).

Questionnaires are often employed to collect data which can be used to support findings from interviews (Kılınç & Fırat, 2017; Lapan & Haden, 2009). Therefore, to support the interview data collected, a self-administered questionnaire, based around the key areas which emerged from the literature and from Mezirow's framework, was used to collect both qualitative and quantitative data on student's placement experiences.

An initial pilot questionnaire was issued to a small number of students to test its relevance, ease of completion and to ensure the questions were intelligible and unambiguous. Feedback from the pilot questionnaire resulted in minor changes to the structure of the Likert Scale, a more detailed explanation of the study at the beginning and rationalising the questions relating to student's views on employer requirements. The questionnaire was issued once at the beginning of each of the three academic years (see Table 4-1) to all students in their final year, who were studying a construction related discipline and who had returned to university having completed a placement the previous year. Participation in the study was voluntary and a statement to this effect was included at the beginning of the

questionnaire which also detailed the ethical considerations of taking part (See Appendix A)

The value of research findings from online surveys can often be assessed by the level of survey responses (Baruch & Holtom, 2008; Mellahi & Harris, 2016) however, literature suggests there is no recognised ideal response rate for data collection using a self-administered questionnaire (Baruch & Holtom, 2008; Mellahi & Harris, 2016). Bryman (2012) stresses the importance of considering response rates carefully as low response rates may raise questions as to how representative the sample is. Schoeni, Stafford, Mcgonagle, and Andreski (2013) suggest a low response rate can threaten the quality of the data collected however, something which is disputed by Rindfuss, Choe, Tsuya, Bumpass, and Tamaki (2015). What constitutes an acceptable response rates varies appreciably between authors. Mangione (1995), for example, suggests a response rate of between 50% and 59% is “barely acceptable”. Cohen et al. (2011) on the other hand suggest a response rate of 40% should be acceptable and achievable from a well prepared questionnaire. Guo, Kopec, Cibere, Li, and Goldsmith (2016) however, suggest an effective response rate using questionnaires is between 40%-50%, but Nix, Pickett, Baek, and Alpert (2019) set their acceptable response rate as high as 64%.

It is clear from these figures that there is little agreement among researchers as to an acceptable response rate. However, it was felt necessary to have some basis on which to evaluate the response rate for this study and assess whether the number of questionnaires received could be considered acceptable and so included in this study. Using the range of response rates identified from the literature and taking a simple average across them gave an average acceptable response rate of 51%. These calculations are illustrated in Table 4-1.

Literature	Response Rates	Figure used in calculation
Mangione (1995)	50% - 59%	55%
Cohen et al. (2011)	40%	40%
Guo et al. (2016)	40% - 50%	45%
Nix et al. (2019)	64%	64%
Average Response Rate	$(55+40+45+64) / 4$	51%

Table 4- 1: Average response rate calculation.

The questionnaire was prepared using Google forms and a link issued via email to all students meeting the characteristics detailed in section 4.6.2. A total of 185

questionnaires were issued across the three academic years, (2017-2018; 2018-2019; 2019-2020), with each round of questionnaires being sent out within four weeks of the beginning of each academic year. Responses were monitored on a weekly basis with follow up emails sent where responses were low. It was found necessary to follow up each initial questionnaire issue twice, which is shown to improve the response rate (Van Mol, 2017), encouraging students to complete the questionnaire.

From the 185 questionnaires issued, 102 responses were received, giving an overall response rate of 55%. Table 4-2 shows the breakdown of the questionnaires issued, the response rate for each year and an overall response rate for all years.

Academic Year Sent out	Number sent out	Number of Responses	Percentage Response Rate
2017-2018	65	45	69%
2018-2019	62	32	52%
2019-2020	58	25	43%
Totals	185	102	55%

Table 4- 2: Breakdown of questionnaires sent to final year students.

Years 2017-2018 and 2018-2019 were above the average figure calculated in Figure 4-1 whilst year 2019-2020 fell below it. An assessment was made of the individual figures per year and initial thoughts were to disregard year 2019-2020 as it was significantly below the average figure of 51%. However, when taking the overall response of 55% for the three years combined it is above the average figure therefore it was considered acceptable to include the questionnaire responses from all years.

4.7.2 Analysis of questionnaire data

Attitude scale measurement, often referred to as a Likert Scale (Mizumoto & Takeuchi, 2010; Newby, 2014), is considered one of the most commonly used methods in the social sciences to unearth a person's beliefs and perceptions of particular issues through their response to a series of statements (Kent, 2001; Lovelace & Brickman, 2013). It offers respondents the option to respond to a given

statement in a number of ways to indicate their views. A Likert scale was used extensively throughout the questionnaire to collect the views of students.

Statistical tests and summaries, carried out using Microsoft Excel™ 2010, were employed on relevant quantitative data extracted from the questionnaire and include:

- t-test: The statistical test of significance (t-test) seeks to compare means of particular samples to establish if there is any difference between the populations (Hinton, 2014). A t-test was performed on some of the questionnaire data to establish any statistical significance.
- Relative Importance Index (RII). The RII is used to rank a range of variables in the order of importance as determined by the sample populations and was employed on relevant questionnaire data.

The questionnaire also offered the respondents the opportunity to provide further comments. This qualitative data were extracted from the questionnaires and analysed using an iterative coding method as described in section 4.8.4.

4.7.3 Interviews

'*Verstehen*' is the German word for understand. It is most commonly associated, in research terms, with the German philosopher Max Weber (1864-1920). Weber argued that seeing personal experiences through the eyes of the individual would enable the researcher to make meaning of the phenomena being investigated. It is argued that it is impossible to truly see the world through the eyes of another (Bryman, 2012; Healy & Perry, 2000) but the application of the principle of '*Verstehen*' offers the opportunity to gain an understanding of their experiences.

If it were required that this study be summed up in one word, that word would be '*Verstehen*' – to understand. Understand the individual, understand their experiences, understand their emotions and understand their transformation. Face to face interviews offer the opportunity to understand and enables the researcher to probe into a person's experiences and consider them through the eyes of that individual (Tracy, 2013). They provide the opportunity to clarify key points, delve deeper into them and encourage the interviewee to elaborate on their answers and so collect rich, quality data and provide new insights into student learning (Berends & Zottola, 2009; Slater, Slater, & Bailey, 2011). As such knowledge is co-created between the participants, but only when it is recognised that interviews are an active process of mutual understanding and not one of impersonal question and answer (Cohen et al., 2011; Tracy, 2013). The interviewee must be encouraged to tell their story, explain their experiences, and reveal their emotions. Exploring and

understanding the placement experience and the impact it has on students is at the heart of this study and so it seemed logical, indeed essential, that interviews should form a key part of the data collection method adopted for this research.

Semi-structured interviews were conducted with students whilst they were undertaking their placement. The aim of these interviews was to explore the student's placement journey through its key stages and to develop an understanding of their experiences and any transformative impact they had.

During the interview window, the opportunity arose to interview some students twice therefore, a total of twenty semi-structured interviews were carried out with fifteen students, each interview lasting between one and one and a half hours. At the beginning of each interview ethical issues were explained and permission sought to record the interview (see Appendix A). In addition, due to their close geographical proximity, the opportunity arose to speak to three students together in a group interview.

The interviews were conducted using a number of open-ended questions, developed from previously considered literature and Mezirow's learning theory (see Appendix B for the question outline guide used at the interviews). This allowed the interviewees the opportunity to share their placement experiences and worked particularly well as it enabled a deep and focused conversation about their placement, the opportunities they found and the challenges they faced. Both parties to the interviews were well known to each other and had already developed a good working relationship over the previous two years at university. As a result, prior to the interviews, there was some concern that this relationship may have an adverse effect and the interviewees would answer the questions the way they perhaps thought they should. However, these concerns were quickly dispelled after the first two interviews as it became clear that the students were willing to 'open up' and, as will be shown in Chapter 5, made some frank and personal comments, particularly regarding the challenges they were facing. An interesting aspect of the interviews was the opportunity to observe the participant's behaviour and character during the interview and, in some students, these were particularly noticeable and seemed to speak louder about what the students were experiencing than what they were actually saying.

4.7.4 Coding of interview data

Analysis of the interview data commenced immediately after the completion of the first two interviews and continued as more interviews were carried out. All interviews were fully transcribed with the written transcripts representing the qualitative data used in the coding process. An active, iterative coding process

was applied to each of the transcripts to develop emergent themes until data saturation point was reached and no new themes emerged (*An example of the coding process is shown in section 5.4*). From this thematic analysis the themes, where relevant, were linked to the ten phases of Mezirow's transformative learning theory to establish if the stages of a student's placement have a transformative impact on them.

4.8 Summary of Chapter

Figure 4-1 draws the preceding pages together and illustrates the philosophical, methodological and data collection methods adopted.

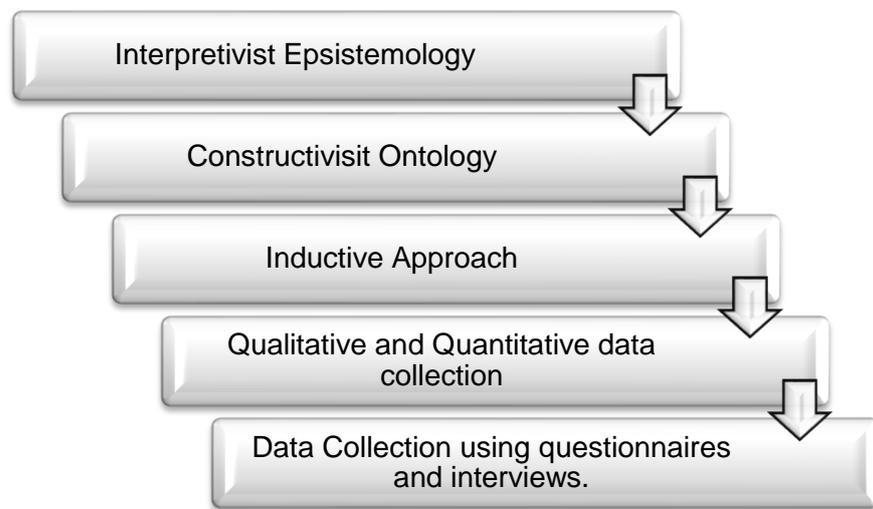


Figure 4- 1: Philosophical, methodological and data collection approach

In the course of considering the philosophical stance taken for this study it became clear that much of the literature dealt with each of the research philosophies, and associated concepts relating to them, separately, almost pigeonholing each one. A researcher was a positivist or an interpretivist, a realist or a relativist or held the belief that only objective, quantitative research can be relied upon to establish the real word truth and that subjective, qualitative research held little worth. Much ink could be and has been spilled debating these issues however, what is important are the philosophical and methodological approaches used, and the rationale for their adoption. It is not claimed to belong to one camp or another but rather an approach has been adopted which is deemed best suited to addressing the research aim of this study

This chapter has set out the philosophical stance of the work together with the methodological approach and an explanation of how these have shaped the research. This was followed by a description and justification of the methods used to collect primary data in line with this approach. What follows in chapter 5 is a detailed analysis of the primary data, broken down and structured in line with the coded themes. By using the multiple data collection methods and sources of data described this study aims to

triangulate the findings to control bias and minimise the risk of tainted results. It seeks to establish what is really happening when students undertake a placement and the impact this can have on their transformation from student to young professional.

Chapter 5 : Data Analysis

“Knowing is not enough, we must apply.”

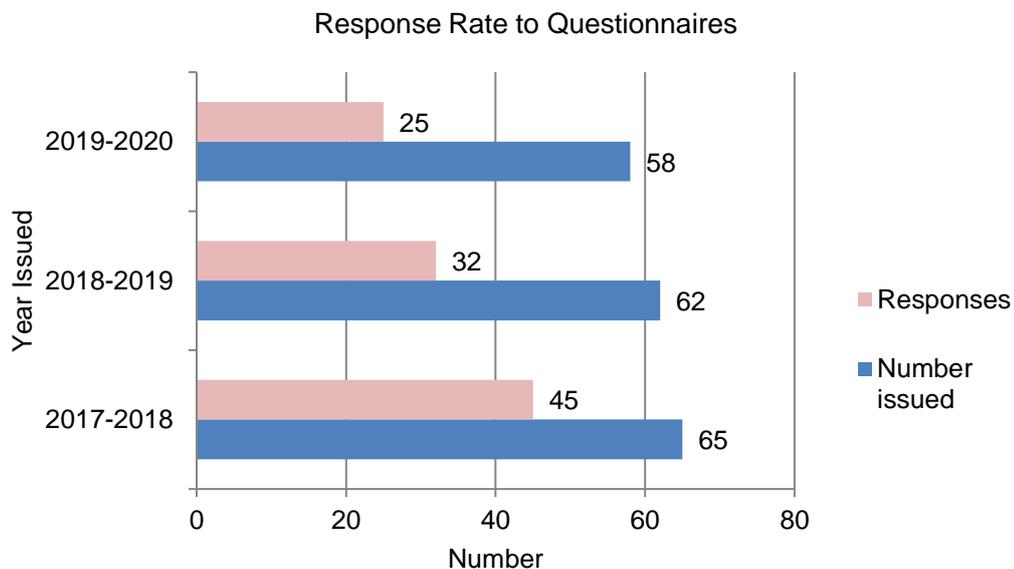
(Goethe 1749 – 1832)

5.0 Introduction to the Chapter

The following chapter examines the primary data collected for this study and consists of two distinct strands containing both quantitative and qualitative data. The data sets are subjected to a series of analysis with the coded themes developed used to structure the chapter to explore the student’s placement journey. The first part of the chapter is used to contextualise the data by examining the profiles of the respondents to the questionnaire and participants of the interviews, followed by an analysis of the quantitative and qualitative data. The analysis of the data is presented in a range of ways using graphs, tables and direct quotes from the participants. Chapter 6 will then present a detailed discussion of the issues arising from the analysis.

5.1 Questionnaire Data Set

A self-administered questionnaire was sent out to all students studying a construction related discipline who had recently returned to university from a placement to complete their final year of study. Graph 5-1 shows the response rate to the questionnaires.

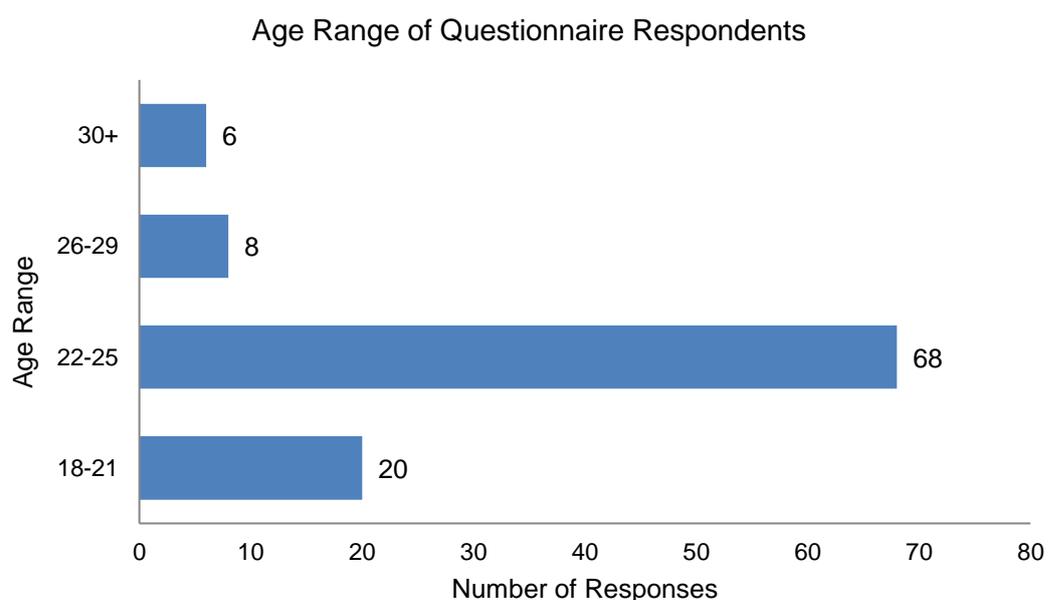


Graph 5 - 1: Response rate to Questionnaires

The number of students returning from placement and to whom the questionnaire was issued remained relatively constant for each of the years although the corresponding responses declined year on year. In line with the ethical procedures followed, completion of the questionnaire was voluntary and those returned anonymous therefore identifying individuals who did not complete the

questionnaire could not be identified or followed up with individually direct additional emails. No definite reason can be given for these non-responses but may include reasons such as increased email traffic to their inbox as they returned to university, so the questionnaire was missed, a personal preference not to complete the questionnaire or perhaps a lack of interest in completing it. While an increased response rate would have been preferable a total of 102 responses from 185 questionnaires issued (55% response rate) is considered acceptable and is unlikely to skew the results (*see section 4.7.1 for the rationale for accepting this response rate*). Therefore, the questionnaire data is deemed to be sufficient from which to draw sound conclusions as well as supporting the data collected using other methods.

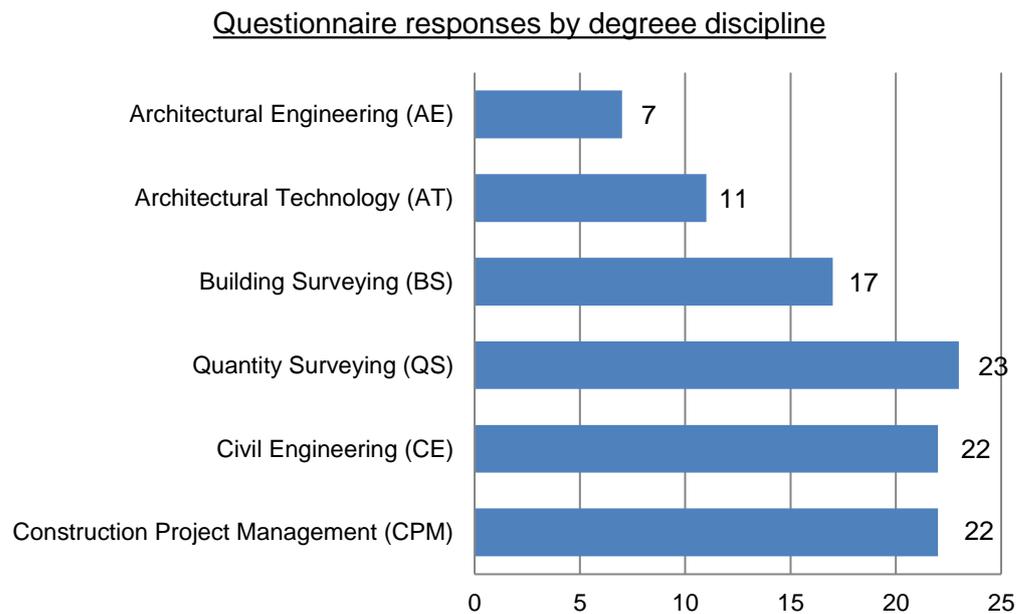
The initial questions in section 1 of the questionnaire were aimed at collecting data which characterises the profile of those students responding and so ensures the sampling criteria are met. This can be seen in Graph 5-2, which shows the age range of those completing the questionnaire with Graph 5-3 identifying the discipline they are studying.



Graph 5 - 2: Age Range of Questionnaire Respondents

The highest response rate was from those in the age range 22-25. This was perhaps a little surprising given the majority of students arrive at university at the age of 18 or 19 then after their first 2 years of study go to their placement which was expected to place them in the 18-21 age range. It is recognised that those falling within the 22-25 age range may have had some previous work experience; however, where this is the case, it is considered unlikely to have any impact on

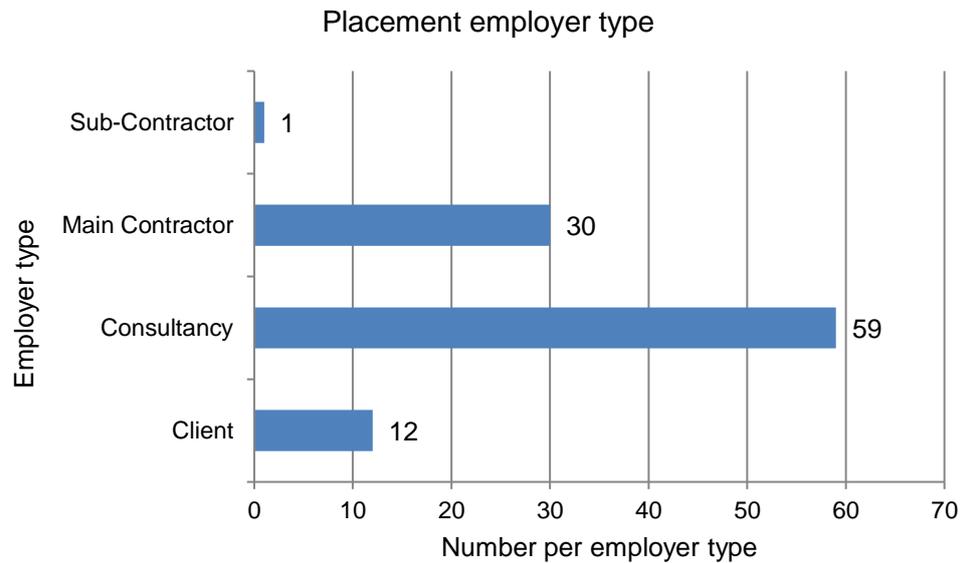
their responses as the questions are framed specifically in relation to their placement experiences.



Graph 5 - 3: Responses by Degree Discipline

The lowest responses were from the Architectural Engineering (AE) and Architectural Technology (AT) programmes. This is not surprising as during the period the questionnaire was issued, the university had taken the decision to close these programmes which had the effect of reducing student numbers enrolled on them. However, despite this, the responses were valid and there was no reason to exclude them from the overall responses.

To further develop the profile of those students responding to the questionnaire and understand the construction environment in which their placement was undertaken, participants were asked to identify the type of organisation they worked for. This was split into the four broad categories of Client, Consultancy, Main Contractor and Sub-Contractor. It was recognised that some organisations can operate within more than one type but this question was set so only one could be chosen, that being the one the student's company predominantly operated as. This is shown in Graph 5-4.

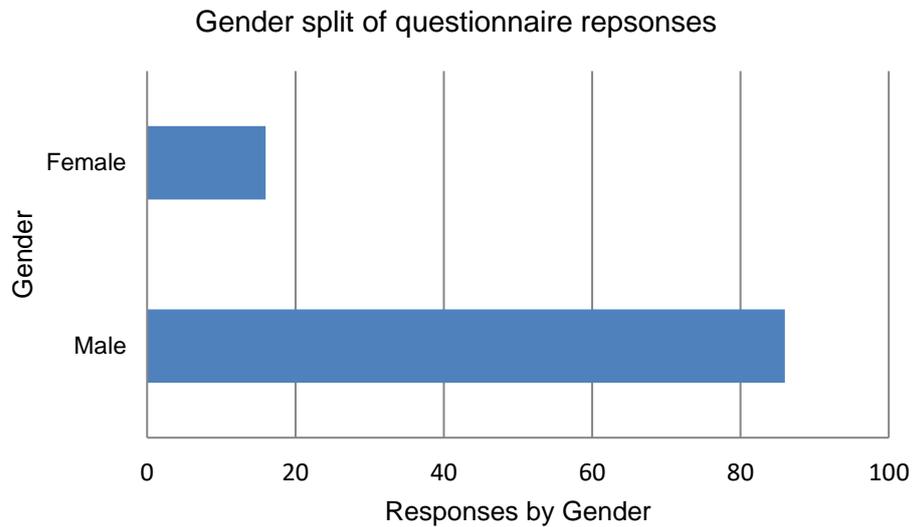


Graph 5 - 4: The type of organisation with which a placement was undertaken.

It was expected to find students studying a particular discipline working for a particular employer type, for example those studying Construction Project Management working predominantly for site based main contractors. However, there was no specific correlation between age, discipline and employer type with different disciplines working across the range of employer types. This suggests employers select students for placement based on criteria other than their specific discipline and technical knowledge.

The UK construction industry continues to be a male dominated industry (Francis, 2017; George & Loosemore, 2019). Despite excellent initiatives such as ‘*Women in Construction Summit*’ (October 2020) and ‘*InspireMe*’ (Construction News 2017) and key organisations such as ‘*National Association of Women in Construction*’ (www.NAWIC.co.uk) and ‘*Women into Construction*’ (www.women-into-construction.org), the number of women working in the construction industry stands at a disappointing 9% - 12% of the total workforce, with a large proportion of those in secretarial and administrative roles (Naoum, Harris, Rizzuto, & Egbu, 2020).

Not unsurprisingly, given the continued male dominance in the construction industry, female respondents numbered 16 (16%) compared to 86 (84%) male respondents. However, while research into gender issues within the construction industry is an important area and calls for more research it is considered outside the scope of this study. Therefore, the gender split shown Graph 5-5 is presented to further illustrate the profile of respondents only.



Graph 5 - 5 Gender split of questionnaire respondents

As the questionnaire responses were anonymous, where qualitative comments are used from the questionnaire the identifier used is the discipline the student is studying.

5.2 Interview Data Set

Face to face semi-structured interviews were used to collect data from students currently undertaking a placement. A total of 15 students were interviewed at least once with the opportunity to carry out a second interview with some also being available. Three students, working in a close geographical location to one another (*students A, G, & H*), enabled a face-to-face group interview to be carried out. In total twenty individual interviews and one group interview were carried out. Table 5-1 shows the profile of those interviewed. In line with ethical procedures, neither the students nor their company are identified by name. However, to aid the subsequent analysis each student has been given an identifier in the form of a letter (*note the letters I and O have been omitted to avoid confusion with the numbers 1 and 0*).

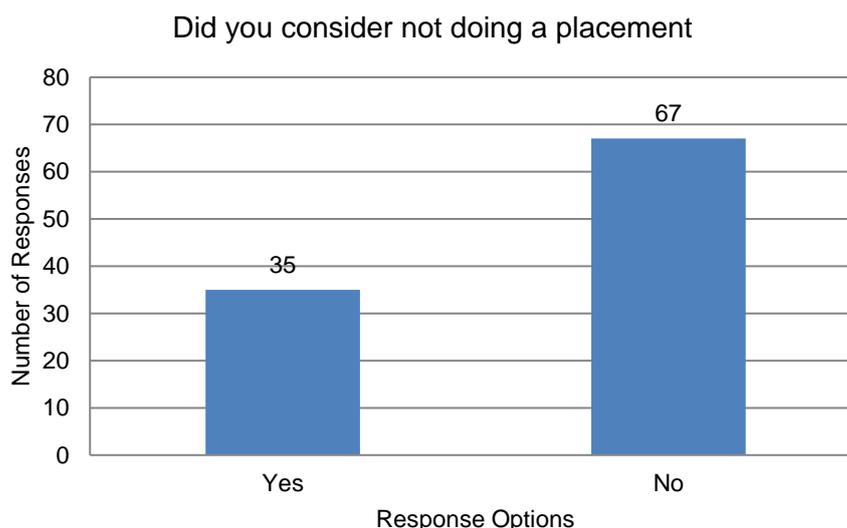
Interviewee Identifier	Number of Visits	Date of Interview(s)	Part of visit or Separate	Setting of interviews	Location of Interview	Student Role	Company Type
A	2 (2 nd Group visit)	1 st = 4/12/18 2 nd = 6/3/19	Both part of main visit	Site Office	South East	Assistant Site Manager	Main Contractor
B	2	1 st = 2/12/19 2 nd = 24/2/20	Both part of main visit	Site Office	North West	Assistant Site Manager	Main Contractor
C	1	1 st = 12/6/18	Separate from main visit	Head Office	North East	Civil Engineer	Consultant
D	1	1 st = 14/2/18	Part of main visit	Head Office	Paris (via Skype)	Architectural Technologist	Consultant
E	2	1 st = 25/1/18 2 nd = 16/6/18	Both part of main visit	Regional Office	North East	BIM Designer	Main Contractor
F	2	1 st = 28/3/18 2 nd = 16/6/18	Both part of main visit	Site Office	North East	Assistant Site Manager	Main Contractor
G	2 (2 nd Group visit)	1 st = 3/12/18 2 nd = 6/3/19	Both part of main visit	Regional Office	London	Assistant Facilities Manager	Client
H	2 (2 nd Group visit)	1 st = 4/12/18 2 nd = 6/3/19	Both part of main visit	Site Office	South East	Assistant Site Manager	Main Contractor
J	1	1 st = 26/4/18	Separate from main visit	Regional Office	North East	Civil Engineer	Consultant
K	1	1 st = 5/12/19	Separate from main visit	Regional Office	North East	Civil Engineer	Consultant
L	1	1 st = 22/2/18	Part of main visit	Head Office	Paris (via Skype)	Architectural Technologist	Consultant
M	1	1 st = 16/4/18	Part of main visit	Head Office	North East	Civil Engineer	Consultant
N	2	1 st = 3/12/19 2 nd = 25/2/20	Both part of main visit	Site Office	North West	Civil Engineer	Main Contractor
P	2	1 st = 15/2/18 2 nd = 14/6/18	Both part of main visit	Site Office	Yorkshire	Assistant Site Manager	Main Contractor
Q	1	1 st = 16/6/18	Separate from main visit	Site Office	North East	Assistant Site Manager	Main Contractor

Table 5- 1: Details of Interviewees

5.3 Why do a placement?

This was a key question asked early in the interviews and within the questionnaire. The purpose of this question was to find out the motivation of students to undertake a placement. There are several reasons given for students not undertaking a placement such as wanting to complete their degree as soon as possible (within the usual three years); not being allowed to due to sponsorship; the financial burden of an extra year at university, the difficulties in the transition back to university on completion of their programme and missing a year at university so not studying with friends but with a new cohort of students. Therefore, with these compelling reasons it was considered important, before exploring the student's experiences, to find out why the students undertaking a placement had chosen a different approach to their programme than that of their peers who did not undertake a placement.

Within the questionnaire respondents, there was a proportion, 35 (34%), who indicated they did consider not undertaking a placement; 67 (66%) respondents did identify their desire to undertake a placement.



Graph 5 - 6: Did you consider NOT doing a placement?

This was followed up by a number of comments as to why students felt it important to undertake a placement and identified the reasons why they choose to do so.

[...Greatly improves your likelihood of getting a job post-graduation and allows you to appreciate the modules more in final year.] (Building Surveying)

[...I knew I wanted to undertake a placement so made sure I made this happen.] (Civil Engineering)

[...Practical based learning was something I was always interested in to understand the profession.] (Quantity Surveying)

[...Placement gives you a genuine insight into the industry which you are proposing to join. It gives you a chance to learn from people with an array of experience.] (Construction Project Management)

As with the questionnaire, the interviews examined the motivation of students undertaking a placement.

[...Because all I learn at school, I can put into practice during my placement. And for me it is important because it's not just a lesson, I see the importance of the course.] (Student D)

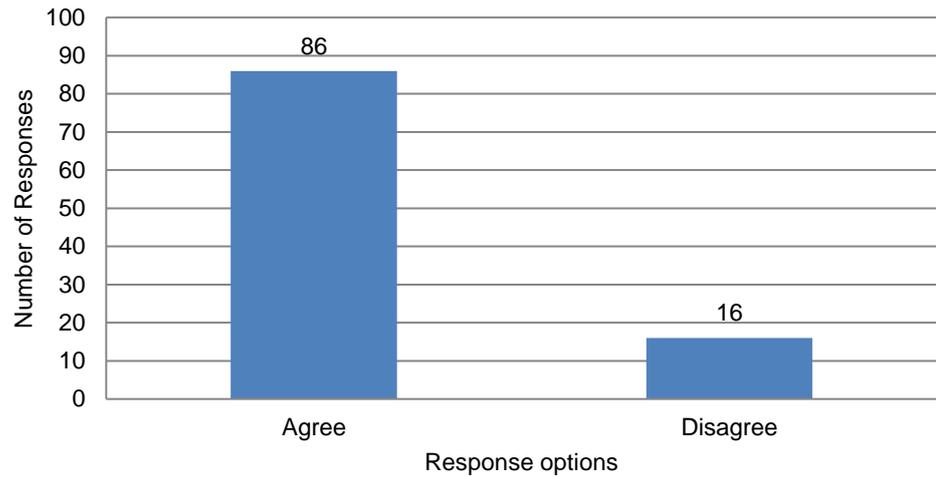
[...Experience... I wanted to understand more about the job and what I'm studying.] (Student J)

[...Just experience for a year. I think it's massively important and it gives you a boost when you go to look for a job after so more places will take you on.] (Student C)

Students are aware of the benefits a placement can offer in terms of being able to see the practical aspects of their course. They recognise the value of practice-based learning, learning from more experienced people and gaining valuable experience as well as recognising the benefits of a placement to their future career.

Given that work experience was a significant factor in them undertaking a placement, students were asked if they felt employers considered it more important for graduates to have work experience than a good degree classification. The overwhelming view of students was that they felt employers valued work experience more than a 'good' final degree classification. *(NB: For this study a 'good degree' classification is deemed to be a 1st Class or 2:1 classification (Delaney & Devereux, 2020))*

Employers value work experience more than a good degree classification



Graph 5 - 7: Employers - work experience vs. a good degree classification.

One employer (of Student J) who sat in on the interview, made this very point saying...

[... I would probably go for a student with a 2:1 and placement experience over a student with a 1st but no experience. The person who has had a year out is more able to talk on the level I would want and not so much about the academic stuff.]

Student J added to this explaining what he felt employers would prefer.

[...I do think the interviewer will know that experience is more important, because of how much you do learn, and without it a person is applying but they don't really know what it's about, where if they've got industry experience, they know.] (Student J)

While students recognised the benefits of a placement and were keen to undertake one, another reason which came through from the interviews was something which is termed 'Study Fatigue'. Several students identified that by the end of their second year they were becoming weary of their studies and needed a break from them.

[...at the end of 2nd year... I just want to be finished; I just want to go... you're almost worn down at that point. First year you're excited, there's a lot of drinking, second year it's more coursework. So by the second year you are a bit sick of it.] (Student J)

[...I needed a gap] (Student P)

[... I was a bit worn out from uni, towards the end of my second year I was getting fed up with it all.] (Student C)

It would seem that the placement had come at the right time for these students. Not only did they expect to gain valuable experience in their chosen discipline, but their placement would offer them a break from their studies.

5.4 Data Analysis by Themes

The qualitative data from the face-to-face interviews were gathered by audio recording with each recording being transcribed into a Word document. The qualitative data gathered as part of the self-administered questionnaires were extracted from the .csv file (Microsoft Excel file) available from the software used to administer the questionnaire (Google Forms). This data were then subjected to an iterative coding process, using a thematic analysis approach, where at each stage the data were continually distilled until nine key themes emerged. A substantial amount of qualitative data were collected from the interviews and one hundred and two questionnaires and it seems impractical to present all of this in the thesis. Therefore Table 5-2 provides a sample of qualitative data illustrating the coding process carried out.

Sample of interview Transcript	Initial Coding	Secondary Coding	Distilled coding showing main theme
<p>Student H: H: I don't really worry about <u>asking a question</u>. If I don't know something or forgot something, I'll just ask them <u>because I'm a student really...</u> that's how I look at it. JW: Do you think they look at you like that. H: Well that was <u>what I was worried about</u> at first. I messaged a few people on the course saying I don't know how an electrician has been doing it for about 30 years is going to <u>feel about a 21 year old guy, who's never been on site before</u>, coming in and saying get this done, or you need to do this... but... I was worried about it at first because of that reason.</p> <p>Student G: JW: Are you taking the opportunity to speak to the contractors.. G: Not loads of times, maybe a couple but to be honest they just want to get on with their work. <u>I don't think they're expecting a student to</u> To be honest they wouldn't be too bad with it, but I don't feel like I can keep going up to them and asking questions because <u>they wouldn't expect a student to be doing it</u>. JW - do you still feel like a student here? G: I think so, yeah. I just feel like there's probably a lot that I don't know as much of but yeah, <u>I still think I feel like a student...</u> yeah</p> <p>Student N: JW: It's a high profile project so how is it going? N: Tensions can get quite high. The first month I didn't enjoy at all because it wasn't anything like I was expecting. Mostly because I <u>was the placement student and inexperienced and felt a little excluded</u>. I didn't have a clue about, in my first month, is <u>where I fit in to everything</u>. In my first month I did a lot of things wrong and <u>people were losing patience with me</u></p> <p>Student P: P: I'd say I don't ask enough questions up here (the office) that I should do, that's probably one of my flaws. JW: Why do you think you found it difficult? H: Erm... It's a new situation, I've never been on a construction site, never mind one that's this big.</p>	<ul style="list-style-type: none"> • Asking questions all of the time. • Just a placement student • Why should experienced people listen to me? • Recognising lack of experience • Not taking opportunity to question – reluctance • Feels ignored and not part of the team. • A new environment and situation which still getting used to. 	<ul style="list-style-type: none"> • Concern - able to do job. • What will others think • Just a student • Self-Perception • Lack of Confidence • Lack of acceptance • Isolated • Intimidating environment 	<p><u>INSECURITY</u></p>

<p><u>Student M:</u> JW : Is there anything that you thought might have been more useful. M: In honesty I haven't really been using any of the theory I've learnt at university, other than the AutoCAD. That's basically all.</p> <p><u>Student Q:</u> JW: When you say no experience of construction, what do you mean by that. Q: I would say construction knowledge, how things go together, knowing the order of the trades, just basic knowledge of construction and how things work. JW: So do you not think..... you don't think you got that from the first two years at university. Q: Err... No, not at all. I think if I hadn't gone to uni for those two years, I'd be just in exactly the same place construction knowledge wise</p> <p><u>Student C:</u> JW: Do you think the modules you did on your course, how do you think they have helped with your placement. C: Not much to be honest. If I'd done structures it would have helped a bit. I think I did a tiny bit of hydraulics and how rivers flow, while I've been doing mainly drainage here. It's more like the Civil's degree seems to be more like structures. So no, especially since I've come here. JW: So you don't think there's anything in the two years where you can say well I've used this or I've used that. C: Not a lot to be honest. Obviously we did a little bit of CAD in first year, that helped, but I can't say a lot helped me really.</p> <p><u>Questionnaire Responses</u></p> <ul style="list-style-type: none"> • I believe there is sometimes a significant difference between what is taught in academic practice compared to what is practiced in industry • Knowledge I had gained from University was not really used with any knowledge that I did need being picked up on the job • I found that university gave me the theoretical principles, but it was another task implementing them into the world of work 	<ul style="list-style-type: none"> • Picking up as go along. • Importance of modules recognised only on placement • More practical work at uni needed – all theory. • stand-alone modules • modules not linked together • No links back to uni modules 	<ul style="list-style-type: none"> • Theory vs. Practice • Links to uni. • Not using learning from uni...! • Lack of practice 	<p style="text-align: center;"><u>DISCONNECT</u></p>
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<p>Student F: F: Probably from the start I was thinking... <u>is this what I really want to do, but now it has probably shown that I do want to do it, definitely do want to do it.</u> JW: So the placement has confirmed you're definitely on the right track. F: Yeah...It's <u>definitely</u> been better than I thought it would have been. JW: Did you learn what you thought you were going to learn. F: Yeah. I've learnt what I needed to really, <u>to know I want to do this now.</u> That's what I really wanted to get out of it, more than doing all the uni stuff, <u>actually knowing that I want to do it now.</u> That's what I wanted to get out of it rather than the uni. JW: ...if you had to pick one thing that you've taken from the placement is knowing that this is what you want to do. F: Yeah... yeah... for me definitely.</p> <p>Student E: JW: ...talked about skills, experience and knowledge and so on... Do you feel as if you've changed. E: When I <u>first started the degree</u> I wanted to go in to the whole <u>project management</u> sort of thing, but now, <u>doing this placement has confirmed that I don't really want to do that.</u> E: I feel like, as a position, <u>I feel like I'm there, I feel like I'm part of the team</u></p> <p>Student J: JW: We asked the question how many people would like to go into contracting or consultancy and it was about a 50/50 split. J: I obviously haven't got experience on the contracting side <u>but I know I want to be office based rather than site based.</u> JW: Do you think this has <u>confirmed you're on the right path.</u> J: Yeah... definitely, yeah.</p> <p>Student G: G: I think I've <u>found out I'd much rather just be more office based</u> as opposed to being on site, so <u>that's something I could have taken from that.</u> JW: So I suppose <u>your placement is starting to confirm the area</u> of construction you want to work in. PH: <u>Yeah, I do believe so, yeah.</u></p> <p>Questionnaire Responses :</p> <ul style="list-style-type: none"> • Reinforce that my chosen are of the CE sector is where I want to go • Provided the starting point of my career. 	<ul style="list-style-type: none"> • Not sure about career path, but placement confirmed in right job. • Other learning important but secondary to clarifying what wants to do. • Change from original role envisaged 	<ul style="list-style-type: none"> • Clear career path. • Sure about future role. • Career aspirations altered from placement experience. • Placement confirmed on right path 	<p style="text-align: center;"><u>RESTRUCTURING</u></p>
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Table 5- 2: Example of iterative coding process to establish key themes

Following the application of the iterative coding process on all qualitative data, key themes began to gradually emerge. The process was continued until data saturation point was reached and no new themes emerged. Table 5.3 shows the final nine themes which were developed and used to shape and structure the remaining sections of this chapter.

No.	Theme
1	Uncertainty
2	Insecurity
3	Disconnect
4	Reflection
5	Support
6	Skills Development
7	Learning
8	Personal Development
9	Validation

Table 5- 3: Final themes developed from iterative coding process

Using these themes as headings, the following analysis of the quantitative and qualitative data is presented.

5.4.1 Theme 1 – Uncertainty

[...When I first arrived... I had no idea what to expect. I'd never been on a site before, I didn't know the people I'd be working with, it was completely new. No one I knew, even family, had ever worked in the industry so I had no idea what it would be like. I remember the first day and, I wouldn't say I was scared, but I just had no idea about anything. It was a bit daunting ...]
(Student B)

The quote from Student B above illustrates the level of uncertainty student's face during the early stages of their placement. They are introduced to situations and experiences which are new to them, which can cause feelings of confusion, apprehension and create uncomfortable situations. The level of uncertainty was prevalent throughout most of the interviews and, from a simple opening question "How's it going" discussions developed into situations with which students were clearly wrestling. Most of these difficulties stemmed from being a new person, in a

new environment, working with new people and having little idea as to where or how their placement was going to progress.

[... When I very first went in I didn't really know what was going on... It was all a bit daunting.] (Student G)

[...I didn't really know day in and day out what was really expected of me.] (Student N)

Student A in particular expressed his anxieties with the early stages of his placement and summed up the difficulties he was experiencing and how he felt at the end of the working day by saying...

[...it's a very new experience because I've never worked on site before so it was a bit of a shock to the system..... and stressful with it being so different. There have been times when I've gone home and I've just thought, I'm sick...but I've just got to grin and bear it. So instead of feeling sorry for myself, I just find a way of dealing with it and getting on with it.] (Student A)

Entering the working environment was new and proving to be somewhat uncomfortable and, for some, difficult to deal with. As the interviews progressed it seemed that some students were also having difficulty adjusting to the transition from university to work and finding this difficult to reconcile, particularly in terms of what they expected their role to entail.

[... When I was first to go to the design office, I don't know what I expect because I had some information, but I didn't know what I will do with this company.] (French student - Student L)

[... when you first start work, you know, when you first start with a company you're thinking... Woah... what's going on here.] (Student Q)

[...The first week or so I spent just walking around trying to find out what was going on, who the supervisors were because everything was completely new.] (Student B)

Arriving at their placement with little idea of what to expect could be likened to a 'leap of faith', with uncertainty and confusion of their role contributing to an unsettling experience.

[... It's almost like you're chucked in the deep end.] (Student J)

[... I was, well... like coming in and not knowing really what I was doing.] (Student F)

[...when I turned up I really didn't know anything. The first day we went through documents and things I didn't really know existed until then. In a way I didn't know what I was going to learn.] (Student E)

[...I wouldn't say I was nervous, but I think people could be put off doing a placement because they think it's going to be, not scary, but I think maybe you could be put off because you think it's daunting or something. It's like you don't really know what it's going to be like. Where do I go on my first day, what do I do, what do I wear?] (Student B)

Students are clearly suffering a dilemma by feeling daunted and finding the whole process somewhat overwhelming. At this early stage they remain grounded in this existing state and perhaps doubt their ability to be able to perform and carry out the role to which they aspire. To compound these issues, it would seem there was another area with which students had to deal, that of homesickness, leading to a sense of insecurity.

5.4.2 Theme 2 - Insecurity

For some, accepting a placement means moving away from home and, for those who do this it can add to the difficulties they are already experiencing in their new environment. One particular student was experiencing a great deal of difficulty in adapting to his new situation. For Student A, this was the first time he had lived away from home, and he was clearly experiencing problems adjusting to his new environment. In the short time he had been working away, he had returned home a number of times and admitted to feeling quite homesick and somewhat isolated.

[...I've been home a lot and...] (Student A)

At this point there was a long pause before he continued. He seemed to be struggling to come to terms with how he was coping and was a little hesitant and maybe reluctant to admit it however, after a while he went on...

[..... home sickness... living in London... it's been quite stressful. Worst case scenario, because of that, if I wasn't able to finish the placement what would happen, what would be the impact.] (Student A)

It was apparent that at this early stage of his placement Student A was unsettled and struggling to adapt to being away from home. This was the same student who had earlier said he was "sick" but felt he had to "grin and bear it" and "find a way of dealing with it", but he was still thinking about leaving his placement. It became clear during the interview that undertaking his placement had been a huge challenge for him and these challenges were continuing to the point where he was thinking of leaving his placement. While Student A might represent an extreme case to the point of giving up, other students were also experiencing similar difficulties.

[... I still sort of miss home... this is literally the first time I've ever lived away and it's the other end of the country really. It's tough and, like I said, I still miss home.] (Student H)

[...To be honest I didn't want to move away... it felt quite daunting moving that far away from home and away from friends.] (Student G)

[...I mean, you move away when you go to uni but then there are people around you who are doing exactly the same. But here it's different, I don't really have good friends around me. I feel a little bit isolated] (Student B)

[... I did want to stay in the Northeast because that's my neck of the woods. Relocating was a bit tough...it was all completely new. You were in a hotel; in a city you'd never been to and working on a job you didn't understand.] (Student N)

For these students' homesickness and a feeling of isolation were difficulties with which they had to deal in addition to the struggles of coming to terms with their new working environment. Therefore, it is important to consider the significant impact location can have on students as they begin their placement.

The influence of placement location was also explored in the questionnaire. Students were asked to respond to a series of questions relating to where they lived prior to coming to university, their willingness to move away for a placement and if they had taken a placement away from home. The data indicates that location is something students do consider when making decisions about their placement.

When asked if they would move away for a placement only 30 students (29%) said they would not however, 2 of these eventually did. There was an even split of students who undertook a placement away from where they lived 51 (50%) and those who did their placement in their original location 51 (50%). However, when asked if they were willing to move away for their placement 72 students (71%) said they were. This willingness to move is further illustrated by the qualitative comments included with the questionnaire.

[...While I was prepared to move for a placement it would have been as a last resort. My aim was to stay within a commutable distance from Newcastle"] (Construction Project Management)

[...I applied for a position with a civil engineering contractor that I thought had a position available at their Sunderland job. However, was placed in Cumbria.] (Quantity Surveying)

However difficult students may find the early stages of their placement, their perseverance with it and, for many, the willingness to move away, is evidence of them recognising that the benefits of a placement outweigh the difficulties and as such continue to engage with the placement process. While moving away from home can add pressure to an already difficult situation, there are other issues to contend with which can add to the feeling of insecurity.

Coming straight from university into their placement, students bring with them a set of preformed ideas, or frames of reference, as to what they expect their new role will entail, most of which consists of the theoretical knowledge assimilated from the first two years of their course.

[...You know how it is supposed to happen, but I feel there's a difference between how it is supposed to happen and how it actually happens.]
(Student E)

[...Health and safety is massive. I don't think you quite get the importance when you're at uni.] (Student J)

[...One thing I think is health and safety. I knew it was important just from what the tutor was saying, reading the statistics about how it was and it is now compared to how it was twenty years ago or whatever... but I didn't realise how important it was, it was another module I was ticking off to get the grade.] (Student H)

With only a theoretical base from which to start, students have certain assumptions as to what their placement will involve. However, as they begin to experience their working environment and examine themselves, they become increasingly aware of the limitations of their knowledge and experience and so begin to question their ability to perform in their role.

[...To start I wasn't too confident about going out on site, It's a new situation, I've never been on a construction site, never mind one that's this big, working out who was who.] (Student P)

[...At the start, I wasn't confident really and was finding it quite hard]
(Student F)

There is a distinct lack of confidence, particularly in dealing with people, as students begin to appreciate their limitations. What was interesting as the discussions progressed was the way in which they tried to justify these limitations. There is a sense of insecurity entering this new environment and particular concern about how they would be perceived.

[...coming here you're always a bit apprehensive about what they're going to think of me, a student coming here from university. There will be things I don't understand because I'm only a student] (Student H)

[...Yeah. You'll get some who will challenge you and they probably think because I'm a placement student it's just coming from him so ...] (Student A)

[... People who work on site generally wouldn't want to speak to me if they've got an issue... unless they can't find anybody else, then they'll come and speak to me. They'll come into the office and a lot of the time they'll go straight to the manager.... they still see me as the student.]
(Student H)

The idea that "I'm only a student" was somewhat of a recurring theme. What became evident was that students appeared to be looking for ways to reconcile

their lack of knowledge and experience with their perceptions of not being able to carry out their role.

[...I don't think they're expecting a student to ask questions. I don't feel like I can keep asking questions because they wouldn't expect a student to be doing it. If anything does go bad you can say well I'm just the student, a presence on site for the client. I just feel like there's probably a lot that I don't know but... yeah.... I still think I feel like a student... yeah.] (Student G)

[...I didn't have the confidence to ask questions sometimes because I thought if I ask that question, they're going to think I'm stupid.] (Student J)

The perception of their position is preventing both Student G and Student J in optimising their learning by feeling they should not be asking questions, or that by doing so might expose their lack of knowledge. Perception is a key aspect in this situation as it is how students see themselves and is creating a level of insecurity and uncertainty and affecting their confidence. While the placement company may try its best to integrate students into their organisation, it is clear that students may have a different perception. They are aware they are different, lacking in confidence and having doubts as to their ability to carry out their role.

[... One thing that is good about the placement is.... knowing that we're a placement student. Being a placement student, it sort of gives you a bit of a cushion doesn't it. ... if you get something wrong... no one is.... it's not the end of the world.] (Student H)

In the comment from Student H above, he appears to be trying to reconcile his lack of knowledge with the possibility of getting something wrong. In his mind, being a student is a “*cushion*” a safety net in case he fails and so he would be able to justify failing. Student H in particular appears to be relying on his “*just a student*” status which appears to be causing him some anxiety however, he is countering this by providing himself with some kind of reassurance and justification of his lack of knowledge and experience. It was obvious this was preying on his mind as he revisited this issue a number of times during the interview...

[...I was never really nervous about talking to them, but it was always in the back of my mind, how will they treat a uni student coming in. If I don't know something or forgot something, I'll just ask them because I'm a student really... that's how I look at it.] (Student H)

[...Well, that was what I was worried about. I don't know how someone who has been doing it for about 30 years is going to feel about a 21 year old guy, who's never been on site before, coming in and saying get this done, or you need to do this... but... I was worried about it at first because of that reason.] (Student H)

The repeated use of being “*just a student*” or “*only a student*” seems to be a kind of defence mechanism against a lack of confidence and a justification of their inexperience and lack of knowledge. In their mind saying or doing something

wrong is defensible because they are just a student and perhaps it is being used in preparation for the expectation that they will do something wrong.

[...I feel underprepared for what I was doing, so it would be a case of... I'd tell them obviously you guys know more than me about the situation, if I ... if it goes wrong anywhere let me know and if I'm saying something stupid I need to be told..] (Student P)

[...But most of the people on site know I'm a student anyway because I don't hide it.] (Student N)

[...If anything does go bad you can say well, I'm just the student.] (Student G)

One issue which seems to compound their feeling of insecurity is them having to communicate with more experienced people, some of which they were expected to manage. This appears to be reinforcing their feelings of inadequacy which, in turn, is undermining their confidence and perpetuating their self-doubt.

[...When I first came here I was like... Woah...! At first you have to get used to being out on site because it is a completely different environment to what you're used to. Speaking to people was not always easy, especially if you've got to ask them to do something.] (Student B)

[...It was difficult to speak to people at the beginning.] (Student L)

[..... I always feel like it was weird me trying to tell them to hurry up or do the job when I didn't have much experience or knowledge.] (Student F)

[...I think at the start... but I mean... at the start I was sort of finding my feet and things, and, as I said earlier about communication, sort of getting to talking to people on my own without the rest of the team and things like that, was a bit difficult.] (Student E)

This did not appear to be the case for all students, however. For some, settling into their role appeared to come a little easier.

[... No, I don't think so. I wouldn't say I feel like people... I don't know... I think it would be quite easy to be the one that people give the shit to, but I don't feel like... I think you could get stuck filing and photocopying but I wouldn't say I've really had it like that.] (Student B)

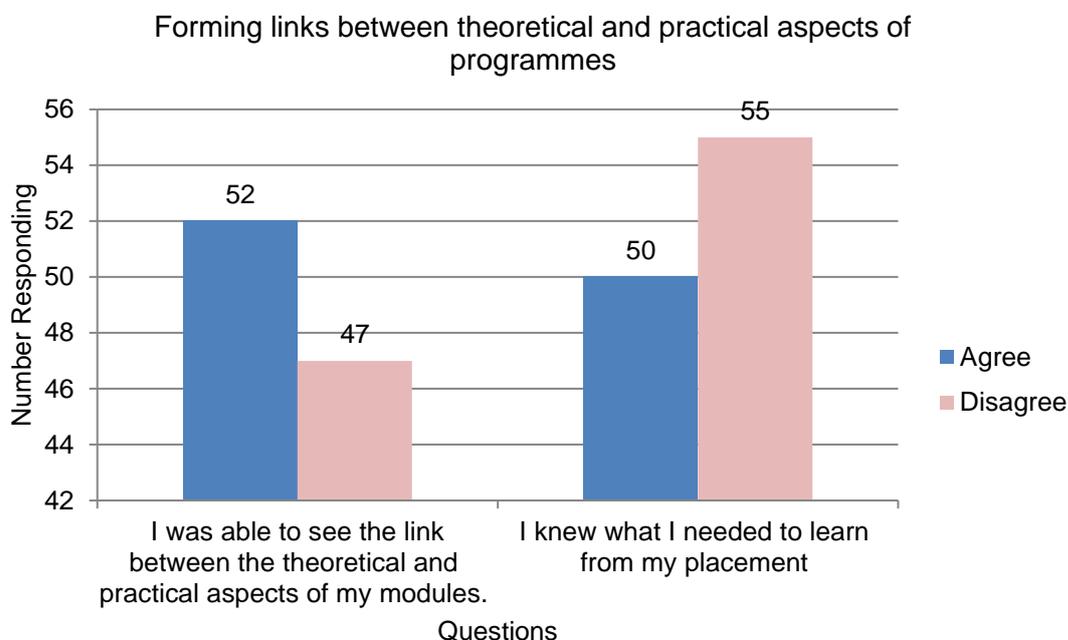
[...I feel like I've been accepted in to the team straight away. So I can say I've never felt out of place in that sense but I guess I am a placement student so...] (Student K)

However, what is interesting here is that despite these students feeling accepted within their new environment, their comments still suggest an underlying recognition of their student status and the perceptions others may have of them as a result.

5.4.3 Theme 3 - Disconnect

Understanding gaps in knowledge requires an examination of existing knowledge and where university learning can be linked to placement learning to address these gaps. The self-administered questionnaire first sought to explore whether students recognised the academic and practical aspects of their programme and whether they had any influence on what they might have expected to learn when they did their placement.

When asked if they were able to form links between the theoretical and practical aspects of their modules before they went out on placement, 52 students (51%) agreed they could, and 50 students (49%) disagreed. There was a small reversal in the results when they were asked if they knew what they needed to learn when undertaking their placement with 47 students (46%) suggesting they did and 55 (54%) suggesting they did not.



Graph 5 - 8: Forming links between theoretical and practical aspects of programmes

While both sets of results are fairly evenly split it does suggest that while students were able to link theoretical with practical aspects of their course, fewer seemed able to recognise what practical aspects of their course could be taken forward to their placement. Further comments on this area were invited in the questionnaire to identify the extent to which the academic and practical aspects differed.

[...I believe there is sometimes a significant difference between what is taught in academic practice compared to what is practiced in industry.]
(Quantity Surveying)

[... There will always be a disconnect between theory and practice, a placement helps to solve that] (Construction Project Management)

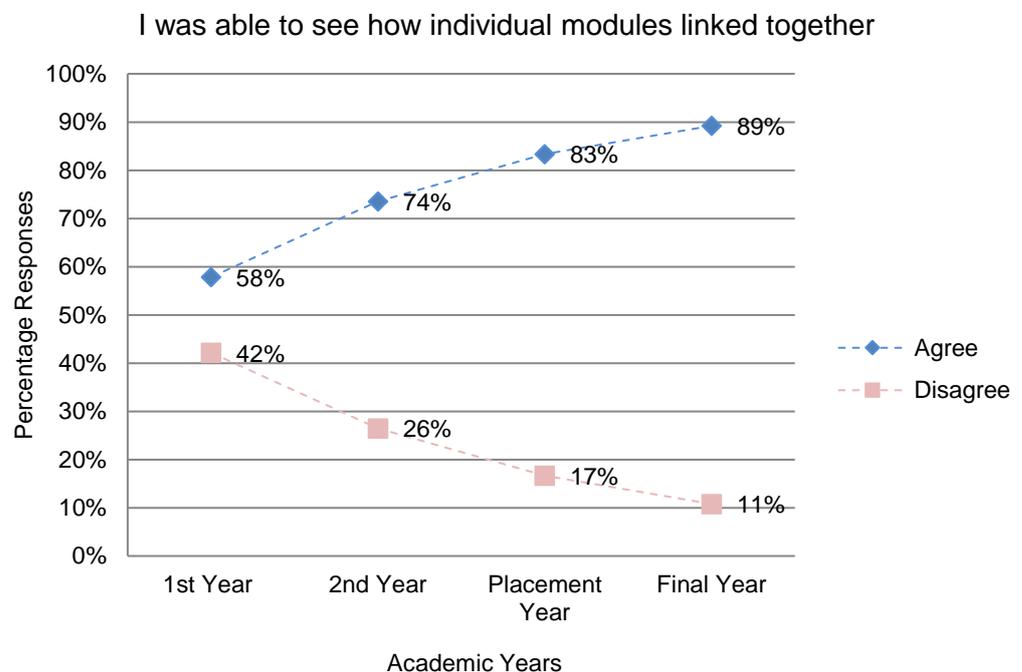
[... Very little understanding of the Law surrounding construction in years 1 & 2 of university led me to feeling underprepared and a little out of my depth during the first 2 or 3 months of my consultancy placement.] (Construction Project Management)

[... I found that university gave me the theoretical principles, but it was another task implementing them into the world of work.] (Construction Project Management)

[... Knowledge I had gained from University was not really used with any knowledge that I did need being picked up on the job.] (Civil Engineering)

The questionnaire responses demonstrate that there is an element of disconnect between academic and practical learning and, as the respondents above indicate, it was the practical knowledge gained from placement which was proving more beneficial.

The questionnaire expanded upon the issues of recognition of university and placement learning by investigating student's views on how university modules link together. They were next asked to consider whether they were able to recognise links between each of their modules in each year of their studies.



Graph 5 - 9: How university modules were linked together

Graph 5-9 shows there is not a great deal of difference between those who were able to see links, 59 students (58%) and those who were not 43 students (42%) although second year shows an increase to 75 students (74%) who agreed they could form links and 27 students (26%) who disagreed they could not. However, their placement year and particularly their final year, during which they now have the benefit of having completed their placement, shows that over these two years those agreeing to being able to form links between modules has risen to 97 students (89%), demonstrating that their placement has enabled them to recognise how their university modules are linked to real world situations.

With the experiences of students who had recently completed a placement indicating a clear disconnect between academic and placement learning, it was important to explore this further in the face-to-face interviews.

[...My placement proved that there was very little overlap in my modules to site engineering. There's not enough overlap from uni and the workplace for me to understand more of uni since joining work.] (Student M)

[...But I must say I haven't brought a lot of knowledge from uni to the placement. I've started pretty much from scratch here. There are a couple of things which I sort of remembered from uni but this whole placement, when I started here I did feel as if I was completely starting from scratch.] (Student N)

[... I quite liked that sort of stuff (university work) but in relation to work I've not seen any relevance.] (Student B)

During the interviews, students were asked to consider their learning at university and how it was being used during their placement. What became clear was that current placement students were echoing what the questionnaires had already indicated. A disconnect did exist between university learning and placement learning with many students struggling to see how the two linked together.

[... I'd say the 1st year not at all.... No, nothing from 1st year. 1st year stuff I found all of it to be useless to be honest. In 2nd Year, Commercial was probably useful because I do have to update forecasts and things like that so... I think coming in with a financial background, I think that's useful.] (Student G)

[...Not a lot to be honest. Obviously we did a little bit of CAD in first year, that helped, but I can't say a lot helped me really. There's not a whole lot that jumps out theory wise. So, have the modules done on the course helped with my placement..? Not much to be honest.] (Student C)

[...In honesty I haven't really been using any of the theory I've learnt at university, other than the AutoCAD. That's basically all. There's not enough overlap from uni and the workplace for me to understand more of uni since joining work. I don't think university really prepares you for placement in terms of technical knowledge.] (Student M)

The disconnect is prevalent among existing placement students with little use being made of university learning during their placement. What was particularly telling during the interviews and reinforces the issue of a disconnect, was a failure by a number of students to remember which modules they had studied before their placement.

[...I'm trying to think of the modules.] (Student G)

[... I can't remember the modules now.] (Student J)

[...Erm... can't remember what it... the module being discussed was called now...] (Student P)

[...I think, still just sort of err... just trying to think what the modules were, it's a long time ago.] (Student E)

This was a point echoed by other students who felt they were only able to take a very limited amount of knowledge from university, and even then, only parts of individual modules.

[... A little bit when we studied BIM but it's only in the one semester and really short. Commercial Management was difficult to understand from university, but when I talk with the economist, they can explain to me all aspects of the balance sheet. But I don't understand when I see this in the classes.] (Student L)

[...you can only learn so much at university anyway then you actually have to apply it all when you go out on to site. At first I found it hard to actually apply it.] (Student H)

[...I think it's almost impossible for uni to provide what a placement can give, isn't it.] (Student Q)

The last comment, from Student Q, was part of the wider discussion on university learning and resulted in a quite surprising comment. When asked if any of his university modules were helping him while on placement, he replied...

[...No, not at all. I think if I hadn't gone to uni for those two years, I'd be just in exactly the same place construction knowledge wise... I'd say the first two years haven't given me much construction knowledge.] (Student Q)

A consequence of this disconnect and perhaps the reason why it is evident is a lack of understanding as to how individual modules, studied at university, link together in the real world. During the interviews a number of students identified this as being an issue and why they did not always see the relevance of what they were studying in relation to their placement.

[...I knew obviously that it linked at university, but I didn't ever really see it as linking. I just focused on doing construction tech, then health and safety and didn't see how it linked at all. That's what I saw it as.] (Student H)

[...To be honest I don't think I could relate a great deal.] (Student A)

[...I think until you've actually experienced it and been out on site, and actually got to grips with it, it's quite hard to link the two together. Or make a link at all.] (Student Q)

These comments illustrate the difficulties students are having linking their academic learning to their practical, placement environment. However, a key point to note, particularly with Student Q given his previous comments, is that over time, as the placement progressed and their experience increased, students began to understand how, what they once considered individual standalone modules, were integrated and formed a bigger picture, and they were using this newfound knowledge within their role.

[... modules from second year have been much more relatable in terms of stuff I have done or will do.] (Student A)

[...definitely yeah... definitely. I can now. I can appreciate it now how they all link together. How they all complement each other. And at work you can see them meshing with the role of the site manager, managing eight different things at once, certain aspects... health and safety, commercial type stuff... you can see it in construction tech... all sort of meshing into one.] (Student Q)

From not being able to form any links between their university modules or relate them to their placement, they are now able to see how each relate to their role and how the knowledge can be used in their role. This is also evident in several of the other students who acknowledged similar experiences.

[...link it together?... yeah, definitely. I'd say you can only learn so much in the classroom. When you come out on site, everything you've seen in a classroom is amplified on site anyway. You're actually there doing it, you're speaking to people and you're actually looking at the drawings as its being built. I'd definitely say that you can start to see how it's starting to gel together.] (Student H)

[...Some of them integrate, you could see it. But other ones, like geology, it just seemed like it was a bit out there. There were obviously ones like... we did surveying in first year, that is out there. With the procedures that we go through, you can see how they all fit in and where all the expertise comes in.] (Student J)

[...Definitely seeing actually in action sort of thing definitely helped me understand it more starting to see how things are linked together.] (Student F)

The experiences of former placement students are supporting the experiences of existing placement students. There is a clear disconnect between university learning and placement learning and a failure to see how university modules link together. However, as their knowledge and experience increases students are recognising how their university learning applies to real life situations during their placement. As such it appears that the increased knowledge and experience they

are gaining from their placement has triggered the beginnings of a transformation in them.

5.4.4 Theme 4 - Reflection

Within academic programmes, the importance of reflective practice is continually emphasised and often features as assessments tasks. As Reflection on experiences is essential if learning is to fully occur it should be a continuous process within the context of experiential learning (Schon, 1987). A student will have a plethora of different experiences while on placement, all contributing in some way to their learning and as such reflection is a key part of the placement process. Consequently, the issue of reflection was explored with a view to establishing the student's understanding of the concept and the level of reflection they carried out. This section of the interviews started with an exploration of their reflective practices while at university.

[... At uni I just sort of took things as they came without really thinking about them.] (Student B)

[...Reflection? No, I never really got into it. Err... I didn't really. I can't really say I did really.] (Student F)

[...I know with reflection the more you do it the more you are going to have time to get your head around what you have done, it would be very useful, but it's just a case of finding the time to do it, actually spending that on reflecting on your work. I try to segregate. For the most part I tend not to think about it too much when I get home] (Student P)

The students' responses demonstrate that they did not engage with the reflective process while at university. However, during placement it is apparent that they are starting to think more about what they have done and whether it could be done better or differently.

[.....these last few weeks have been tough and I've frequently gone home and thought about it ... It's been really tough. I made some mistakes but got the job done. I went back over things with the other engineer, reflected on what I'd done and feel happy that I've learnt from it.] (Student N)

[...You see I keep thinking, there's not a lot there but you keep thinking you don't realise how much you have learnt.] (Student C)

[Erm.... Yeah... I'd probably say I do, yeah... yeah, maybe... I think... Yeah. I do think about things and how I can do things better. Or before something I think how should I go about this. How should ask him to do that, or if you know you're going to have to have a conversation you don't really want to have but ...] (Student B)

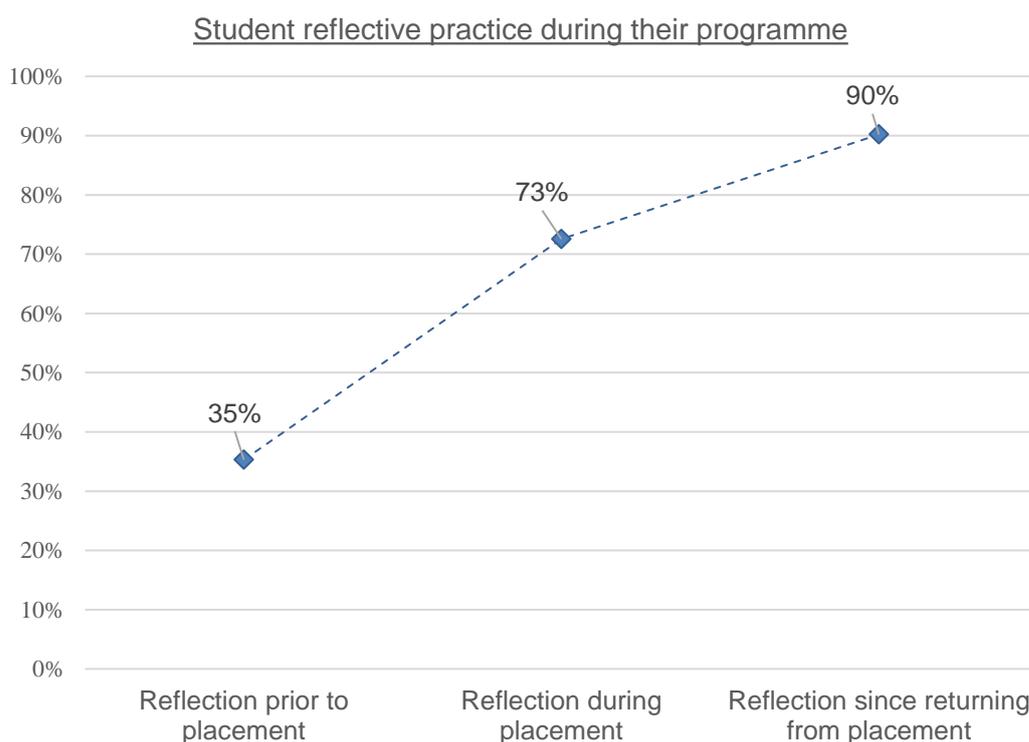
[...Mentally I probably do... just saying next time I can do this better, next time I can do that better. I do throughout the month jot down my notes when I'm thinking at the time what I've could have improved on and the difficulties. That would be an element of reflection. It's like keeping a diary.] (Student M)

[... I can kind of work out what I need to be better at...] (Student Q)

[...And it's only when you step back and realise yeah... your knowledge has improved...] (Student H)

The issue of reflective practice was also explored in the questionnaires with students being asked to consider their reflective practice at three stages of their studies, prior to placement, during placement and following placement. What can be seen is that a similar pattern to the interview data began to emerge in that there is a marked transformation in their level of reflective practice.

Prior to their placement only 36 students (35%) said they reflected on their learning, demonstrating that reflection did not feature prominently during the first two years at university. When asked to consider the extent of their reflection during their placement, this figure increases appreciably to 74 students (73%). However, a significant increase in the student's reflection is exhibited during final year now with 92 students (90%) identifying that reflection on their learning now features prominently in their final year. This increase demonstrates the recognition by students of the importance of reflection as part of their learning.



Graph 5 - 10: Student reflective practice at three stages of their programme.

[...Since placement, Yeah... I definitely think something, oh, I could have done that better or could have been more proactive, or if I got a task I could have done it quicker.] (Civil Engineer)

What is happening during and beyond placement is a form of reflection, albeit not formally considered as this by the students, but their placement is, and has, clearly encouraged them to think about what they are doing and how they can improve. It is also encouraging them to examine more closely their gaps in knowledge and identify what they need to learn. The data demonstrate that a placement can have a transformative effect on students by increasing their level of reflection from that which they did at university. They are clearly thinking about what they are doing on placement, more so than they did at university and as a result their knowledge and experience is increasing. Recognising the importance of reflection will contribute to the student's learning, both on placement and on their return to university.

5.4.5 Theme 5 - Support

One aspect which seemed to be lacking is the employers' understanding of the placement student's degree. While some took a passing interest it only seems to be in a sociable way without any real attempt to consider the course in the context of what students are doing on placement. Therefore, any placement learning that did link to a student's role appears to be unplanned.

[... With my manager, I've said to him about the modules we do, and he's made it as relevant as he can, but I think it's just coincidence and that's mainly what the role is. My manager really hasn't looked much at the stuff I'm doing for uni. I think he'll just take a look at it and sign it off really.] (Student G)

[...I've spoken to my site manager a couple of times about my degree and just talked him through it ...I wouldn't say he's interested in it...] (Student H)

[...People sometimes ask about my course but, I suspect only in a friendly way and not out of any great interest. If I'm honest I'd say we hardly ever talk about my degree.] (Student N)

Having explored the apparent disconnect between academic and placement learning in the previous section and the concerns it raises, increased involvement of students' managers would help in addressing these concerns. Discussions with their managers, so they have an understanding of the student's degree programme, will help support and guide placement learning as well as reassuring students who, at this stage are perhaps questioning the relevance of their degree. Therefore, providing support to students through a line manager and or mentoring system is an important part of the student's placement experience.

In the wider context of a placement having regular access to more experienced people is crucial to a student's development. Their early uncertain start to the

placement and feelings of insecurity can be carefully managed by the guiding hand of experienced people. Consequently, the lack of access to experienced people can have a negative effect on a student's experiences. This was particularly evident with Student P who, having not been assigned a manager, was having difficulty establishing a focal point for his position, someone he could go to if he needed support and someone to guide him through his role.

[There're five different site managers who do different things, just trying to get your head round that to start is difficult and it's harder to chum up.]
(Student P)

The term '*harder to Chum up*' used by Student P was an interesting one as it suggested he had not been assigned a mentor and was struggling to find this focal point to provide the help and guidance he needed. Further questioning did reveal that he did not have a formal manager or mentor but had instead attached himself to a health and safety officer, mainly because this was the area in which he was most involved.

[...Not officially, not a mentor per se... But I feel the health and safety man is the one I get on with the most. I feel more comfortable going to him, but I wouldn't say he was an official mentor.] (Student P)

This lack of guidance and the impact it was having on his placement experience was evident in a subsequent interview some months later.

[...Yeah, it's good enough. Similar sort of stuff ...Doing the same stuff. It's a bit repetitive now, doing a lot of the same jobs. Inductions, permits, making signage, just stuff... the simple stuff] (Student P)

This lack of progress is quite marked when compared to other students who have been on placement a similar length of time and working in a similar environment.

[...I think eventually they're wanting me to do that meeting, run the meeting.] (Student B)

[...Yeah, there's been a lot of responsibility. They've got me doing quite a bit here which I'm responsible for, which is good.] (Student Q)

[...I've taken a more of... an active role. I'm doing a lot more here, a lot more management. I manage a partitions work package, making sure ... when they've got all the materials on site, making sure they clear everything away. Making sure they're actually doing things on time, and actually to the drawings... making sure all the fire stopping in and things like that.] (Student F)

Student P however, does not have the same amount of responsibility nor does he seem to seek it. The lack of supervision and its resulting impact on his development is evident and something which he himself recognises. However, he appears happy to accept the situation and take advantage of it by not pushing himself or choosing to have "*lazy days*".

[...I could just sit down and do nothing for an hour... there's no sort of connection. ...when I am supervised that's absolutely fine, but in theory, I could go without being supervised if I wanted to. I don't... not every day I'm going to push myself, some days I'm not great, I have lazy days where I don't want to push myself as much as other days. Whereas if there's someone on top of you all the time, I'm sure it would push me more.]
(Student P)

When asked if the lack of supervision or guidance was having an impact on his development and hindering learning he acknowledged it was.

[...there are probably areas where I could have put a bit more effort into. Reading drawings for example. If I get the opportunity I'd avoid it because I'm not very good at reading drawings.] (Student P)

Nothing has really changed with Student P, despite him having been on placement for a number of months. He is still doing the same basic work and has not developed at all. He seems to lack a strong work ethic or a proactive approach to seeking out opportunities which will improve his learning. He appears to be content to sit back and not do a great deal if he can get away with it and the placement company appear happy to allow him to do so. However, the placement company also seem to have contributed to the situation as no one has accepted, or been given, responsibility for supporting Student P and as such he has drifted, being just an extra body to pick up bits and pieces if required. During the interviews there was an element of boredom in his voice and comments to questions about his placement experience such as “*Yeah... good enough*” and “*It's a bit repetitive now*” are telling in terms of his approach to it. There appears to be little in terms of transformation and he remains now what he was when he first started his placement and the prospect of returning to being a student again seems appealing as the following exchange illustrates

[... I try to see myself as a student because I like being a student] (Student P)

[...So, you'll revert back to being a student when you're back in September.] (JW)

[...Hopefully.....] (Student P)

The experiences of Student P illustrate the importance of a support system, be it formal line management or a less formal mentoring system. Having specific points of contact during their placement is essential, not only to ensure students do not drift, but to provide a support structure from more experienced colleagues who can guide students in their development and help them maximise their learning opportunities.

One important aspect in placement learning and a key part of the transformative experience is being able to observe more experienced people in their role and ask

questions of them. A placement can facilitate this as it provides students with the opportunity to examine how more experienced people perform in their role.

[...I've witnessed how my manager deals with things and I think I've learnt from that and to be quite relaxed and everything.] (Student G)

[...Definitely seeing actually in action sort of thing definitely helped me understand it more. And asking questions when they were doing it.]
(Student F)

[...learning from what they are doing by observing and asking questions small stuff but learning from what they are doing.] (Student A)

[...not only actually coming in, seeing, and doing the stuff but hearing about people doing it, when you're in the office you hear people talking to other people on the phone about things happening and you pick up quite a lot.] (Student E)

[.. (the student's managers) they would... in the first few months... they would speak to them. But then I would go down with them to see what mannerism they used to deal with it... From there, just trying to get myself more comfortable with it.] (Student A)

Studying how experienced people deal with situations through an observational learning approach enables students to understand the role through the eyes of others and replicate these actions as they seek to learn from them. But being around experienced people also provides students the opportunity to question them, whether that is to find out why something is done a certain way or to seek advice and guidance on how to carry out certain tasks. In the early stages of their placement, when their uncertainty and insecurity is at its height and students recognise their inexperience, there is a lack of confidence to question why or how. However, what begins to reveal itself in the interviews, is that as their knowledge and experience increases so too does their confidence. Students no longer seem reluctant or unable to ask questions and now recognise the learning opportunities available by doing so.

[...Everyone who has started I just ask them questions to make sure I understand everything I can... So I don't really worry about asking a question.] (Student H)

*[...but I've always got ***** (Student J's manager) who's got experience if I need help.]* (Student J)

[...In terms of going to meetings and things, it gets easier each time... most of the time it's different people... so it's useful meeting new people. Going to see the people on the site and having to talk to planners and people like that in the office, because if I don't talk to them there isn't a model. So I have to do it... which works for me... cause it forces me to do it.] (Student E)

Being 'forced' to talk to people may sound a little severe however student E recognises that "having talk to people" is an important part of him being able to

perform his role. He realises he is stepping outside his comfort zone but equally that by doing so he can develop his communication skills and improve his confidence in dealing with others. Student H, who had earlier expressed his anxiety and insecurity of “*being a student*”, seems to be moving past this and feels more able to question everybody in his search for knowledge and learning. Investigating this area further revealed an additional area of support students had come to use, away from a formal manager or mentor relationship, that of the support they can obtain from other colleagues. The opportunity to learn from other, more experienced colleagues was further emphasised by Students F and B.

[...When you're here I'm learning from other people's experience, so if I don't know something, they'll tell me. From their own experience I can see two or three people... well basically, when you're on site you can just ask anyone and they'll teach you something new sort of thing.] (Student F)

[...What I have learnt is building relationships and getting to know people is important.] (Student B)

Developing relationships with colleagues also helps with settling into the working environment and provides an opportunity for students to discuss their role with colleagues who are doing the same role.

[...one of the most helpful things they do here is what's called a Toolbox talk... especially when it's given by people you work with in the office all the time, so you can ask questions.] (Student K)

[...I was able to build up good relationships with the others working on site. I'd go for lunch with them, chat to them and get to know them.] (Student N)

*[...It was good.... ***** (a former placement student) was there... which was good because he understood what I was doing because he went to Northumbria as well. He was talking me through quite a lot so I learnt quite a lot from him... talking me through what placement was like for him, what it was like moving down South..]* (Student H)

Support outside the work environment proved equally important. Keeping in touch with university friends, discussing the issues they were experiencing on placement and finding suitable accommodation were also issues which students identified as being important in helping them settle into their new environment.

[...I'm in a house share and everybody I'm with are fine. They're all working but do different things, different jobs. They're all around my age but a couple are in their 30's but they're all fine so that's made it easier. The house is nice as well which has also made it easier.] (Student H)

[...and (Student G) is down here as well.] (Student H)

*[...I've spoken to ***** (placement student) a bit, hers is in Newcastle... like a housing developer. I've been in touch with ***** (placement student), he's in Darlington and ***** (university friend), but I'm not sure if he went out on placement. I speak to a few of them..]* (Student B)

The support managers, mentors and work colleagues can offer by actively encouraging students to question things and so understand and address the gaps in their knowledge is a critical phase in their learning. The fact that students now feel able to do this illustrates a transformation in them as their knowledge, experience and so confidence increases.

5.4.6 Theme 6 – Skills Development

A placement provides students with the opportunity to acquire important transferable skills which can be used when they return to university for their final year and, perhaps more importantly, to improve their graduate employment prospects. This theme is first considered from the perspective of students who have recently completed their placement and are well placed to assess how their own skills develop from it.

The skills tested are taken from the literature and are those developed from the lists developed in chapter 3. The concept of employability and skills development are considered in Table's 5-4 and 5-5 in the context of whether the skills students expected to develop prior to going out on placement were the same as those they did develop whilst on placement. The questionnaire asked students to consider their skills development from two perspectives, the first being what skills they expected to develop prior to their placement and then, on completion of their placement, the extent to which they felt these had been developed.

To what extent did you expect to learn the following **prior** to undertaking your placement?

Skills	A Great Deal (W = 5)	Quite a Lot (W = 4)	A Little (W = 3)	Very Little (W = 2)	Not at All (W = 1)	Weighted Total	Total Responses	Calculated Mean	Standard Dev.
Teamwork	48	39	14	1	0	440	102	4.31	19.70
Communication	53	39	8	2	0	449	102	4.40	21.53
Technical Knowledge	55	33	8	5	1	442	102	4.33	20.61
Confidence	56	31	9	3	3	440	102	4.31	20.57
IT Use	36	29	24	10	3	391	102	3.83	12.18
Management of People	41	30	19	8	4	402	102	3.94	13.72
Mature as a Person	51	34	13	3	1	437	102	4.28	19.26
Practical Experience	67	23	7	2	3	455	102	4.46	24.49
Knowledge of other disciplines	50	39	8	5	0	440	102	4.31	20.15

Table 5- 4: Skills expected to develop prior to undertaking the placement

To what extent did you expect to learn the following **during** your placement?

	A Great Deal (W = 5)	Quite a Lot (W = 4)	A Little (W = 3)	Very Little (W = 2)	Not at All (W = 1)	Weighted Total	Total Responses	Calculated Mean	Standard Dev.
Teamwork	29	49	23	1	0	412	102	4.04	18.39
Communication	38	51	11	2	0	431	102	4.23	20.44
Technical Knowledge	58	32	9	3	0	451	102	4.42	21.90
Confidence	46	34	15	7	0	425	102	4.17	17.12
IT Use	20	42	32	7	1	379	102	3.72	15.21
Management of People	24	29	24	20	5	353	102	3.46	8.21
Mature as a Person	30	45	23	4	0	407	102	3.99	16.67
Practical Experience	66	21	8	5	2	450	102	4.41	23.70
Knowledge of other disciplines	48	33	18	3	0	432	102	4.24	18.14

Table 5- 5: Skills expected to develop during your placement

A paired two tail t-test was carried out using the statistical function in Microsoft Excel with the means to ascertain whether there was any statistical significance between the two samples. The hypotheses tested were:

H₀ = There is no difference between the skills students expect to develop (prior to placement) and what they actually develop whilst on placement

H_A = There is a difference between the skills students expect to develop (prior to placement) and what they actually develop whilst on placement

The calculated value was p = 0.676

With a p-value at 0.676 being above the accepted probability value, p = 0.05 we fail to reject the null hypothesis (**H₀**) and as such can contend that what the students expected to learn prior to going out on placement was what they actually learnt and as such their placement learning expectations were met. In terms of modelling and providing guidance on skills development the areas identified above are what subsequent placement students can expect to experience during their placement.

Continuing with skills, students were asked their views on what they thought employers valued most, experience or qualifications.

In addition to examining their expectations of skills development, previous placement students were asked to consider what, in their experience, they felt employers considered the most important in terms of skills.

The question was presented using a Likert scale and the data analysed using the Relative Importance Index function as shown in Figure 5-8.

Relative Importance Index (RII)

$$RII = \frac{\sum W}{A * N}$$

W = weighting given to each statement by respondents

A = Higher response integer

N = Number of responses.

Relative Important Index formula (RII)

How do you think employers rate the importance of the following graduate characteristics

	Ranking	Essential (W = 6)	Very Important (W = 5)	Important (W = 4)	Useful (W = 3)	Not Important (W = 2)	Of no use (w=1)	W	RII
Communication	1	54	38	9	1	0	0	553	0.90
Team working	2	51	38	11	2	0	0	546	0.89
Self Management	2	50	38	13	1	0	0	545	0.89
Punctuality	3	55	25	19	3	0	0	540	0.88
Self Motivated	3	51	32	17	2	0	0	540	0.88
Organised	4	43	43	13	3	0	0	534	0.87
Initiative	5	38	44	18	1	1	0	525	0.86
Able to continually learn	5	43	36	21	2	0	0	528	0.86
Adaptability	5	39	44	15	4	0	0	526	0.86
Previous work experience	6	37	37	21	7	0	0	512	0.84
Problem Solving	6	34	41	26	1	0	0	516	0.84
Technical Knowledge	7	16	41	36	9	0	0	472	0.77
IT Skills	7	18	34	39	10	1	0	466	0.76
Higher Degree Classification	8	8	25	54	13	2	0	432	0.71

Table 5- 6: Ranking of graduate characteristics most valued by employers

The top three ranked characteristics from a student's perspective were communication, team working and self-management. This reflects what previous research had reported and what employers saw as the key employability skills they looked for in graduates.

Skills development was also explored in the interviews, again structured around those skills emerging from the literature and framed to students using questions such as '*what do you think you are learning*' and '*give examples of the learning experiences you are encountering*'. Employability and skills are widely used in a university environment as such it was possible that students could have fixed ideas of what a typical skills list should consist. It was therefore decided to avoid, as much as possible, using the specific term skills so as not to lead the student but instead encourage them to make the link themselves between their learning and their skills development.

[... The main skill required is interpersonal skills, working with other people.]
(Student N)

[... I think working in the team has definitely helped me massively... Communicating with the design lead and just being in constant conversation about the projects. Teamwork and communication are the two big ones really.] (Student J)

[... I think communication is quite important. I've always felt I'm quite good at talking to people, when you've got such a mix of people on site I have to communicate with everyone... that's a pretty key one.] (Student Q)

[... I've learned about communication. I've sat in a few meetings and things like that and talking to.... I do a bit of support work for people around the company, so people come on the phone, I'll talk them through what to do and things like that which is something I hadn't really done before. I think it was a weakness, communication and just talking to people... self-confidence in that if you know what you're talking about, you're more confident talking about it.] (Student E)

[... everything you do in the office is.. you have to learn teamwork skills and communication skills to do it.] (Student K)

[... you become part of the management team... there's definitely teamwork... and communication because there's a lot of foreign workers on site... So yeah, teamwork, communication... things like that are definitely developing as you're here.] (Student H)

[... while things are difficult, everyone's in the same boat so I don't want to let the side down.] (Student N)

It is encouraging to identify that the key transferable skills being developed by current placement students match those developed by previous placement students. This not only validates both data sets but, importantly, shows the current

placement students are developing the skills and characteristics employers value the most. The interview data shows that key skills are being developed extensively across the current placement students which will increase their personal human capital and provide enhanced employability and a competitive advantage when seeking employment.

In some instances, the student's employer would take part in the interviews. On these occasions the opportunity was taken to explore their perspective on what they looked for in a graduate.

[...Since coming here he has come on leaps and bounds to be fair... and has adapted very well. Having limited knowledge he has managed to take on a lot of our procedures and manage them pretty well to be fair. For a year out student we're more than impressed...he has come in... and it is a difficult place and he's done very well under the circumstances. I think you have a better understanding, haven't you, of how things work] (Student Q's Manager)

[... We knew he was a student, we knew we were going to have to train him... We personally felt that he could fit into the team and gel with the guys we've got here.] (Student C's Manager)

The two most important skills identified by previous and current placement students as well as in the literature, those of communication and teamwork, are emphasised by employers as being what they look for in someone working for them.

[...When we are looking for a student what we're more looking for is someone who is enthusiastic and have an idea of what they want to get out of placement. We've been very happy to be honest. He's got a good work ethic and he's been prepared to put the hours in that have been needed.] (Student M's Manager)

[...your confidence comes with your knowledge and experience. Your interaction and communication with others is easier. Willingness to roll your sleeves up and get involved and do what's asked of you ... there's a lot of teamwork involved.] (Student J's Manager)

[...Some of the research that (Student J) did on that job actually highlighted that the problem wasn't the clients issue, it was actually the landowner's issue. So with three months of investigation we came up with a solution and (Student J) did a lot of good calculations. Saved the client a fortune. It probably would have been a quarter of a million pound] (Student J's Manager)

While it is clear that employers consider team fit and communication vitally important, they also value enthusiasm and a willingness to make an effort both of which fit into the other higher ranked skills of self-management and self-motivated. These points were also emphasised by the students themselves.

[...It's if you want to get involved and... it's mainly seeking to learn, a keenness. I think that's what (Student Q's company) look for ... You may not know anything but at least you're trying. At least you want to get involved and at least you want to help everyone out. I think this site as well... working as a team.] (Student Q)

[...What are employers looking for..? ... someone who is keen and willing to learn really. I'm sure they understand, coming in, that I don't know anything really. So I don't think they are expecting me to come in and boss the site but if you show a willingness, ask questions and learn that will stand you in good stead.] (Student H)

Other key skills being developed which were evident from the interviews, and identified as key characteristics required by employers, included organisation, time management and self-motivation. A particular skill closely linked to these which students are developing is that of being more proactive. There was a tendency for many of them at the early stages of their placement to wait to be told what to do. However, the comments below clearly demonstrate a change in them in this area.

[...I guess I'm starting to become more proactive. If I see something... trying to think more of how to get it done.] (Student A)

[...I'll come in in the morning and I won't even get the laptop out, I'll just go straight out. I just come in and do what I've got to do...] (Student B)

[...If there's a change to a drawing you need to make sure you learn that so when someone does come and ask you a question you know the answer So... taking initiative before being asked a question by somebody is definitely something I'm starting to learn how to do.] (Student H)

Many students at the outset of their placement were unsure what to do which stemmed from their uncertainty as to whether they would do something wrong and insecurity in their lack of knowledge and experience. Many lacked the confidence to use their initiative and were continually referring back to their managers. The fact that students are becoming more proactive and now taking the initiative demonstrates they are developing the knowledge to know what needs to be done and the confidence to go out and do it, demonstrating that as they develop key skills along with knowledge and experience, a transformation is taking place in their ability and confidence.

5.4.7 Theme 7 - Learning

To fully explore the transformational change in placement students, employability formed a key topic area of the data collection process. When the subject of employability is addressed both the interviews and the questionnaires reveal some interesting results.

Mindful of Bryman's comments (Bryman, 2012) of influencing the direction of an interviewee's response by asking leading questions and the caution advised by Yin (Yin, 2016, p. 29) of "*steering their remarks*", skills development was addressed in the interviews but the questions framed in such a way that the term employability was not emphasised or specifically used in this context. In doing so the study attempted to investigate whether students were able to link the idea of skills with the concept of employability. During the iterative coding process one of the selective codes arrived at was employability. However, through the iterative coding process applied to the qualitative data it became apparent that there seemed to be a distinct lack of the use of the term employability by students. This was investigated further using content analysis which, while not always implying significance it can be an important measure within the coding process (Saldana, 2016) can act as a way of reading "*between the lines*" of more explicit messages (Franklin, 2012, p. 218).

Whilst not a prominent form of analysis used here, the apparent lack of awareness of employability from the coding process encouraged the use of content analysis on the transcribed interview data specifically searching on the term employability. Out of the twenty-one interviews, all of which lasted on average one hour, the term employability was only mentioned twice, by the same student (Student M). However, further exploration of the interview with Student M, found that employability was used in the context of his placement making him more employable rather than linking this with his skills development.

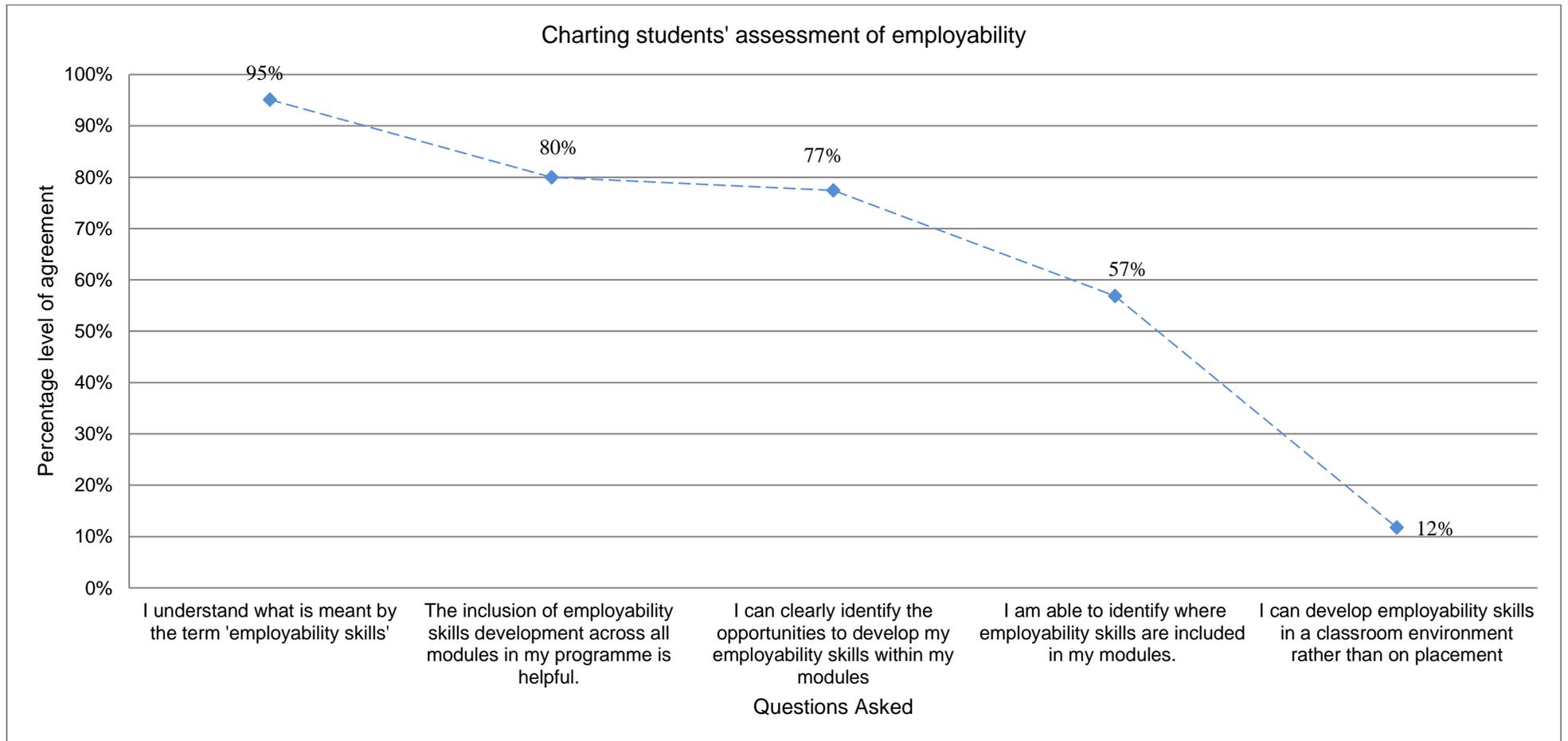
[...the placement year is arguably the most important year. As it gives you experience in the workplace and that gives you You're more valuable in terms of employability...the technical drawings I may be editing, allows for getting a project completed by the due date, which is something that would probably be very valuable in terms of employability.]

While Student M is using the term employability, it is questionable whether he fully understands the concept. The interview with this student lasted over an hour and discussed at length the skills set he was developing but at no time did he link these to employability. Skills development was also discussed at length in the other interviews yet none were able to link this to the concept of employability.

Employability was also considered in the self-administered questionnaire; however, as there was no direct interaction with participants, it needed to be dealt with more explicitly within the questionnaire and so the questions were grouped together under the heading of employability. As with the interview data, the questionnaire data appears to indicate that in final year, following their placement there still appears to be some confusion as to the employability concept. A series of statements were included to elicit student's understanding of employability in the context of their programme of study with responses in the form of a four-point Likert Scale. The responses are shown in Graph 5-11.

These responses appear to suggest there is a level of uncertainty as to where employability sits within the context of their programme. There is overwhelming agreement as to what is meant by employability skills with 97 students (95%) suggesting they are aware of the term and 82 (80%) agreeing that its inclusion in modules is helpful. However, where the apparent confusion seems to manifest itself is with the questions relating to their programme modules. Over three quarters of respondents 79 (77%) were able to clearly identify, within their modules, opportunities to develop employability skills yet only just over half of the students, 58 (57%), were able to identify where these opportunities were in their modules. What is interesting however is that despite suggesting an understanding and the ability to identify employability skills within their modules only 12 students (12%) suggested these skills were better developed in the classroom.

Given the importance placed on employability by universities and the lengths they go to embed it across programmes, it seems there is still an element of uncertainty in students' minds as to what it actually means and the way in which it can apply to them.



Graph 5 - 11: Students' assessment of employability within their programme

Throughout the interviews the issue of linking students' programme modules to their placement and how much of the module content is being used on placement was investigated (see *Theme 3 – Disconnect*). From these discussions it was clear that there were several instances where the importance of a module or a particular topic within a module was not appreciated. However, once on placement students began to see the relevance of the module or topic to their role and the practical application of it. Student H for example was taught the importance of health and safety to the construction industry at university but even then, just looked at it as another module which he had to pass to complete his year. However, once out on placement, and having to deal with health and safety on a daily basis, he began to realise the importance attached to the module.

[...One thing I think is health and safety. I knew it was important just from what the tutor was saying, reading the statistics about how it was and it is now compared to how it was twenty years ago or whatever... but I didn't realise how important it was, it was another module I was ticking off to get the grade. But now I realise the importance of health and safety....yeah... 100%. If anyone has a little accident it's a massive thing.. Health and safety is the biggest thing on site really. Everything you do really.... You have to have a permit signed off to use a stepladder or whatever it is every little thing has to be perfect.] (Student H)

[...I'm certainly able to link a lot of things now from uni. Geotechnics is the big one, I've done a lot of soil tests. But even simple ones like Concrete piling... even though that was fairly simple it went a bit over my head. But now it's normal just seeing it and I actually understand it..] (Student N)

These comments are interesting as they demonstrate learning is taking place and producing a change in the students and their understanding of the industry in which they are working. In the early stages of their placement some students struggled to remember the modules they had studied the previous year, were unable to see how they linked together or see the relevance of them. Now however there is marked change in their understanding of the modules they had studied in the first two years of their programme and how they all interlink.

[...I think it definitely comes together once you sort of actually experience it indirectly or directly. I feel that if you didn't do a placement year, you know all the stuff, but you wouldn't really know it in real life. You know how it is supposed to happen but I feel there's a difference between how it is supposed to happen and how it actually happens. I feel like the placement sorts of pulls it together.] (Student E)

[...when you go on placement you can see how it all comes together, you can see the steps. Until you actually get on site you don't think about the management, managing the people who are doing it, making sure the materials are ready to go, is it going to compromise any of the work and if it is for how long.] (Student A)

[...With the procedure that we go through, you can see how they all fit in and where all the expertise comes in.] (Student J)

Once students are in their working environment, the experience they are gaining is enabling them to understand how previous university learning now links with their placement learning and are more able to put into practice in their real-world situation.

What was clear from many of the interviews was that, after several months on placement, there was a marked increase in both technical knowledge and experience. This is particularly evident from a detailed explanation Student B gave of issues relating to some design faults she had to deal with. Her explanation consisted of what had caused the defects, the approach she adopted in rectifying them, a rationale for why she chose this approach and an explanation of some of the difficult logistical problems she was having to manage as a result. Interestingly Student B, at the beginning of her placement said...

[...I wouldn't say I was scared, but I just had no idea about anything. It was a bit daunting ...] (Student B)

Examples of this increased knowledge, confidence and ability were also evident in other interviews.

[...one of the senior managers came to site and I was asked to give him a tour. For the first time everything seemed to click. I could show him round and answer all his questions.] (Student N)

But in the early stages of his placement, Student N said....

[...I didn't really know day in and day out what was really expected of me]

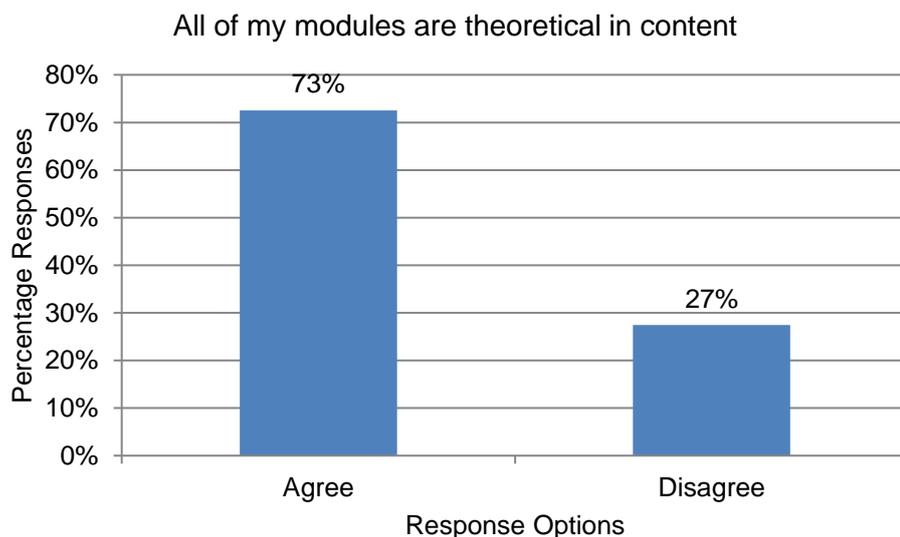
Student H has developed his management skills significantly and no longer seems to consider himself "just a student" who no one will listen to...

[...We had to get the benchmark plot ... I made a note of ...everything, then went round which each trade making sure we got that benchmark to a standard. Then, when the directors came down to view it, they shook hands and said well done, that's what we are looking for. Things like that are a lot bigger roles than what I was doing before.] (Student H)

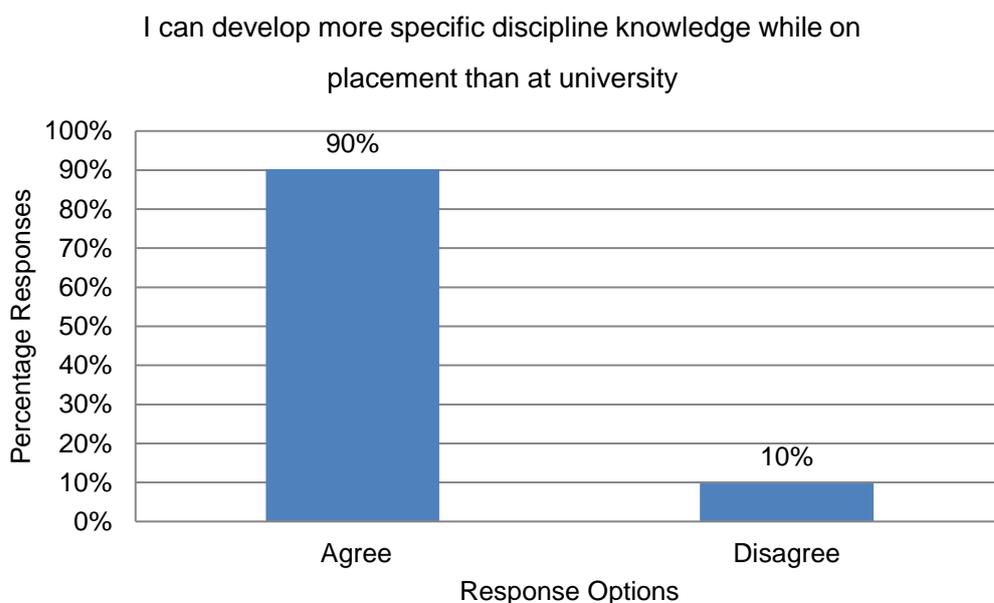
Student A was filled with a lot of self-doubt, anxiety and stress together with a lot of homesickness to the point of considering leaving his placement. However, as he now points out...

[...I've done a lot more managerial aspects now. I've completely overseen the snagging of the building. I've taken a lot more responsibility for labourers, giving them jobs and making sure everything is clean and tidy. My confidence with the tradesmen has definitely improved.] (Student A)

As with the areas considered in the interviews, learning within the placement environment was explored within the questionnaires. Students were asked to consider whether they could develop more discipline- specific learning whilst at university or within a work environment.



Graph 5 - 12: Consideration of the theoretical content of university modules



Graph 5 - 13: Exploration of the development of knowledge

Graph 5-12 demonstrates the level of theory contained in university modules with 74 students (73%) agreeing that they considered all of their modules as theoretical and only 28 (27%) disagreeing. In a university degree programme, it is expected that modules will contain many theoretical concepts; however, it is also important to link these to the practical aspects of a discipline. When considering the results in Graph 5-13 this does not appear to be the case with 95 students (90%) suggesting that most of the discipline-specific knowledge they gain is while on placement, with only 10 students (10%) disagreeing. This may go some way to explain why there appears to be a disconnect between university learning and placement learning and the failure of students to form links between their university programme and their practical environment. It appears that university is for theory and placements are for practice, which is fostering this view by students that placement learning is somehow separate from university learning when in fact they should be encouraged to see how they are integrated.

5.4.8 Theme 8 – Personal Development

In addition to skills development, students on placement have the opportunity to enhance their personal development through the level of experience gained from their placement within the context of their role.

[... with more knowledge and experience I know that I can just tell the site operatives and they'll just do it. I think it is since I've have grown a bit more confidence the job's become a lot easier I'd say and I'd say I know how to deal with people a lot better than I did at the start.] (Student F)

[...When you see your first report it's a bit daunting, but now... that feeling sort of goes. You get given a report now and I'm straight into it, straightaway. I know what I'm doing and know that I can do it comfortably. I think my confidence in my ability and my ability as well has improved.] (Student K)

[...I'm starting to understand a lot more what goes in to a construction site. My knowledge has definitely improved. I can just go out on my own and do it without having to ask for help all the time. So it's just more confidence... it's just makes me feel more integrated in the team, so that I do it myself and manage the people myself.] (Student F)

[...I wasn't confident to speak to people as you do now at the beginning, it was difficult... in time it has developed. Communication with other people is better and improving, especially communication with people on the same project, because each week we have a meeting with this group on the project. I also need to contact suppliers and I need to speak clearly, explain clearly my project, my plans. I really feel more confident with that. My confidence is coming from my increased knowledge] (Student L)

Student E likened his increase in knowledge and confidence to that which he had experienced during his first two years at university and being in a classroom with part-time students. He now felt he would be able to engage in class-based activities more and not be as intimidated by part-time students whom he perceived had more knowledge and experience than him. Student A on the other hand had recognised earlier in his placement that he struggled to manage himself and other people effectively and these were areas he needed to develop. It is evident from his comments that he has been doing this and now feels able to better perform these aspects of his role.

[...The part time guys in first and second year always had an opinion on what any of the lecturers said, because they've done it, whether their opinion was right or wrong it didn't matter, they still engaged in discussion where all of the full time guys were just sitting there just writing it down because they didn't know any different. I feel when you go into final year you'll be more like a sort of part time guy.] (Student E)

[...I think I've developed the ability to talk to people with more authority as well as thinking about things and being a little clearer on the information you're giving. Prioritising and my time management as well because, obviously on site, it's a very critical process, because if one thing overstretches over long then it has a knock on effect on other trades.] (Student A)

[... I did a security plan for the guard rail and the site manager signalled on the plan that he agreed. The contractor didn't respect this so I was angry. I told them it was no good and they then corrected the problem.] (Student D)

During the interview with Student E his line manager described how he had developed and increased his confidence which had led to her having confidence in his ability to perform and, as such had been happy to give him more responsibility compared to previous placement students they have had.

[... We realised fairly quickly that we could put a lot of responsibility on to Student E in terms of his permissions on the system. Traditionally, for a placement student, we would have the system locked down so the student could do very little, but Student E is so competent and picks it up so well and has spent so much time with us as a team and knows the system in and out, that actually he has the same level of permissions on the system that we use. So it's quite unique that we have actually felt comfortable enough and confident enough in his capability and ability to be able to give him those permissions, where for a placement student I probably wouldn't have done. He's in high demand at the minute, so it's really good that he's had such an impact, not only in the North East but with everybody in the business, everyone is keen to get hold of him. He's done well, far in excess of what my expectations were for what would have been a placement student.] (Student E's line manager)

Following on from his line manager's comments Student E described what he had originally perceived his placement would be like but how he had found it to be different from his original expectations and what he had been able to take from it.

[...I think I've got more responsibility than I thought I would and feel like I've done more and achieved more than I thought I would. When I was looking at placements I thought it would be more shadowing someone, following someone around. But I think I've achieved more than I thought I would. I thought I'd just be learning how things go and how things work.] (Student E)

These comments are particularly interesting in the context of the earlier themes of uncertainty and insecurity, in that students are uncertain as to what to expect when starting their placement which, coupled with their lack of knowledge, causes insecurity and worry. He describes his original expectations on starting his placement as that of just "shadowing someone" rather than taking an active part in an organisation. The difference between early perceptions and actual experiences of their placement was something echoed by Students F, J and K.

[...Yeah. That and more really. It's definitely been better than I thought it would have been.] (Student F)

[...Err... Yeah... I've had more responsibility than I expected, which is a good thing as it shows they trust me.] (Student J)

[...I'm happy with my development. I feel like I've developed and learnt more than I thought I would have done.] (Student K)

Students may have perceptions of what they think they might be doing on their placement but little certainty as to what it will be. However, as has been shown so far, their perceptions and actual experiences are very different. As they move through their placement and their knowledge and experience increases, students have found they are given a lot more responsibility in their role, learning much more than they thought they would which in turn is increasing their confidence to seek out more knowledge and responsibility.

Personal development is further illustrated by the student's ability to work independently, performing aspects of the role without constantly referring back to their managers and demonstrated how they were developing both confidence in themselves and competence in carrying out their role. Student B for example had recognised how she had developed and changed compared to when she first started their placement.

[... It's more about forward planning and being able to do things for myself rather than having to be asked to do things. Sometimes I might run something by the manager but it's more about me being more independent and being able to sort things out myself. When I first came on to site I'd never been on site before so I didn't know what standards were or what things should look like I literally had no idea. But now I know what should be done and what things should look like.] (Student B)

[...I can just go out on my own and do it without having to ask for help all the time. So it's just more.... I don't want to say confidence again... it's just makes me feel more integrated in the team sort of thing... so that's the tasks set out and I do it myself and manage the people myself.] (Student F)

Developing into a more mature person is a common theme within the interviews.

The maturity appears to be from working in a mature environment, increased knowledge and the experience of being given more responsibility.

[... Any change...? Yeah... I've grown up..] (Student Q)

[...I think I've matured since being on placement. I feel a bit older. I'd say I feel a bit more... mature... Things like moving away, having to do things on my own and, I think, because the people I'm around are older so I'm spending a lot of my time with older, more mature people in a more mature environment. I do actually feel a bit older compared to my friends from home and uni. But, when I look at that I don't feel bothered or that I'm missing out.] (Student B)

[...It's changed me in a lot of ways really.... I feel grown.] (Student F)

[...I've changed. I'm a lot more grown up. I think I've got a lot more of a professional attitude.] (Student N)

Through their placement students are developing new skills and knowledge, gaining more confidence and changing. The transformative process is slow but gradually they begin to change from someone with little idea of their role to someone who is able to take on more responsibility and work independently where required.

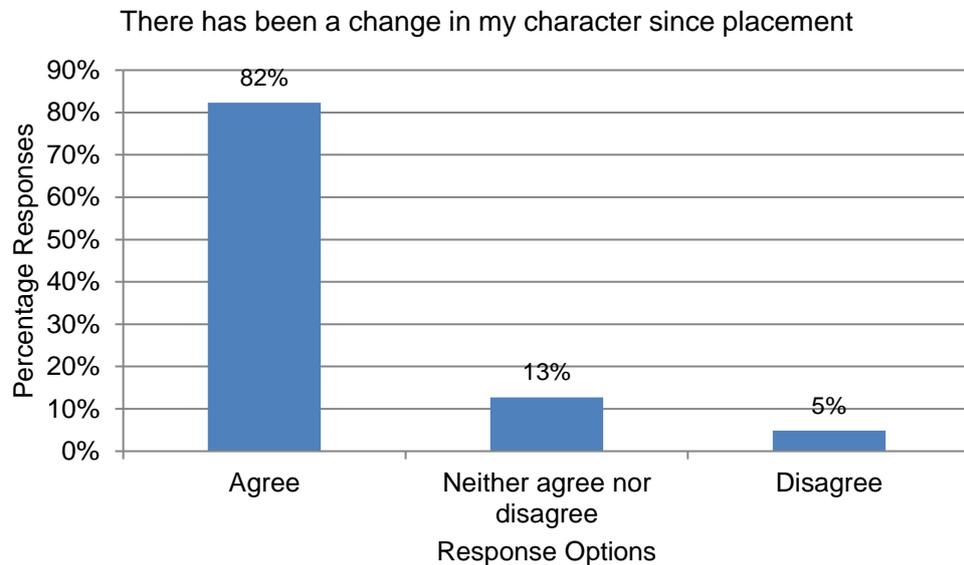
[... I think my placement brings to another vision of the world of construction. It's not the construction sites I see in this placement but the process before the construction site. So the aspect such as administration, I think it is good for me.] (Student L)

[...I've noticed a really big difference from when I first started and that was only when the contracts manager came down and asked have you noticed any difference. And it's only when you step back and realise yeah...] (Student H)

The last point made by Student H is particularly relevant in the context of transformation and links back to the “*coming back cleverer*” comment regarding placement students returning to their final year. The discussions with current

placement students has revealed a change in their character in terms of increased confidence, feeling more mature and a willingness to ask questions.

As with the other themes, these issues were explored with the previous placement students through the questionnaire. Students were first asked to identify if they felt there had been a change in their character since their placement.

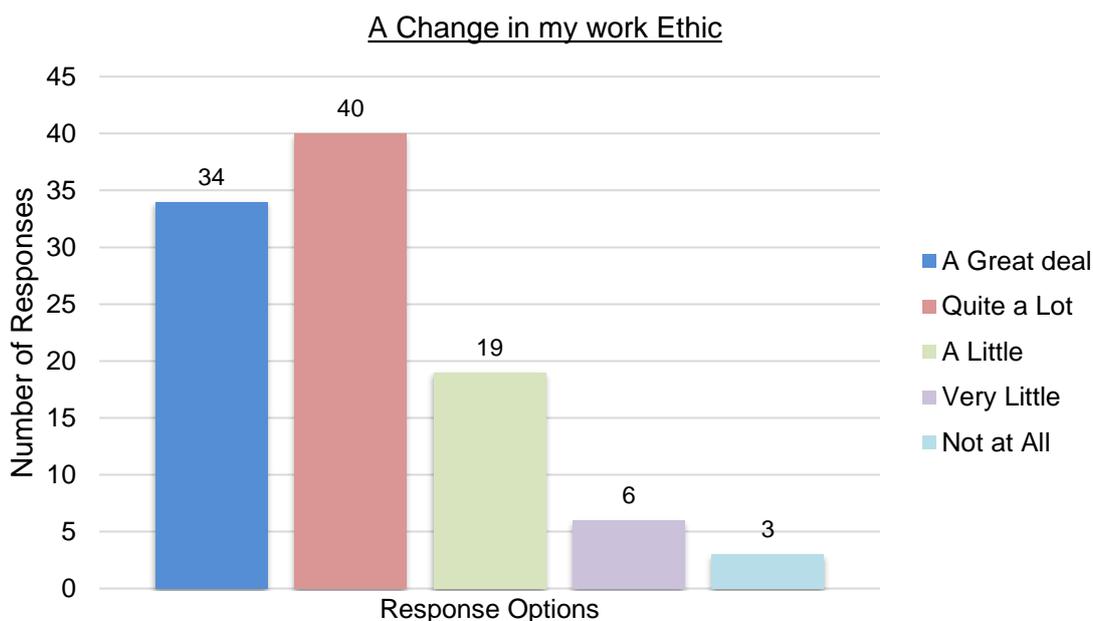


Graph 5 - 14: Student assessment of change in their character.

Graph 5-14 shows significant agreement that this is the case with 84 students (82%) identifying there had been a change in their character since placement with only 5 students (5%) suggesting they had not experienced a change in character. What is interesting is the 13 students (13%) who neither agree or disagree in a change in character. A further examination of these students reveals that with the exception of one student studying civil engineering, they all experienced some change in aspects of their character. As the data were collected from an anonymous self-administered questionnaire, the opportunity to explore this further with the students was not available and so there is an element of conjecture as to the possible reason. One reason considered was a lack of reflection on their placement experiences, and so a failure to recognise any change in themselves. However, the data on reflection demonstrates that twelve students reflected to a greater or lesser extent whilst out on placement and on their return with only one student failing to reflect at all when on placement but since his return to university had reflected a great deal. Therefore this was considered an unlikely reason for the response. The second possibility was because the original question of character change provided a neither agree nor disagree option, students

responded this way because they had experienced a change in some characteristics listed but not in others and so this option better reflected their views.

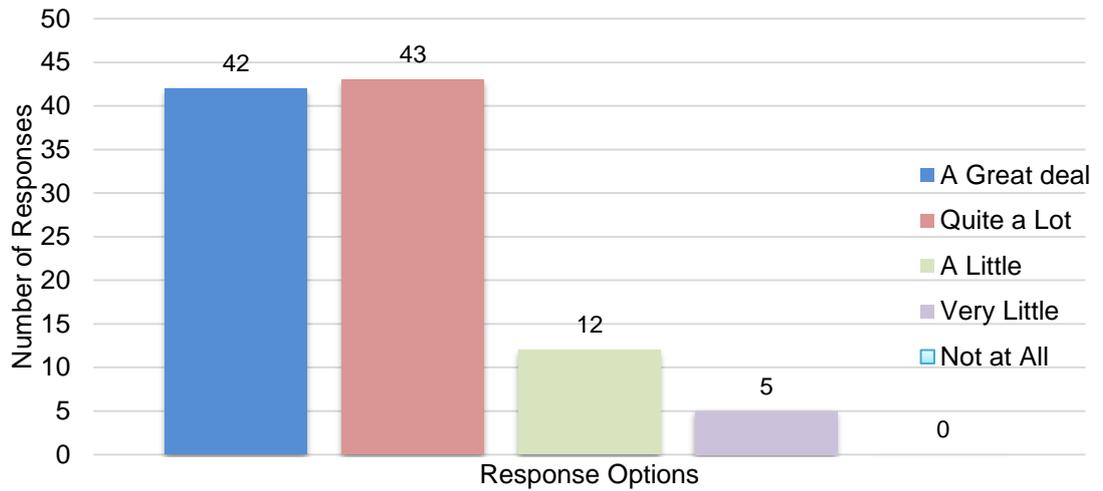
The individual characteristics, based upon those identified in the literature, were broken down to ascertain the level of changes evident in each. The following Graphs (5-15 to 5-20) offer the students' own assessment of the change in their individual characteristics.



Graph 5 - 15: A change in my work ethic

Almost all students have experienced some change in their work ethic following their placement with 74 students (73%) showing high levels of change and 25 students (25%) a smaller amount; only 3 (3%) suggested there had been no change at all. This is attributed to exposure to the work environment, observing more experienced colleagues, observing how they act, replicating their approach and so making a change to their own persona.

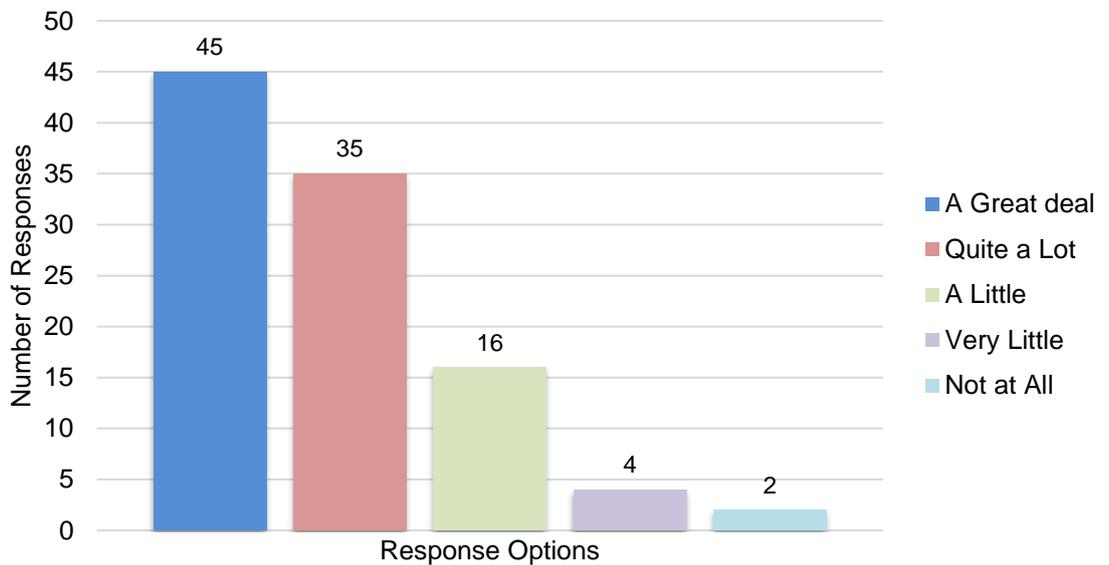
An Increased willingness to Question Things



Graph 5 - 16: An increased willingness to question things

A significant number of students 85 students (83%) experienced a significant increase in their ability to question things, with 12 students (12%) less so. With the support and encouragement of more experienced colleagues and through reflection, students develop the ability and confidence to question what they see to enhance their learning.

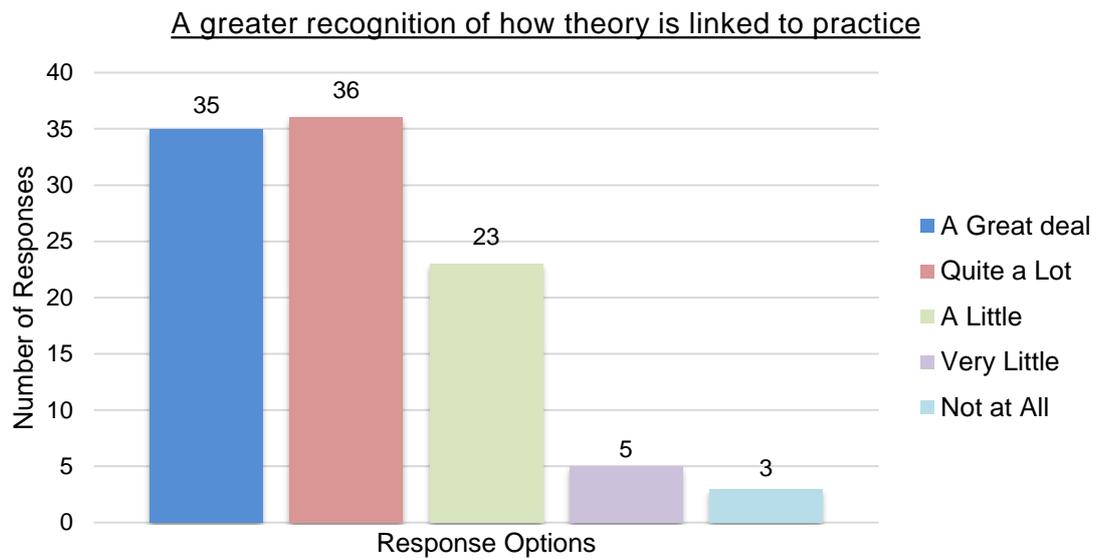
Increased Maturity



Graph 5 - 17: Increased Maturity

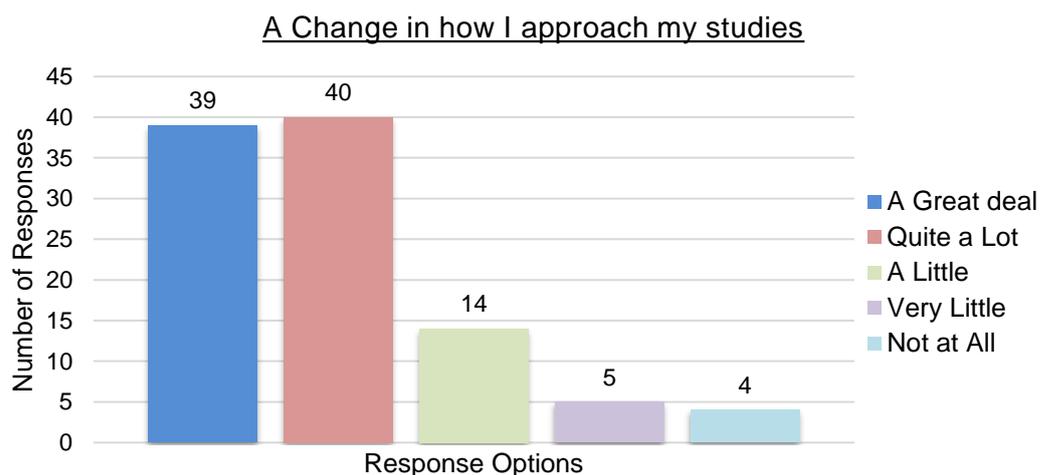
80 students (78%) reporting a substantial increase in their maturity and 16 students (16%) some increase suggests that being in a professional environment and working with older, more experienced colleagues has had an effect on this. In

addition, being given management responsibility will also contribute to their increase in maturity



Graph 5 - 18: A greater recognition of how theory is linked to practice

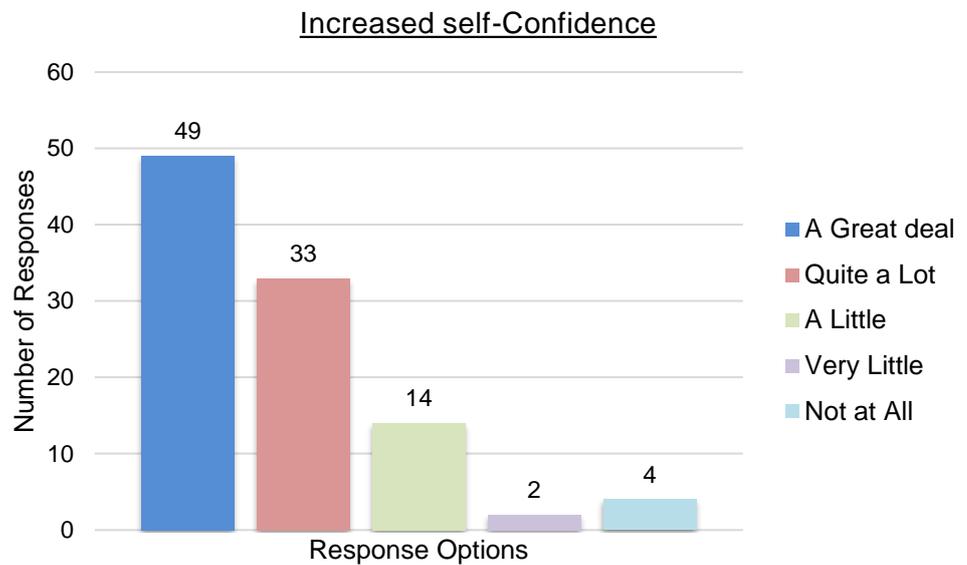
For those currently on placement, linking theory to practice proved an area of difficulty. However, for those having completed their placement, 71 students (70%) identified that they now have a greater understanding of how their theoretical learning and practical learning link together. Through an increase in knowledge, and reflecting on that knowledge, students are now able to form that link between theory and practice and gain a better understand of how their discipline is integrated within the wider industry.



Graph 5 - 19: A change in how I approach my studies

It is perhaps unsurprising to see 79 students (77%) showing a change in the approach to their studies and 14 (14%) a little which can be linked to the data

reported in Graph's 5-14 and 5-15. By being in a working environment student have developed into mature individuals with an increased professional outlook, which will transfer through into their final year studies.



Graph 5 - 20: Increased Self-Confidence

The final characteristic considered was that of self-confidence. This was something which was repeatedly identified by those students interviewed as continually increasing as their placement progressed. Therefore, the figures of 82 students (80%) experiencing a considerable increase in self-confidence and 14 students (14%) a little is as expected. The increased self-confidence is a product of increased knowledge and experience enabling students to become more confident in their role.

5.4.9 Theme 9 – Validation

The final theme developed from the qualitative data seeks to address the extent to which student's placement experiences have fostered a change in them and explore how they now see themselves. It also examines their views on their preparedness for the final year at university and beyond.

What is immediately apparent is the awareness students have that they are somehow different and that their placement has changed them.

[...In terms of where the placement has gone, as a position, I feel like I'm there, I feel like I'm part of the team, so I feel more confident about what I'm talking about.] (Student E)

[...It's changed me in a lot of ways really.... I feel grown. From the start until now, I've definitely gained a lot more confidence in what I do and what I'll be doing. Thinking I could actually do the job.] (Student F)

[...in a management role, you're dealing with site management and the whole project.] (Student A)

[...But yeah, I definitely feel different. I'm more confident and able to talk to people and put things forward for discussion. I have been given more responsibility and I think they feel I'm more capable, it definitely feels that way and I feel a lot more experienced. I feel more like an engineer now than a placement student.] (Student N)

[... they see me as part of the management team, so they do listen to what I say.] (Student H)

These comments are particularly interesting given that at the early stages of their placement students questioned themselves and were acutely aware of their student status. The fact that they are now seen, and see themselves, as “*..part of the management team*” and feeling “*..more like and engineer than a placement student*” demonstrates the transformation they have encountered during their placement. The transformative journey is particularly evident, and especially noteworthy, from the comments by Student H. At the beginning of his placement Student H had serious concerns about his student status and regularly questioned if, and why, more experienced people would listen to “*just a student*”. However, as well as being seen as part of the management team, he comments that people “*...do listen to what I say*”. The level of responsibility students have now acquired, identified above by Student N, has also increased appreciably. Many are managing work packages themselves demonstrating the level of confidence their managers have in them and indeed they now have in themselves.

[...With the external works packages, I'm at a point where I feel confident and can handle the contractors on my own. I sort of do my own thing or... I mean, I know what needs to be done or needs doing that day. I'd say on a day to day basis I've got quite a few responsibilities really.] (Student B)

[...So I manage the teams of sub-contractors ... the plasterer, electrician, plumber, tile layers... to see they did their tasks well and that they followed the schedules.] (Student D)

[...I've done so much... managing joiners, making sure everything is ready for the snagging, painters, dealing with painters a lot, sorting out day works sheets, working out what is day works work and what is contract work.] (Student Q)

[...I've been given projects to deal with by myself... Yeah... after Christmas they started giving me more responsibility and the smaller projects to deal with by myself.] (Student G)

Students also demonstrate a clearer understanding of their role within the wider industry in which they are working. Their original frames of reference with which they entered their placement have changed and they are able to see their discipline from a much wider and integrated perspective.

[...I've learnt things on this job which, when I look back, knowing how a proper job is run now, it all just makes sense and it clicks a lot more so I've got a lot better understanding. I don't think you can just learn from a text book and things like that.] (Student N)

[...I can appreciate it now, how they all link together. How they all complement each other. And at work you can see them meshing with the role of the site manager, managing eight different things at once.] (Student Q)

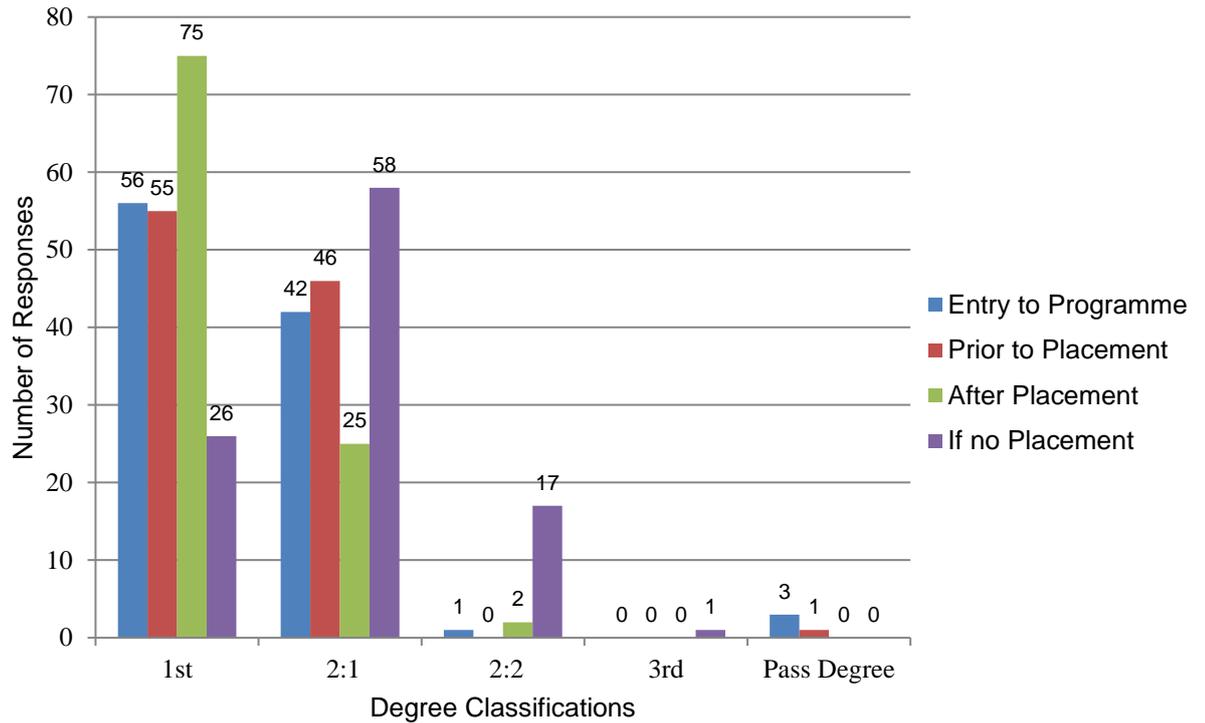
[...I'm seeing the different phases / stages of the construction. I didn't understand why we had to do all the calculations during the materials module, and didn't understand why it was important to learn this, but on my placement I can see now why the test samples are important. I am also now seeing the relevance of health and safety site inductions. It's good.] (Student D)

Students are now more confident in their skills and experience and have more confidence in themselves. They are able to take responsibility for their work and perform their role on their own.

A proportion of the literature discussed in chapter 3 suggests carrying out a placement can have an effect on a student's final degree classification although there was a lack of consensus among the academic community with regard to this effect with much of this research carried out using final achievement data. Rather than attempting to establish impacts on achieved final degree classification, this research explores student's expectations of degree classification. By doing so it measures the change in students' self-perceptions of their ability and self-efficacy as to their potential of achieving a particular outcome and so the effect a placement may have had on this.

The questionnaire asked students to assess their expected final degree classification at three stages of their programme, on entry to their programme, prior to going out on placement (*ie. the end of their second year of study*) and on their return into final year. It also asked them to consider the same question had they not undertaken a placement. Graph 5-21 presents the findings of these four questions.

Students' assessment of their final degree classification at each stage of their programme



Graph 5 - 21: Assessment of final degree classification expectations

Overall, on entry to their programmes, students' expectations were relatively high with 56 students (55%) expecting to achieve a 1st and 42 students (41%) expecting to achieve a 2:1. Prior to going out on placement (ie. at the end of their first two years of study) these expectations have remained reasonably stable with 55 students (54%) expecting a 1st and 46 students (45%) expecting a 2:1. Within these statistics, on entry to their programme 7 students (7%) had expectations of a 1st but, at the end of their first two years and so prior to placement, reassessed their expectations down to a 2:1 For those who expected a 2:1 on entry however, after the first two years and so prior to placement, 8 students (8%) had reassessed their expectations to achieving a 1st. Therefore, on entry and after the first two years of their programme, with the exception of a small number of students, the expectations of degree classification of students, on entry to their programme, remained reasonably stable at the end of their second year, suggesting their experiences of the programme and the level at which they presumed they would have to work was as expected.

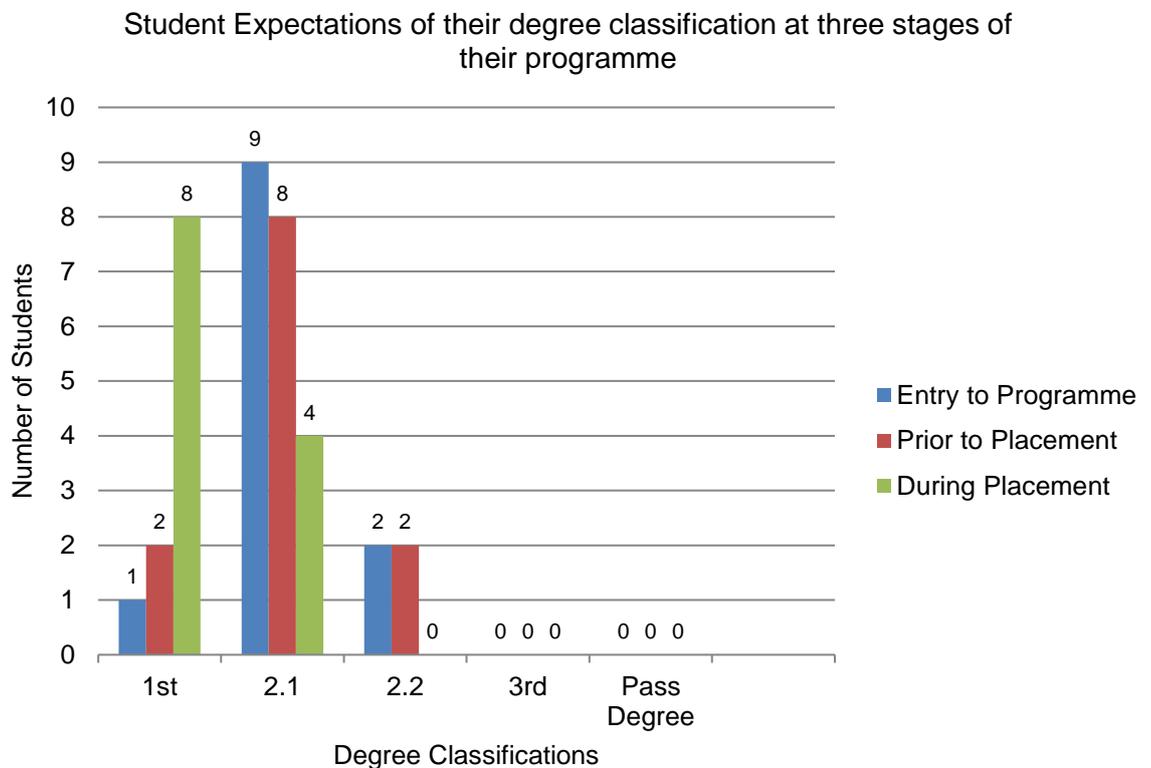
However, expectations of their final degree classification on return to their final year after their placement saw a substantial change. Those expecting a 1st had risen from 55 students (54%) to 75 students (74%), an increase of 36% where the number who expected to gain a 2:1 had fallen from 46 students (45%) to 25 students (25%) a fall of 46%. This increase in those students now expecting a 1st suggests their placement has caused a change in the self-perception of themselves and their capability and had an impact on their self-efficacy to the point where this new self-confidence has established a newfound belief in their ability that they can achieve a higher degree classification than they thought themselves capable of prior to their placement.

To explore this area further students were asked to consider what their expected degree classification would be were they not to have undertaken a placement. The number of students with expectations of achieving a 1st if no placement was undertaken saw a fall of 65%, from 75 students to 26 (25%), where the number expecting a 2:1 on completion of their placement rose 132% from 25 to 58 (57%). These results show that students do not feel they would be able to perform to the same standards without the benefit of having done a placement. This final measure therefore supports the previous conclusions as to the impact a placement can have on students' self-efficacy and confidence in their ability.

Whilst this analysis cannot, and indeed does not set out to state that undertaking a placement will result in a higher degree classification it does provide a strong indicator that a placement can initiate a change in character and an increase in skills to provide the determination in students to achieve beyond their original expectations.

Questions on expected degree classification were also posed to those students who were interviewed. However, it was decided not to ask what classification they might expect were they not to do a placement. The question regarding classification '*after placement*' posed in the questionnaire was amended in the interviews to '*current expectations*' to recognise they had not yet completed their placement. As they were all still undertaking their placement and at different stages of development it was felt no meaningful data could be collected to draw any sound conclusions. This part of the analysis is based on 12 of the 15 students interviewed. On reviewing the transcript of the interview with Student M it would appear the question was not asked where with Student's D & L, who are French students and their interviews recorded via skype seemed to have difficulty in understanding what was being asked.

Nevertheless, the data are considered useful to examine as they do offer an indication of the effect their experiences to date are having on them.

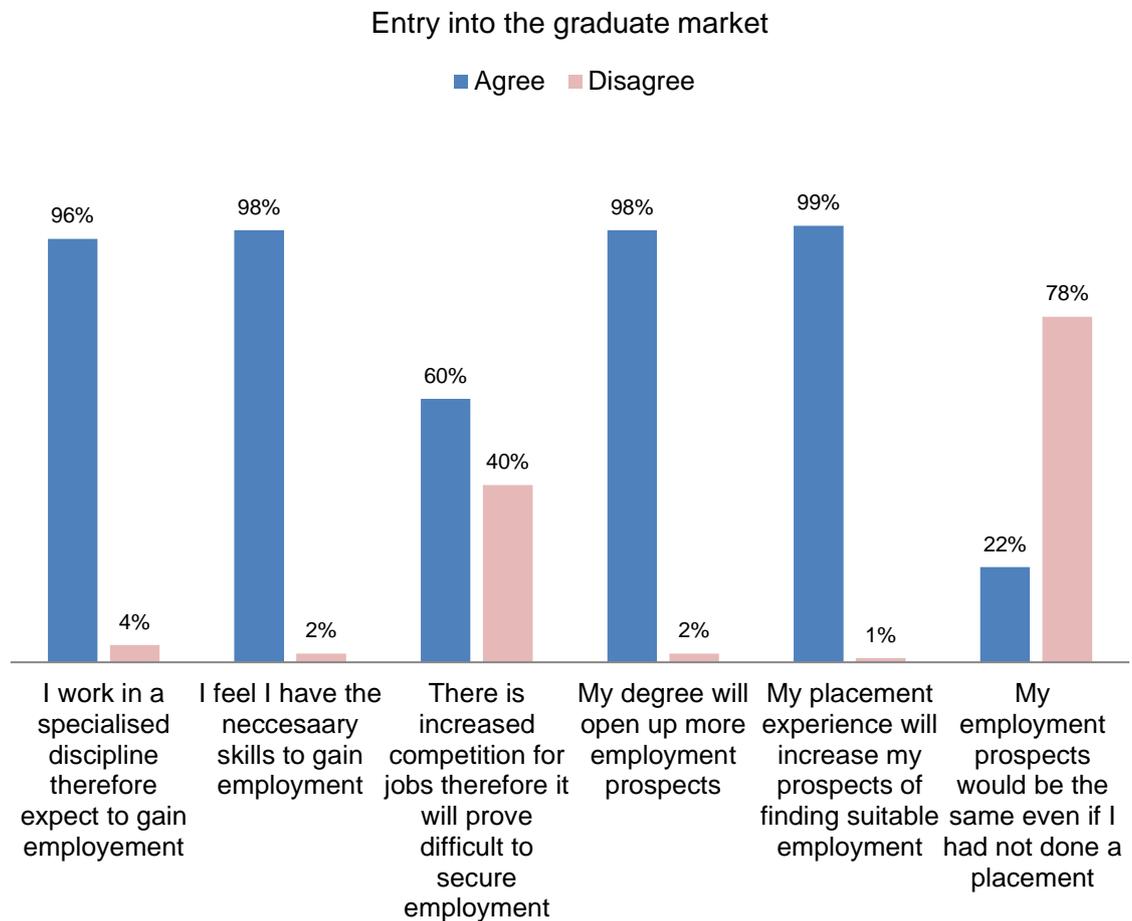


Graph 5 - 22: Expected degree classifications of interviewed students

From the twelve students considered, only 1 expected to achieve a 1st class on entry where 9 students (8%) expected a 2.1 and 2 students (17%) a 2:2. There is a slight change prior to placement with 2 students (17%) expecting a 1st and 8 students (67%) expecting a 2:1. However, during their placement there is a significant change where 8 students (67%) now expected to achieve a 1st and 4 students (33%) a 2:1. As with the questionnaire data there is a clear indication that their placement is having an effect on their self-efficacy and confidence with a 75% increase in those expecting a 1st rising from 2 pre-placement to 8 during their placement and a 50% reduction in those expecting a 2.1, from 8 students to 4.

To complete the final section of the questionnaire, a number of questions were posed in relation to the student's future after university. There is recognition that the jobs market which they will soon enter is competitive [61 (60%)]. However, almost all students, [100 (98%)], identify that with the skills they have developed

and particularly their placement experience [101 (99%)] they are more confident and optimistic about their future job prospects. The positive impact of a placement is further illustrated by the response to their potential employment prospects with only 22 students (22%) agreeing that these would be the same without a placement.



Graph 5 - 23: Entry into the graduate market

On completion of their placement students were also asked if it had confirmed their chosen career as being the one they wished to follow. While there was a small proportion who said it had not 3 (3%), 8 (8%) very little and 13 (13%) a little, 78 (76%) agreed it had.



Graph 5 - 24: Students feel they are on the right career path

From the interviews a similar pattern emerged. The placement has changed student's frames of reference and given them the confidence to believe in themselves and that they are capable of doing the role they strive to do.

[...if I didn't get taken on by the placement company, they'd be a hell of a lot more companies who would accept me, than would have if I didn't do a placement Probably from the start I was thinking... is this what I really want to do, but now it has probably shown that I do want to do it, definitely do want to do it.] (Student F)

[... My confidence has increased because I can see that I can do this job and that I not just studied, I can recognise my studies on site on the job.] (Student D)

[... My maturity, confidence and work ethic as well have got better actually... and I think.... When you're actually seeing stuff... while I'm working now I can see what I'm working towards more so than before. Like where I want to be when I do eventually work when I'm qualified.] (Student B)

[...in the workplace, you learn on the job ...] (Student M)

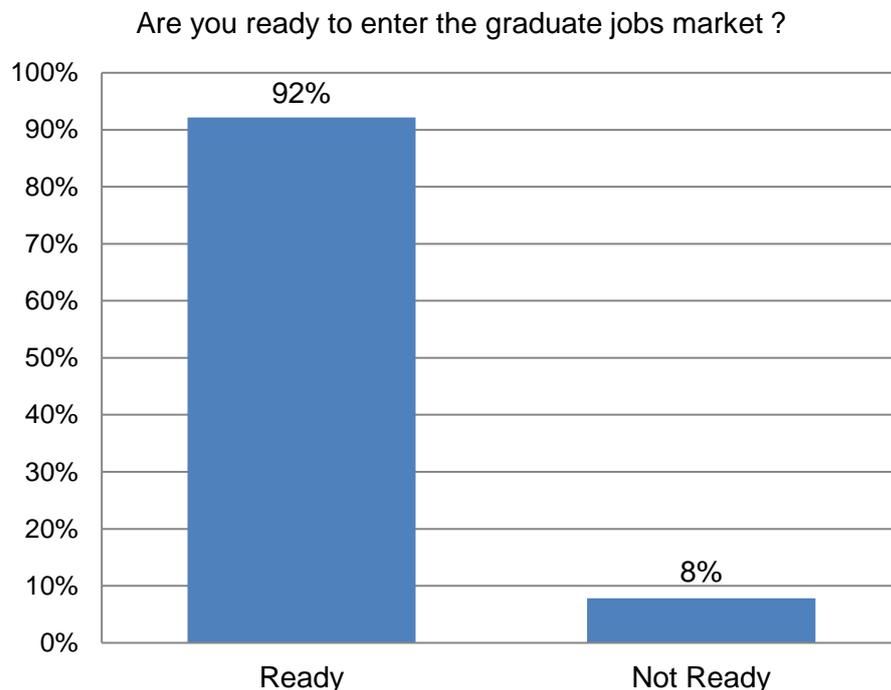
One noticeable area where transformation has taken place is in communication. Several students identified this as a problem for them at the beginning of their placement but, as they progressed, they have recognised a change in their ability to communicate and a significant improvement in it.

[...I was not confident to speak to people, it was difficult... but in time it has developed. Communication with other people is better and improving.]
(Student L)

[...My communication skills have improved a lot. If you were to look at me doing my first induction compared to now when I can do it to a room full of people, I think you'd notice a very big difference.] (Student N)

[...As I said earlier about communication, talking to people was difficult. Now, if I don't talk to them there isn't a model, so I have to.] (Student E)

The final question in the questionnaire was short and very simple, “*to what extent do you feel ready to enter the graduate market in your chosen discipline?*”. There was an overwhelming confidence in them being ready to commence a career in their chosen discipline with the results clearly showing that for the vast majority of students responding 94 (92%) their experiences over the course of their programme, of which the placement year was a key part, had been a successful one and they were ready to enter the graduate market... not as a student, but transformed into a young professional.



Graph 5 - 25: Do students feel ready to enter the graduate jobs market.

5.6 Summary of Chapter

This chapter has presented an analysis of the primary data collected through a self-administered questionnaire and face-to-face interviews. It has examined the experiences of students currently undertaking their placement and the experiences of those for whom their placement had recently been completed. The analysis of these two groups demonstrates that, despite the stage at which they are within the placement process, there is very little difference in their experiences.

What is clear from this study is that students are keen to undertake a placement, recognising the importance of the knowledge, skills and experience they can develop from it and the impact these will have on their future career. The analysis at each stage of the placement process has also identified a number of benefits a placement can offer students whilst also highlighting several challenges they will also face. Importantly however, it does identify ways in which these challenges can be addressed and eventually overcome. From feelings of uncertainty and insecurity on commencement of their placement, students have, through reflection on their experiences and the support of colleagues, embraced the process. They have actively sought out learning and from that developed key skills which has allowed them to perform in their role. From this they have also developed professionally and, experienced a transformation in their personality. There is an increase maturity in them and an change in attitude which shows their confidence in their ability.

As identified at the beginning of this thesis, Mezirow's ten phased transformative learning theory was the framework used to underpin the study. Having followed the students through their placement, this chapter concludes with Table 5-8 summarising these phases as represented by the coded themes and identifies where they link to the phases of Mezirow's theory. Chapter 6 will offer a detailed discussion of the analysis and further develops the links between the placement phases and transformative learning theory.

Phase No.	Mezirow's Phases	Stages of the placement experience	Study Themes
1	Disorienting Dilemma	<ul style="list-style-type: none"> Starting a placement. Working with new people. Being in a new environment and perhaps a new location. 	Uncertainty
2	Self-Examination	<ul style="list-style-type: none"> Uncertainty as to their own ability. Questioning if they are capable to perform the role. Becoming aware of their lack of knowledge. 	Insecurity
3	Critical Assessment	<ul style="list-style-type: none"> Trying to make sense of what they are experiencing. Wrestling with academic knowledge and real world knowledge. Recognition of their gaps in knowledge. 	Disconnect
4	Recognition	<ul style="list-style-type: none"> Conversations with peers and mentors about knowledge gaps. Seeking reassurance, guidance and support with their leaning. Identifying specific knowledge gaps and how to fill them. 	Support
5	Exploration	<ul style="list-style-type: none"> Exploring a new way of acting. What they need to do, and act, to carry out their role. Interacting with others and developing their new identity. 	Reflection
6	Planning a course of action	<ul style="list-style-type: none"> Seeing how their peers perform. Understanding the role they see themselves performing. Putting in to action those things they have experienced. 	
7	Acquisition of knowledge	<ul style="list-style-type: none"> Reconciling academic knowledge with practical knowledge. Being able to deal with potential problems. Seek knowledge and apply it to relevant situations. 	Skills Development
8	Provisional trying of roles	<ul style="list-style-type: none"> Making a change in their persona Implement their learning within the context of their role Increased confidence in their ability. 	Learning
9	Building competence and self-confidence	<ul style="list-style-type: none"> Knowledge and experience is validated Experience increases so they are able to perform. An increase in self-confidence. 	Personal Development
10	Reintegration	<ul style="list-style-type: none"> Frames of Reference have changed. Reconnection with their discipline from a new perspective. Clearer integration with the other roles. 	Restructuring

Table 5- 7: Study themes of the placement journey and their links to Mezirow

Chapter 6 : Discussion of Results and Findings

*"The only person who is educated is the one who has learned how to learn and change."
Carl Rogers (1902 – 1987)*

6.1 Introduction to Chapter

There is a general assumption within the literature of the ease in which a placement functions and how it contributes to the education of those involved but this is perhaps, as both Cranmer (2006) and Tien et al. (2019) suggest, taken for granted. What this research has shown is that a placement can be somewhat more complex than many may think and while students can reap a great deal of benefit from a placement, it also presents many challenges.

Where the previous chapter presented an analysis of the primary data, this chapter discusses it, relating it to the previously considered literature and then presenting the findings of the study. This chapter employs the same structure as that of the analysis chapter, using the study's main themes as headings to discuss the issues arising and linking them to Mezirow's ten phase transformative learning theory.

6.2 Why do a placement?

Before considering specific areas relating the student's experiences, it was first felt useful to understand their motivation to undertake a placement. The primary reason given by almost all students was *'to gain experience'*. In the wider context of their career, students understand the importance of gaining work experience within their discipline and, as identified earlier by Brooks and Youngson (2016) and Kerrigan et al. (2018), recognise that without it they will be placed at a disadvantage when entering the graduate employment market. Many authors (Bennett, Eagle, Mousley, & Ali-Choudhury, 2008; Jackson & Collings, 2018; Snyder, 2008) recognise that employers are less interested in degree classification and more in relevant experience. It is clear students share the same view as they too recognise that previous work experience is a key consideration for employers when employing graduates, something which was also confirmed by those employers who took part in the interviews. What was also interesting with regard to the reasons for students taking up a placement was something with which the literature does not deal with to any great extent. Hejmadi et al. (2012) suggest that students prefer to continue their studies without a break yet several students in this study suggested they were ready for a break from their studies. As such this break can provide a similar effect to that of the restructuring theme discussed later. Students identify that they were weary of their studies and had what can be termed study fatigue, some even questioning the direction in which their career was going. Therefore, this break from university to

undertake a placement can offer students an opportunity to reconnect with their discipline and the wider industry and rekindle the motivation for their career they had on commencing their programme.

6.3 Discussions by Theme

6.3.1 Theme 1 – Uncertainty

In the early stages of a placement, a student's relatively stable environment changes as they step into one which is unknown. The uncertainty they are experiencing within this new environment, with new people and in a role they have, up to that point, only a theoretical understanding of is proving difficult to cope with, troubling, daunting and creating feelings of anxiety and stress. It is the transition between university and work with which Brooks and Youngson (2016) suggests students need to cope. However, what the literature does not appear to consider are what these difficulties are. As Buechner et al. (2020) identified, a student's transition from university to the workplace and the uncertainty of what to expect is causing a great deal of confusion, apprehension and creating a situation with which many are uncomfortable. It is at this point, as they start their placement, that students appear to be experiencing phase 1 of Mezirow's theory, that of a disorienting dilemma. Mezirow identifies this as a situation or experience which is new and possibly a discomforting transition. But, as challenging as these situations may prove to be, they are difficult to avoid and are ones students must experience for the transformative process to begin (Kitchenham, 2008). They are as Malkki (2010) suggested, experiences with which students need to deal.

Berruoco et al. (2016), Driffield et al. (2011), McEwen et al. (2010) and Auburn (2007) all argue that for a placement to be effective students must be well prepared for it, but it would appear this is not the case with students in this study. It is clear they are going to their placement ill-prepared and have little idea as to what to expect. Several students identified that at the beginning of their placement they had no idea where to go, what to do or who to speak to, one even went so far as to worrying about what to wear. Some spent the first week "*wandering around*" trying to understand what was going on with one student likening it to being "*chucked in the deep end*". With students experiencing many difficult emotions at the beginning of their placement, this uncertainty is only adding to them, causing students some concern which is leading to a feeling insecurity. It is important to address these concerns by ensuring students are aware of the challenges that await them in the early stages of their placement and are helped to prepare for them. While these new experiences may create an element of trepidation with

students finding the whole process somewhat overwhelming, a well-organised pre-placement preparation should make them aware of this but reassure them that this is normal and in time will improve. However, it should also encourage them to think of it not as a worrying time, but as the beginning of a new phase in their career and one which will contain vast learning opportunities. So, while the workplace may still be unfamiliar it can be, as both Berrueco et al. (2016) and Brodie and Irving (2007) point out, the catalyst to encourage students to begin to develop the skills required to maximise their learning opportunities.

6.3.2 Theme 2 – Insecurity

As students navigate the early stages of their placement there is an element of insecurity as they begin to question their knowledge and capability of performing in their role. An increasing awareness of their lack of experience and questioning their capability of performing the role brings with it emotional responses. The interview comments illustrate these emotions through the use of words such as '*stress*', '*nervous*', '*worried*' and '*apprehensive*'. It is at this point that students begin to examine themselves and in so doing become acutely aware of the gaps in their knowledge which, as Kerins et al. (2020) found, is causing feelings of anxiety, trepidation and worry and, in addition to the new environment in which they find themselves, is perhaps exacerbating the situation and causing even more stress. It is in this state that students are moving between phase 1 (Disorienting Dilemma) and Phase 2 (Self-Examination) of Mezirow's transformative theory. Their self-examination is highlighting how much they realise they do not know and questioning themselves in the process. As Berrueco et al. (2016) identified in their study, there is a lack of confidence in speaking to people and a reluctance to ask questions for fear of saying or doing something wrong. It seems as if students think they should know what their working environment is like from their university knowledge but these current assumptions and frames of reference, as Mezirow terms them, are different to what they are expecting.

The assumptions of the role they brought with them from university are being questioned and, as the study by Myers (2015) pointed out, they are trying to make meaning of their new experiences. Snyder (2008) argues that these emotional responses can initiate and encourage the learning process. However, while this may be the case for some, caution is urged in suggesting this is the case for all and as such it is important to consider the character and personality of the individual. Student A for example appears to lack self-confidence and seems to be having a particularly difficult time settling in, finding most aspects of his role difficult to deal with, to the point where he is considering leaving. This insecurity is evident

in other students who, while displaying more self-confidence than others are still finding their self-examination is leading to a self-perception of being '*just a student*', a phrase which is used on numerous occasions. This self-examination and the conclusions students are drawing from it are being used as a defence mechanism in the event of them doing or saying something wrong and perhaps from having feelings of imposter syndrome where they are questioning themselves as to whether they should actually be in the role.

An issue which does not appear to have been addressed in the literature but is a key challenge for some students is moving away from home. While this does not apply to all students, to those it does, it is causing a great deal of insecurity with feelings of anxiety, worry and, for some, isolation. This issue was addressed in the questionnaires and confirms that moving away was also an issue for these students. Many students identified that the location of their placement did have some influence in them accepting it although a large proportion said they would be willing to move away if the placement opportunity required it with approximately half doing so. The difficulty for universities is to balance encouraging students to move away for a placement if the opportunity arises but also making them aware of the challenges this may bring. Students should not be discouraged from moving away but should be aware of the challenges they may face were they to decide to undertake their placement away from home.

There are certainly challenges for students in the early stages of their placement. The feelings of uncertainty in their new environment and insecurity by becoming aware of their knowledge gaps is leading them to question their ability of performing in the role to which they aspire.

6.3.3 Theme 3 – Disconnect

The importance of students understanding the theoretical content of their university learning and applying it to their working environment is stressed in the literature (Clark & Zukas, 2016; Kerrigan et al., 2018; Wiseman et al., 2018), yet appears to be lacking with many students in this study. In both data sets it was identified that students found it difficult to form any links between the theoretical and practical aspects of the modules they had studied. Those addressing this point in the questionnaire had completed their placement and so were able to consider it from a more reflective perspective. The results found that while a proportion of students identified a lack of use of university learning within the working environment, a similar number found they did use it. This suggests that linking of

the modules and learning from university does develop as a placement progresses.

The issue does appear to be more prevalent among those undertaking their placement at the time of interview. Many of the students had difficulty forming links between the modules studied, indeed there were several students who could not remember the modules they had studied, having to be reminded of them. When asked whether they were using learning from university modules while on placement some students identified small parts of some modules as being of use but for most it was clear that they felt they had brought very little university knowledge to their placement. One student (Student Q) went as far as to say he would be in exactly the same position he was now in terms of knowledge if he had not undertaken the first two years of his programme. Students are trying to make meaning of their experiences but are having difficulty linking their modules together. Consequently, they are unable to see how their university learning relates to their placement and as a result are seeing their placement and their university programme as two separate entities. It is therefore incumbent on higher education institutions to address this issue and ensure, as both Billett (2009) and Guile and Griffiths (2001) identified, the curriculum discourages separation between an academic approach and practical learning but encourages students to form links between the two. Seeing their learning in silos, separate, standalone and only taught in the context of their discipline is creating an impression of a fragmented industry where the topics covered in their modules do not meet, yet in the workplace, they are experiencing an integrated industry when the topic areas, together with the disciplines responsible for them, work together. Students appear to be wrestling with the fact that they are unable to reconcile what they currently know with what they think they should know. Students are, as Kerins et al. (2020) study suggested, questioning themselves as to whether they actually have the knowledge to carry out their role. They are beginning to recognise the disconnect between their university knowledge and placement knowledge and are attempting to reconcile their existing frames of reference with new ones. While this conflict of frames of reference is challenging to students, what begins to emerge is that as students gain more experience, they slowly begin to piece together what they currently know from university with what they are seeing in the workplace. What is encouraging is that they are beginning to engage in the critical assessment process and are beginning to reflect on their experiences which, as Cranton (2006) identified, is the point at which transformation begins.

Despite the challenges students are facing, they are learning about their discipline but in the early stages of their placement it would appear that their previous learning at university is not helping with this. They are still trying to make meaning of their new experiences and wrestling with whether their academic knowledge is applicable to the real world in which they find themselves. This suggests they are experiencing Mezirow's third transformative learning phase of critical assessment. It is here where students are trying to make sense of what they are experiencing, recognising where the gaps in their knowledge are and wrestling with how academic knowledge and real-world knowledge fit together.

What the results from these two student groups do suggest, however, is that whilst on placement links between modules and using the learning from them are difficult to form but on completion of a placement there is a greater recognition of how university learning links with the workplace. As such it can be said that carrying out a critical assessment of what they know and what they should know they are beginning to engage in the reflective process and as such are moving through the transformative process.

6.3.4 Theme 4 – Reflection

The importance of reflection within academic programmes is continuously emphasised and can often be found within a programme's summative assessments. As Eden (2014) and Roodhouse (2010) espouse, for effective learning to take place reflection on learning is crucial. The questionnaires and interviews addressed the issue of reflective practice to establish the level of reflection students did prior to and during placement and, in the case of the questionnaire, after placement.

The findings on reflection prior to placement support the suggestions from Daszkiewicz (2019) and Whalen and Paez (2021) that higher education does not address reflection as effectively as it should. Two thirds of the questionnaire respondents identified that during the first two years of their programme they very rarely reflected on their learning. Those students who took part in the interview revealed that they too had not reflected on their learning during their two years pre-placement. Given the importance to learning of reflection, this should cause some concern to higher education establishments. Reluctance or failure to reflect on learning, or perhaps not understanding how to reflect and the importance of it, will inhibit effective learning and lead to a surface approach to learning rather than to a deeper understanding of their discipline. As important as reflection is to academic programmes, both Helyer (2015) and White et al. (2006) argue it is

equally important in the workplace to foster and motivate learning. Through reflection students are able to deconstruct their existing experiences and rebuild new frames of reference.

What this research does show is that while students may not engage in reflective practice during their first two years at university, they do begin to engage with it during their placement. The questionnaire responses show a significant increase in reflective practice from pre-placement to placement and beyond into final year, while those students interviewed said they do regularly think about what they are doing. Despite the suggestion from Hickson (2011) that reflection needs to extend beyond just thinking about experiences for transformation to ensue, current placement students are doing just that. While students say they think about their experiences they go on to explain that this thinking is extending to how they can approach certain situations, ways in which they can improve their performance and what they might do differently, some even go as far as '*jotting down*' their thoughts and working towards being able to make higher level decisions within their role. Therefore what this demonstrates is that while students may describe their reflective practice as just thinking when explored more closely it can be considered both reflection in action and reflection on action (Schon, 1987). As encouraging as it is that students are engaging in reflective practice, one key aspect, and perhaps a somewhat worrying one, to draw from this analysis is the apparent lack of reflection in the first two years of their university programme. As some students identified, they saw modules as standalone which they completed simply to pass the year. This may explain the issues of their apparent lack of appreciation of how their modules link together and their perception that their previous university learning has no relevance to their placement. As their placement progresses however, they do engage in reflective practice and this relevance and links begin to form.

Although not a specific phase in Mezirow's theory, it does play a significant part in the transformative journey and as such he places great importance upon it (Mezirow, 1978). Indeed both Beer (2019) and Enkhtur and Yamamoto (2017) identify the critical role reflection plays in the transformative process and concur with Haber-Curran and Tillapaugh (2015) that it allows students to understand key concepts of their discipline, reconsider their perception of their role and change the way they act within it. As such, reflecting during their placement is enabling students to make meaning of their experiences by considering their previously held beliefs about their role and in turn make changes to their previously fixed

assumptions and expectations. Where students' reflective practice can be enhanced is through the involvement of others in it. McEwen et al. (2010) and Helyer (2015) suggest that students should seek the involvement of workplace colleagues in the reflective process. This will give more experienced people not only the opportunity to offer encouragement to students but also to provide them with the support they need to enhance their workplace learning. This support may not always be in the form of sharing their reflection but receiving support in other ways.

6.3.5 Theme 5 – Support

Kress (2011) argues that without communication there is a lack of meaning making, a lack of knowledge and ultimately a lack of learning. Therefore, an essential aspect to learning while on placement is a student's interaction and communication with the people with whom they are working. As Snyder (2008) and Siebert and Walsh (2013) point out, conversations with mentors, managers and peers enable students to enhance their learning by identifying specific gaps in their knowledge and offer opportunities to address them. These often informal, daily discussions offer the support and guidance to the student and a level of reassurance that they are progressing in the role.

In the early stages of their placement, students were reluctant to ask questions for fear of saying something wrong and exposing their lack of knowledge. However, as they develop relationships with the people they work with, they are now more willing to seek out experienced colleagues for help and advice. Building these relationships has also helped students settle into their environment and feel more accepted as part of the team. What the data shows is that despite student's concerns, their colleagues are willing to support them and offer guidance. In addition to speaking to managers and mentors, students are more confident in speaking with those carrying out particular tasks including, in the case of site-based students, trades people carrying out the work and questioning their working processes to form a better understanding of how and why a particular task is being done in a certain way.

But this support extends to other areas away from the specific working environment. Finding suitable accommodation, developing relationships with colleagues away from work and being able to maintain contact with university friends are all identified as being key aspects in helping students deal with the issues they are facing during their placement. Students are now more confident in discussing things with their managers and peers to seek guidance and, as

Buechner et al. (2020) identified in their study, learning from more experienced people to address their gaps in knowledge and become more assured in being able to carry out their role. As such the support provided by others is essential to the transformative process.

There are two particular instances worthy of note which clearly demonstrate the impact support can have on a student's placement. The first is with Student H who had the opportunity to spend some time on site with a former placement student who was now working for Student H's organisation. The former student was able to talk through his experiences as a placement student and offer the benefit of his own experiences and how he coped with the challenges and maximised the benefits his placement brought. Student H identified this as an enormous benefit to him as it helped him understand what he could expect from his own placement. The lack of support, however, can have a negative impact on any transformative impact of a student, which was the case with Student P. Student P was not assigned a line manager or indeed a mentor to monitor his progress or act as a point of contact for him. As such Student P seems to have just drifted through his placement and, while he was able to identify some learning it was very much on an ad-hoc basis and what he was able to gather for himself. He has not been particularly proactive in seeking out opportunities and has been content to sit back and do the minimum required. However, to offer some balance to this situation, Student P was placed on a large complex project with staff working under extreme pressure and as such did not make time to work with him. Both parties should take some responsibility for this situation, the student for being content to sit back and drift through his placement and the company for allowing him to do so. Therefore, a placement can be described as a two way process and this interaction between all stakeholders, as Roodhouse (2010) argued, is a vital part of the learning process and as such should be encouraged in all.

At this point, by developing relationships with colleagues, students are showing an increased confidence to share their feelings and experiences with others and, through improved communication skills, are opening up and expressing their feelings and experiences with others. At this stage students are simultaneously experiencing phase 4 (Recognition), phase 5 (Exploration) and phase 6 (Planning a Course of Action) of Mezirow's framework, and demonstrating that a gradual transformation is taking place as they begin to settle into their role and begin to realise their potential (Bridwell, 2013). Students recognise the importance of building relationships with colleagues, understanding and identifying the gaps in

their knowledge and seeking guidance and support as to how they can be filled. Through interaction with others, students are developing into their role and, particularly from observational learning, exploring new ways of acting and, as Haber-Curran and Tillapaugh (2015) suggested, changing their identity to a one which better fits the role they are undertaking.

6.3.6 Theme 6 – Skills Development

The development of key transferable skills is clearly evident from the student's placement experiences. Teamwork and communication, identified in the literature as the two main skills sought by employers are clearly being developed which, in turn, is increasing the student's confidence and allowing them to grow into their role. What is also evident is the close links this theme has to that of reflection. As the comments show, students are reflecting on situations in which they find themselves and working out how they can develop the skills they need to better address these situations.

What is noticeable from the interviews is that many students are being given more responsibility and, importantly, feel confident in their ability to accept it. They no longer wait to be given tasks but have adopted a more proactive approach and are confident to '*get on with things*' using their own initiative. They are, as Briese et al. (2020) study identified, able to use their newly developed skills and knowledge to identify and deal with potential problems.

Having spent a year out on placement previous students are well placed to appreciate the graduate skills and characteristics employers' rate as important. Having been through the whole placement process they were able to confirm that their skills development expectations were met as they subsequently developed these key skills. What the student's importance ranking exercise shows is that skills such as technical knowledge and IT skills, often suggested as being key to employability, were actually at the bottom of their ranking, supporting the assertion of Cranmer (2006) that employers take these skills for granted and place more value on students transferable skills. What is interesting however, when considering technical skills, is the recognition of students, both those completing the questionnaire and those interviewed, that technical skills can be taught in the classroom, a point identified by both Bauer et al. (2004) and (Major, 2016). Students will graduate with a level of technical knowledge from their degree studies however, the low ranking of technical knowledge in table 5-9, indicates that this can be developed at university.

The lowest ranking attribute was for students to have a higher degree classification. While some employers may prefer students to have a good degree (Surridge, 2009) in a competitive graduate market, with all things being equal, degree classifications may be used as the deciding factor to separate very similar candidates. However, as the lowest ranked on the list it suggests that employer's place less value on the intellectual capacity a degree classification measures, placing greater value on a student's ability to be a good team fit. This supports the comments from employers who took part in the interviews, and by the work of Jackson (2014) and Wiseman et al. (2018), that, while a good degree was beneficial what employers actually wanted were students with experience of the workplace.

The theme of skills development and the experiences of the students demonstrate that they are encountering phase 7 (*Acquisition of Knowledge*) of Mezirow's framework as they begin to use their knowledge to deal with issues arising as part of their role and applying it to these situations. It also shows students working within phase 8 of the framework (*Provisional trying of roles*) where the increased confidence in their ability is enabling them to implement their learning within the context of their role. The accumulation of knowledge and experience is therefore increasing their confidence enabling them to further develop their skills and perform in their role. From this it is reasonable to conclude that there is a clear transformation taking place as they make meaning of their experiences and undergoing a change in their persona.

6.3.7 Theme 7 – Learning

Within this theme it is becoming clear that, at this stage, for students currently on placement learning is taking place and they are making a change to their persona. What is important in the context of a transformative experience however is that they are applying it to their role. The transformative effect from their learning can be illustrated in some of the comments from students who were interviewed. Student B has gone from having "*no idea about anything*" to having the responsibility of managing a defects and repair package. Students A & H, who were full of self-doubt and a perception of being "*just a student*" who no one would listen to were managing finishing trades to ensure the work being carried out was up to the required standard. Having used the opportunity to observe others, developed the confidence to ask questions and so increase their knowledge they are now identifying with their role. The ideas espoused by Major (2016, p. 18) that as well as the classroom, the workplace is a "*site of learning*", by Owen (1836, p. 97) that not all learning was acquired "*within four walls of bare buildings*" and

indeed from the students themselves that “*you can only learn so much at university*” are being borne out.

Students are able to recognise their university learning now makes more sense from their placement experience and provides the recognition of the ability to learn how to learn (Minnes et al., 2017). There is also an acknowledgement of how their placement learning has helped them appreciate some of their modules studied at university and how they link together. By forming these links students are beginning to reconcile their academic learning with their practice learning from placement. It would seem however, there is still a suggestion in both the interviews and questionnaire responses that as before, students see most of their learning coming from placement. Phrases such as “*until you go on placement*” and “*until you actually get on site*” would illustrate this however, gradually the links between academic and placement learning are becoming stronger.

Skills development is a key consideration in the context of investigating placements. As discussed in Chapter 3, the skills developed are often grouped together within the wider term employability. The analysis of these skills in section 5.4.6 clearly shows that students are aware of the skills they need to develop, providing many examples of how they are being developed however, it would seem many students are unaware of how they link to the overall concept of employability and the relevance of employability to them. Despite being unable to make this link it is clear students are in fact developing their employability skills, which is contributing to their transformation. Many of the skills identified in the literature, for example see (Finch et al., 2016; Harvey, 2005; Succi & Canovi, 2020; Wiseman et al., 2018) such as teamwork, communication, self-confidence, organisation and self-management are clearly being developed by students. What is also evident is that they are using these skills to great effect to carry out their role during placement by effectively communicating with all stakeholders, organising themselves and others they manage and becoming an integrated, valued member of their team.

Only one student in all of the interviews used the term employability and then in the context of him being employable as opposed to his skills development. The failure of students to link their skills development to employability is an area which should cause some concern within academia, and it would certainly benefit students if this link could be emphasised. However, the important issue arising from this research is that the analysis clearly shows that key employability skills are being developed over the duration of a student’s placement and are having a

transformative impact on them. What is perhaps of more concern is the fact that the employability agenda, so prominent in Higher Education for a number of years and supposedly so embedded in university life, does not seem to be filtering down to students at programme level to ensure they are aware of it or its importance.

Students are finding their knowledge and experience is increasing and, as the study by Briese et al. (2020) suggested, are now able to use this learning within the context of their role. There is an increased confidence in their ability to accept responsibility for their own work packages and are, as Cranton and Kasl (2012) suggested, ready to perform the role for themselves. Mezirow calls this a provisional trying of roles (phase 8), where confidence increases, previous learning is used within their role and a change in their persona takes place. They are demonstrating a transformation and no longer feel like students but a key member of their team.

6.3.8 Theme 8 – Personal Development

The vast majority of students have identified significant changes in their character following their placement which represents a transformation to the person themselves. As Boon et al. (2018) and Goldin (2016) suggested, the concept of human capital can be described as the value of an individual to an organisation. Through the provision of placements organisations are investing in human capital for the future and, by undertaking a placement, students are investing in their personal human capital considering it, as Donald et al. (2018) suggested, an important aspect of their overall employability. Basit et al. (2015) posits that this investment in themselves is through increasing their knowledge and skills and the development of personal attributes.

This personal investment and its impact on the student's development are clearly illustrated in the responses to the questionnaire dealing with character traits. Over three quarters of respondents agreed that their placement had resulted in a transformation of their character with many identifying changes to their willingness to question things, maturity and self-confidence, supporting the assertions of Morgan (2006) and Surridge (2009) that these were key areas of development resulting from a placement. Students responding to the questionnaire also confirmed a change to their work ethic and their approach to their studies on their return to university confirming the findings of Morse (2006), Lock et al. (2009) and Brooks and Youngson (2016) among others that skills development on placement will help students on their return to university. This may not necessarily lead to achieving a higher degree classification as previously discussed but does illustrate

their motivation to aim higher than their previous expectations. The results from the questionnaire demonstrates that the student's placement has had a positive impact on their character and improved their personal human capital which will place them at an advantage when entering the graduate jobs market (Brooks & Youngson, 2016; Kerrigan et al., 2018).

Phase 9 of Mezirow's framework (*Building Competence and Self-confidence*) identifies the transformational impact increased self-belief can have. As Hodge (2019) points out, an increase in knowledge and experience will enable students to better perform in their role, leading in turn to an increase in confidence in their ability.

A similar pattern emerges when considering students currently on placement. Although perhaps not as advanced as those who have completed their placement, their transformation in terms of competence and confidence is equally identifiable from the interviews. There is a marked change in their persona, with an increased level of confidence resulting from their enhanced knowledge and experience developed during their placement. There is a particularly noticeable change in their communication skills which students have become aware of themselves. They are more confident in dealing with people and are now able to have more complex conversations with project stakeholders, managers as well as confidence in managing people under their control. As Berrueco et al. (2016) suggested, people are reluctant to question or challenge others if they are inexperienced which proved to be the case with these placement students. However, with increased knowledge, experience and importantly confidence, students are now able to do so easily. The skills and attributes many researchers suggest are developed on placement (Lock et al., 2009; Morgan, 2006; Reddy & Moores, 2012; Wilton, 2014) such as teamwork, communication and confidence are being developed and used effectively by the students during their placement.

From the interviews it is clear students are aware of their transformation not only in terms of knowledge, experience and confidence but in their personal growth. Many report feeling like "*I have grown up*", "*I've matured since being on placement*" and "*I feel more mature*" as a result of their placement. Mezirow identified that a transformational change is not only noticed in themselves but particularly by others. The fact that students are being given more responsibility to manage their own sections of work and groups of people illustrates that their managers are seeing this transformation and have the confidence to give students more responsibility. This was particularly articulated by the managers of Student E and

Student H who highlighted that they had seen how these students had changed and had become important members of the team. While increasing knowledge, experience and key transferable skills are a crucial part of a placement what is also important is a student's personal development and the acquisition of the attributes and qualities employers' value.

6.3.9 Theme 9 – Validation

The final theme of validation is the culmination of the student's journey through their placement and the point at which they reflect on how they have arrived at this point. There is a validation of their experiences and, as Kitchenham (2008) suggests, a recognition that they have changed and are confident in performing in their role. Students have increased their knowledge, gained valuable experience and are able to understand and appreciate their university learning and its relevance to their role. This is demonstrated with particular reference to Student Q who suggested his previous two years at university had been "... *of no use...*", but who now agrees "... *I can appreciate it now...*" or Student N who originally "... *had no idea...*" but now sees that "... *it just all makes sense...*". Students recognise the links between their academic learning and the learning they have developed while on placement and are now able to appreciate how theory and practice link together. From what appeared a fragmented industry, students now see a different industry, one that contains many different roles and recognise the importance of these working together as an integrated team. As Snyder (2008) and Enkhtur and Yamamoto (2017) suggested, students have changed their frames of reference from those with which they first entered their placement. At this point, they are experiencing the final phase of Mezirow's transformative learning theory, that of reintegration. Students have changed their frames of reference which, as Briese et al. (2020) argued, has resulted in their transformation as a result of the placement experiences. The literature is somewhat split as to the impact a placement can have on a student's final degree classification see for example (Crawford & Wang, 2016; Jones et al., 2017; Little & Harvey, 2007; Mandilaras, 2004; Reddy & Moores, 2012) and, while this work does not set out to add to this debate, it does consider it from an transformational perspective. The future expectations of their final degree classification after placement and had they not undertaken a placement, demonstrates the impact a placement has had on student's self-confidence in their now changed persona. Students show that from their increase in knowledge, experience and confidence they have greater expectations of achieving a higher degree than they would have otherwise without a placement. They have in fact validated their ability and confidence in themselves.

At the end of their second year at university, many students were suffering from what is described here as 'study' fatigue', with some questioning where their degree was taking them. From their placement however they have, through their personal development and changes to their frames of reference, as Snyder (2008) suggested is the case, been able to reconnect with their discipline and see it from a new perspective. For them their placement has given them a glimpse in to the future and confirmed they are travelling on the right career path. Increased confidence, a greater level of maturity, a change in work ethic and an ability to communicate effectively have all been as a result of their placement. As Buechner et al. (2020), Nichols et al. (2020) and Fook and Gardner (2007) contended, during their placement they have deconstructed their personalities as students and reconstructed them as young professionals.

It is widely acknowledged that the graduate jobs market is saturated (Beech, 2018; Jackson, 2020; Tomlinson, 2012); however, students appear confident in their ability to compete in this competitive market. They appear confident that the knowledge and experience gained from placement can set them apart from those students without experience and gives them the conviction that they will gain employment on graduation.

To this point, this chapter has focussed on the data analysis in the context of the themes developed from the coding process and Mezirow's ten phase transformative learning theory. However, during the data collection and literature review, there were areas which warrant additional consideration under their own headings and are addressed in the following sections.

6.4 Observations during the interviews

A particularly useful aspect of face to face interviews is the ability to not only question and probe the interviewee but to observe them too, looking to collect non-verbal or visual data (Loubere, 2017) and to capture particular gestures, social interactions or how they might act in an authentic environment, to capture a more rounded understanding of the interviewee responses (Yin, 2016).

The following section is included to illustrate observations made during the interview process in an effort to add to the understanding of the student's experiences. All of the interviews were collected within the authentic environment of the student's workplace, during the normal working day with daily business going on around them. It would have perhaps been easier to find a quiet corner where the interviews could be conducted without any disturbance but it was felt important to observe the student in their work

environment in an effort to gain greater insight into their experiences over and above what they were saying.

What was noticeable with some students particularly with Students A and F, was the difference in their tone and volume depending upon whether their managers were in the office. When they were not there the students spoke at a relatively normal volume and were quite confident in what they were discussing. However, when their managers came into the office they spoke more quietly and there was noticeable hesitancy and uncertainty in their tone. The impression was that they were still aware of their lack of knowledge, had not fully developed a good working relationship with their managers and still lacked confidence in speaking around them.

What also became apparent during the first interviews was a lack of interaction between the placement students and those on site. Often, during the interview people would come into the office, look around and see the manager was not there and ask the student if and when they would be available. In the early stages of the placement, the student would usually just say "*no... they're in a meeting or doing something else*"... and leave it at that, at which point this person would leave. However, during subsequent interviews this situation had changed significantly. People coming into the office and realising the manager was not available were now questioned by the students as to what they wanted and if there was anything they could help with. Questions and queries were related directly to the students who invariably were able to answer them. In some cases, people coming into the office would not look for a manager but go straight to the student with their query. The confidence in being able to perform their role was evident and demonstrated a clear transformation in the student. They no longer sat back and felt they could not or perhaps did not want to deal with queries for fear of not knowing something or giving the person the wrong information but now displayed confidence in dealing with people and their queries and confidence in being able to say "*I'll come back to you on that*".

On occasion during the interviews, students would offer the opportunity to tour the site during which they were able to explain in detail the work being undertaken, the way in which it linked with other aspects of the wider project, the difficulties the project was experiencing and what was being done to deal with these. Students clearly had a good knowledge of what was happening on their project and a grasp of its priority areas. Quite often, during these tours, operatives would approach the students with queries which were quickly and efficiently dealt with. Students would also point out issues that they said they would need to deal with when the interviews were over and what they would do to address them. These observations proved extremely useful as it confirmed that students were undergoing a transformation in their knowledge, experience but particularly in their

confidence. They no longer displayed the persona of a student but looked and acted with the persona of a young professional.

6.5 Findings

From the data analysis in chapter 5 and the discussions detailed in this chapter, the following sections are presented by way of summarising the overall findings of this study.

6.5.1 Work-based placements in the construction industry

This research used as its focus students who were studying construction-related undergraduate degrees and whose placements were with organisations working in the construction industry sector. The findings show that the impact of the stages of a placement on the transformation of students is not necessarily influenced by the construction industry environment. The benefits and challenges identified in the literature which is based on a wide range of commercial and industrial sectors are similar to those experienced by students studying construction-related disciplines. It is recognised that the limitations to drawing this conclusion is that this research is based on one group of students from one university; however, it does contribute to closing a gap in the literature by considering a sector on which placement research is lacking.

6.5.2 Learning Disconnect

This study has found that students have difficulty in making links between their university learning and placement learning, often failing to see the relevance of their previously studied modules. In the early stages of their placement students recognise this perceived lack of knowledge which then gives rise to feelings of uncertainty and insecurity and to them questioning their ability. The identification by many students of this apparent disconnect should be of some concern to those designing and delivering the programmes and should perhaps encourage them to revisit the curriculum to embed more practical aspects of the discipline within it. While it is not suggested this will eradicate the early experiences of uncertainty and insecurity, indeed these are required for the transformative process to begin, however, it may alleviate some concerns students experience in the early stages of their placement by being aware that it will take them time to develop this understanding.

6.5.3 Pre-placement Preparation

This is considered a key finding of this research and considered a critical area to address. The experiences of uncertainty and insecurity stem from a lack of pre-placement preparation. Students identify that they are completely unprepared when going out on placement, with little idea of what awaits them. Consequently,

the situations in which they find themselves are new and they have little idea of how to deal with them. Very quickly they recognise their lack of knowledge in the role and experience an environment which is not what they were expecting. It may be impossible for students to avoid some of the issues identified however, it is incumbent on universities to deliver effective pre-placement modules which address them so ensuring students are at least aware of the issues they may face and have strategies in place to deal with them.

6.5.4 Knowledge, Experience and Confidence

This area is a common theme throughout this study and goes to the heart of transformation. As students' progress through their placement, they acquire knowledge of their own discipline and that of others as well as a greater understanding of how the wider construction industry operates. This knowledge acquisition gives them a greater level of experience and so they feel more able to perform in their role, leading to an increase in confidence. As their confidence levels increase, students are able to tackle other parts of their role that they once thought were beyond them and so their knowledge and experience increases once more, leading to a further increase in confidence. Therefore, this becomes a self-perpetuating situation where increased knowledge and experience leads to increased confidence, all of which are key drivers to the transformative process.

6.5.5 Reflective Practice

There is a lack of understanding of the benefits of critical reflection which stems from the absence of students' engagement in reflective practice during the first two years at university. In the early stages of their placement there is an element of reflection, but it can be described as 'surface reflection' in that student just think about something which has happened rather than exploring why it happened or what can be done differently next time. It is not until part of the way through their placement that students start to actively and consciously undertake meaningful reflective practice. Once they do however, learning increases significantly and so has the effect of building confidence and providing the motivation to actively seek out more knowledge. Previous research does acknowledge the difficulty in assessing reflective practice at university; however further guidance and encouragement in this would be well placed. This should be included as part of a comprehensive pre-placement process with the importance of reflective practice while on placement given prominence within it.

6.5.6 Transformation

This research did not set out, as so many other studies identified have, to establish if a student was transformed as a result of their placement, but rather explore the

effect the placement process may have on the transformation of students. What it does show is that transformation, in many different professional and personal ways, can be achieved by fully engaging in the placement process. However, transformation is a gradual process which, despite it taking place, can remain hidden from students for some time. What can be shown is that by encouraging a greater level of engagement in reflective practice students will be able to better recognise the changes in them and motivate them to seek out more opportunities to develop their learning during placement. A placement gives students a glimpse into their future and confirms that they are in the right industry so validating their original choices.

6.5.7 Engagement with the placement process

It can be confidently stated that all but one of the students interviewed fully engaged with their placement and as a result were able to maximise their learning opportunities and undergo a transformative experience. However, with Student P this is not the case, and, by his own admission, he did not fully engage with his placement but nor did his company. On completion of his placement, it was found that Student P had not experienced any transformative change and he was, at the end of his placement, what he was at the beginning. Therefore, a crucial aspect of a successful, transformative placement experience is the full and active engagement with all aspects of the process by both the student and the placement organisation to enable students to acquire the knowledge, skills and experience such an opportunity has been shown to offer.

6.6 Summary of Chapter

Building on the analysis of the primary data undertaken in chapter 5, this chapter has discussed each of the coded themes which identify the stages of a placement to trace the student's journey from their perspective. In addition, it has identified and explored key areas of the placement process establishing the motivation behind undertaking a placement in the first place and the issues surrounding the concept of employability. It shows that students are expanding their knowledge and experience of their discipline and in the process developing the confidence that they can perform the role to which they aspire. It also demonstrates that key transferable skills are being acquired to enhance their employability to place them at an advantage when entering the graduate jobs market. Within these discussions, the coded themes describing the stages of a placement are linked to the phases of Mezirow's transformative learning theory, identifying where transformation is occurring and how the stages impact upon it. In addition, they reference

previously considered literature to indicate how and where this study sits within previous research.

The chapter concluded by presenting the key findings which have emerged from the study and offers suggestions as to how the issues arising might be addressed by the stakeholders to the placement process. The analysis, discussions and findings from the coded themes and Mezirow's framework are used to produce a theoretical model of the placement process as presented in the final chapter.

Chapter 7 : Conclusions

"Experience is, for me, the highest authority."

Carl Rogers (1902 – 1987)

7.0 Introduction to the Chapter

Chapter 7 is the culmination of this study and represents the final part of the thesis, drawing together the previous sections to present the final conclusions. A placement can be a very rewarding experience for students as they take their first tentative steps into industry. It allows them to see and experience first-hand the career to which they aspire and develop knowledge, experience and key transferable skills which will enhance their employability and give them an advantage when entering the graduate jobs market. It also gives them time and space away from the confines of the academic environment to examine and reflect upon where they currently are in their career

7.1 Revisiting the aim and objectives

Having introduced the thesis in Chapter 1, provided a background to the subject and an overview of the sections to be included, it concluded with a clearly stated aim and set of objectives designed to meet this aim. The following section revisits the original aim and objectives to evaluate if these have been satisfactorily addressed. It offers a theoretical model illustrating the stages of a placement process using the key themes established and where they link to Jack Mezirow's Transformative Learning Theory theoretical framework.

The focus of this thesis was the study of undergraduate students studying a construction related undergraduate degree. This research was able to examine the placement experiences of students from two perspectives, those currently undertaking a placement and those who had recently completed one. It has traced the placement process through from beginning to completion to explore the student experiences and, using Jack Mezirow's transformative learning theory to underpin the work has established how these experiences can transform students.

Chapter 3 presented a review of relevant literature in relation to placements. From the literature review a number of key areas were identified for investigation including skills development, employability, reflective practice, placement structure and key stakeholders. These key areas informed the subsequent data collection by shaping the structure of the data collection tools and key areas of investigation.

From the analysis of the themes and subsequent discussion of the findings the benefits and challenges of a student's placement emerged. From their feelings of uncertainty and

insecurity to identifying gaps in their knowledge and a lack of confidence in their ability to perform, all presented challenges for students which the thesis has explored. It has also considered the benefits of a placement including how they have improved their knowledge, developed key employability skills to better prepare them for the graduate market and given them the confidence to know they can perform in the role to which they aspire.

The study involved interviewing students who had recently started their placement or were part of the way through it and the issue of a self-administered questionnaire to students who had recently completed a placement and had returned to university to study the final year of their degree. The exploration and analysis of the resulting qualitative data used a thematic analysis approach while statistical and summary analysis was performed on the quantitative data. This enabled an in-depth study to be carried at different stages of a placement and identify and label the key stages of the placement journey to trace the student's journey through it.

Each stage of the placement process, as identified by the themes, was explored in the data analysis and discussions chapters. Each stage was compared to the phases of Jack Mezirow's transformative learning theory, the framework underpinning this research, to ascertain where the study's themes and Mezirow's phases linked. From this comparison the study was able to identify and evaluate each stage and the transformative effect they had on students

As with learning, transformation can be described as a continuous process as an individual continues to have experiences which are new which can create an element of uncertainty and insecurity and then move through the individual stages of transformation. Whether these new experiences are as unsettling as those described within these pages cannot be known however, they will result in an element of transformation and change. The model presented in Figure 7-1 illustrates this in the context of placements showing the links between the phases of Mezirow's transformative learning theory framework and the themes of the study.

7.2: Theoretical Model for Work-based Placement Transformative Change

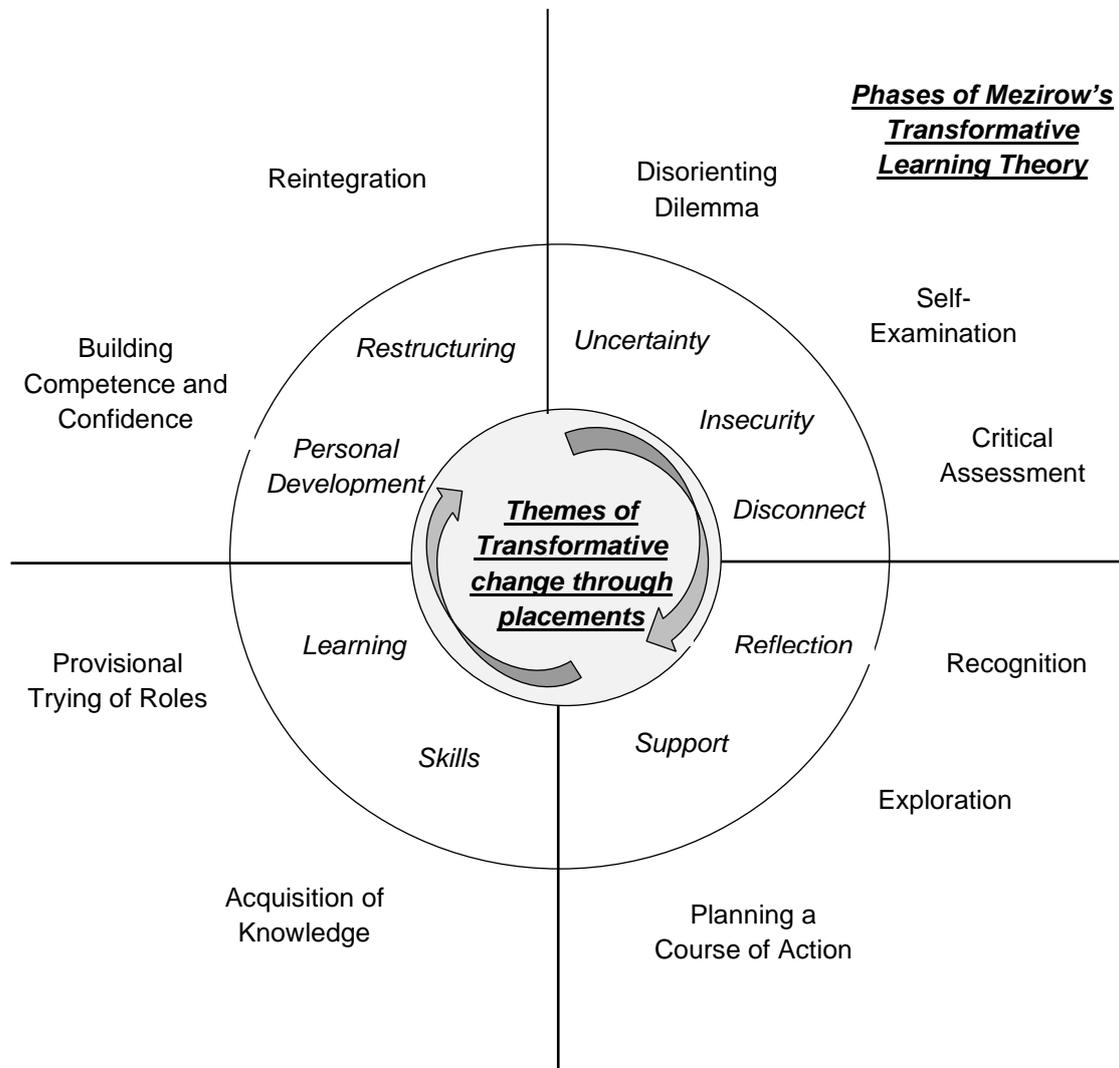


Figure 7- 1 : Theoretical model showing the stages of a placement and their links to the transformative phases

7.3 Final Comments

What this thesis has identified is a range of benefits a placement can offer as well as highlighting a number of challenges it can bring. Through the use of its findings, it is envisaged that it will assist in the design of programmes which include a placement option and, importantly, will identify the components necessary to contribute to a successful placement.

However, this study has done much more than just measure specific points in the placement process. It has accompanied the students on their placement journey, witnessed them grasp the opportunities their placement has offered and shared in the challenges they have faced. At times it has seen their personal struggles and listened while they laid bare their emotions as they tried to come to terms with new and unfamiliar situations, but then watching as what at first seemed the insurmountable complexities of their placement were conquered. This study has had the opportunity to see students acquire knowledge, gain valuable experience of their chosen discipline, grow in confidence and mature. It has been fortunate to witness their transformation...

... From student to young professional.

Further Research

This study has focused on students who have undertaken a placement as part of an undergraduate degree in construction-related disciplines and has identified the transformative impact it can have on the individual student. As the study progressed a number of areas were identified which, whilst being outside the scope of this particular study, were deemed important to identify as possible areas of further research. These include:

- 1) **Pre-Placement Preparation**. There seems to be many issues arising from this study which could be usefully addressed prior to students going out on placement, particularly in relation to the early stages of their placement in the phases of disorienting dilemmas, Self-Examination, Critical Assessment and Recognition. It would therefore be useful to consider how these could be addressed in more detail prior to students leaving their institution to start their placement. Therefore, research into providing effective and informative pre-placement preparation sessions would be beneficial to better prepare students for their placement.

- 2) **Non-placement students**. It became apparent during this study that the vast majority of research into work-based placements focussed primarily on those who had undertaken a placement. What appears to be lacking is empirical research on students who decide not to undertake a placement, the reasons for their choice and the impact such a decision may have on their university studies and future employment prospects. Literature considers this an under-researched area, see for example Brooks and Youngson (2016). Research in this area could focus on :
 - a) What are the reasons for students not undertaking a placement?
 - b) Proactive Targeting – How can students be encouraged into a placement?
 - c) Comparative analysis between placement and non-placement students considering such things as: attainment, graduate employment rates, skills development and salary scales.

- 3) **The programme curriculum**. Investigate the apparent disconnect between university learning and placement learning. Research could investigate:
 - a. How to improve the connectivity of 1st & 2nd year modules
 - b. How university learning can be better utilised during placement
 - c. How placement learning can be better used in final year, an area which would benefit all stakeholders to the degree.

- 4) **Employer Views**. There were occasions during this study where employer views and comments were gathered during interviews but did not feature prominently in the study. As a key stakeholder in the placement process, further research could focus on employers' requirements from placements which would complement this study by having a view of placements from both students and employers.

- 5) **Compulsory Placements**. Given the benefits of placements it would be interesting to investigate the option to make them a compulsory part of the curriculum.

- 6) **The Construction Talent Retention Scheme**. A new initiative introduced by the Government and managed by the Construction Leadership Council (2020). It is aimed at retaining vital knowledge and experience within the industry. Further research would be useful to explore links between placements and this scheme.

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Appendix A

Ethics Statement - Questionnaires

The following statement was included at the front of the self-administered questionnaire and provides evidence of informed consent of the participants.

My name is John Weirs and I am a Senior Lecturer in Construction Project Management at Northumbria University. I am currently undertaking a professional doctorate investigating the student experience of work-based placements and would very much appreciate your input into my research. You are under no obligation to participate in this project and are free to withdraw at any stage. However, as a Northumbria University student who has recently undertaken a work-based placement as part of your course, I would be very interested in your views and opinions of your placement experience.

The following questionnaire asks you to consider a range of issues relating to your degree course and your placement and should take around 15 minutes to complete. The questionnaire does not ask for any information which could identify you personally and as such your responses will be anonymous. The data collected by this questionnaire will be used in my final doctoral thesis and any resulting publications.

By completing and submitting this questionnaire you are confirming that you understand the items set out above and consent to your responses being used in my research.

Should you have any questions regarding this questionnaire please do not hesitate to contact me at: john.weirs@northumbria.ac.uk

Thank You.

Ethics Statement – Interviews

At the beginning of each interview the purpose of the interview was explained to the participants and permission sought to record it. They were also informed that the information being collected was for use in my final doctoral thesis and possible research publications but any information they provided which was used would remain anonymous and they themselves would not be identified by name. They were informed that at any time, should they wish, the recording would be stopped and they could withdraw from the interview and any data collected would be deleted. It was also made clear that these ethical protocols would be followed retrospectively should they, after the interview, feel something had been discussed which they would rather not be used. Finally, the participants were offered sight of their transcribed interview and the final thesis should they wish. The discussions on the ethical issues above were also recorded for each interview to provide evidence of informed consent.

Appendix B

Outline question structure for face to face interviews.

- 1) Introductions
- 2) Doctorate Ethics (**Reminder at end**)
 - a. Recording Interview
 - b. Use of data
 - c. Withdrawal anytime
 - d. Access to transcription & Final Thesis
 - e. Any questions – check understanding for Informed consent
- 3) Securing Placement
 - a. Motivation to do placement
 - b. Consideration of not doing placement
 - c. Ease of getting one
 - d. Location – any issues
 - e. Options for other placements (yes = why choose this company)
 - f. In touch with others – Placement and Non-placement
- 4) Overview of what been doing.
 - a. Explain project(s)
 - b. Explain your role
 - c. Existing & New tasks = Development
 - d. Issues with carrying out tasks
 - e. Settled in
 - f. Opportunities to work in different part of company – think useful
- 5) Links between placement role and university modules
 - a. Which modules
 - b. How are they linked
 - c. Learning brought from university
 - d. Learning on placement as opposed to university – any difference
 - e. Theory vs. Practice
- 6) Learning
 - a. Specific training
 - b. Different from university
 - c. Areas finding difficult
 - d. Reflection (at university / here)
 - e. Specific Skills – (Avoid using term skills unless need to)
- 7) Support on placement
 - a. Available (Yes – form takes... No – why and can it be encouraged)
 - b. From whom (Managers / Peers)
 - c. How does it help
- 8) Discussion with company about degree
 - a. Tailor / target learning
 - b. Useful (if do talk – if don't talk)

Make notes of the observations during interview

- General Demeanour
- Way explain things (*Confidence / knowledge*)
- Act around people (eg. Questions)

- c. Training plans
- 9) View of self at placement
- a. Part of team
 - b. Student / professional
 - c. Personal development / Changes – What / explain
- 10) Degree Classification
- a. Prior / During / After placement
 - b. Why change / no change
- 11) How finding role
- a. What you thought
 - b. If yes – How... If No – Why
 - c. Career path – yes / no & why
 - d. Seeing your future
- 12) Seeing any changes in self
- a. Technical / Practical development
 - b. Personal Development
- 13) Line Manager (if available)
- a. Progress
 - b. Any issues
 - c. Change seen
 - d. Future Plans / training / role
- 14) Final Year
- a. Explain structure (modules / timetable)
 - b. Research Project – Topics
 - c. Learning can take back to university
- 15) Academic Module – Remember...
- a. Progress Sheets (Monthly and quarterly)
 - b. Final report submission
- 16) Any Issues / queries – contact me
- 17) Reminder of Ethics**

Appendix C

Self-Administered Questionnaire – Issued through Google Forms

Work-Based Placements

My name is John Weirs and I am a Senior Lecturer in Construction, Project Management at Northumbria University. I am currently undertaking a professional doctorate investigating the student experience of work-based placements and would very much appreciate your input into my research. You are under no obligation to participate in this project and are free to withdraw at any stage. However, as a Northumbria University student who has recently undertaken a work-based placement as part of your course, I would be very interested in your views and opinions of your placement experience.

The following questionnaire asks you to consider a range of issues relating to your degree course and your placement and should take around 15 minutes to complete. The questionnaire does not ask for any information which could identify you personally and as such your responses will be anonymous. The data collected by this questionnaire will be used in my final doctoral thesis and any resulting publications.

By completing and submitting this questionnaire you are confirming that you understand the items set out above and consent to your responses being used in my research.

Should you have any questions regarding this questionnaire please do not hesitate to contact me at : john.weirs@northumbria.ac.uk

Thank You.

* Required



General Participant Information

1. Into which age bracket do you fall ? *

Mark only one oval

- 18-21
 22-25
 26-29
 30+

2. Are you Male or Female ? *

Mark only one oval

- Male
 Female

3. Which best describes you ? *

Mark only one oval

- Home Student (UK)
 Home Student (EU)
 International Student

4. What is your undergraduate degree discipline ? *

Mark only one oval

- Construction Project Management
 Civil Engineering
 Quantity Surveying
 Building Surveying
 Architectural Technology
 Other: _____

5. Where did you live prior to coming to university? *

Mark only one oval

- North East
- Yorkshire
- Humberside
- North West
- Midlands
- Greater London
- South East
- South West
- Scotland
- Northern Ireland
- Other: _____

6. Where did you undertake your placement? *

Mark only one oval

- North East
- Yorkshire
- Humberside
- North West
- Midlands
- Greater London
- South East
- South West
- Scotland
- Northern Ireland
- Other: _____

7. Did the location of your placement play any part in you accepting it? *

Mark only one oval

- Yes
- No

8. Were you willing to move to a new location for your placement? *

Mark only one oval

- Yes
- No

9. Which of the following best describes the type of organisation with which you carried out your placement? *

Mark only one oval

- Client
- Consultancy
- Main Contractor
- Sub-Contractor
- Other: _____

10. Please use the space below if you wish to make any comments on this 'General Participant Information' section of the questionnaire.

.....

.....

.....

.....

Skip to question 11.

Your Degree Education

1

11. Why did you choose to study at university ? (Tick all that apply)

Check all that apply

- To delay having to get a job
- To improve my employment prospects
- Pressure from Family
- My friends were going to university
- To improve my knowledge
- To experience the social side of university
- I was unable to get a full time job
- I was keen to learn about my chosen discipline
- Earn a higher salary
- Other: _____

12. What degree classification did you hope to achieve when you first entered your programme ? *

Mark only one oval.

- 1st Class
- 2:1
- 2:2
- 3rd
- Pass Degree

13. What degree classification did you hope to achieve PRIOR to entering your placement ? *

Mark only one oval

- 1st Class
- 2:1
- 2:2
- 3rd
- Pass Degree

14. Having completed your placement, what degree classification do you hope to achieve ? *

Mark only one oval

- 1st Class
- 2:1
- 2:2
- 3rd
- Pass Degree

15. What degree classification do you feel you would have achieved had you not done a placement ? *

Mark only one oval.

- 1st Class
- 2:1
- 2:2
- 3rd
- Pass Degree

16. I see my degree as an investment in my future. *

Mark only one oval.

- 1 2 3 4
- Strongly Agree Strongly Disagree

17. I see a placement as an investment in me by my placement company. *

Mark only one oval

- 1 2 3 4
- Strongly Agree Strongly Disagree

18. Whilst studying on my programme, I considered each module as an individual, stand-alone module. *

Mark only one oval

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

19. Please consider the following statement in relation to each year of your course: During my studies, I was able to see how individual modules linked together. *

Mark only one oval per row

	Strongly Agree	Agree	Disagree	Strongly Disagree
1st Year of my course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2nd Year of my course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Placement Year of my course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Final Year of my course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. All of my modules have been theoretical in content. *

Mark only one oval

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

21. I had difficulty in understanding the theoretical context of my modules. *

Mark only one oval

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

22. PRIOR to my placement I was able to see the link between the theoretical and practical aspects of my modules. *

Mark only one oval

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

23. Please use the space below if you wish to make any other comments on this 'Your Degree Education' section of the questionnaire

Skip to question 24

Employers view of Graduates

24. Employers place more importance on the university from which you graduate than the degree classification you achieve. *

Mark only one oval

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

25. Employers consider it more important for graduates to have work experience than a good degree classification.

Mark only one oval.

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

26. How do you think employers rate the importance of the following skills in graduates ? *

Mark only one oval per row.

	Essential	Very Important	Important	Useful	Not Important	Of no use
High Degree Classification	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Previous Work Experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teamworking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical Knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IT Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Able to continually Learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self- Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Punctuality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-Motivated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adaptability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. It is the role of employers to train graduates, not universities. *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

28. Staff at my placement company had an understanding of the content of my degree course. *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

29. My learning on placement learning was tailored to compliment my academic learning *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

30. Please use the space below if you wish to make any other comments on this 'Employers view of Graduates' section of the questionnaire

.....

.....

.....

.....

Employability and Skills Development

31. I understand what is meant by the term 'employability skills' *

Mark only one oval

1 2 3 4

Completely Understand No Understanding

32. I can clearly identify the opportunities to develop my employability skills within my modules *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

33. The inclusion of employability skills development across all modules in my programme is helpful. *

Mark only one oval.

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

34. Being taught theoretical knowledge at university is more important than developing my employability skills. *

Mark only one oval.

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

35. I can develop more discipline specific knowledge while on placement than I can when studying at university. *

Mark only one oval.

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

36. To what extent are you able to identify where employability skills are included in your modules. *

Mark only one oval.

	1	2	3	4	
A great deal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not at all

37. I would be able to gain the same employability skills from another job, not related to my discipline, than I could from a placement. *

Mark only one oval.

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

38. I can develop employability skills in a classroom environment rather than on placement. *

Mark only one oval.

	1	2	3	4	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

39. It would be more beneficial to include a specific module within my programme which deals with employability skills development. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

40. To what extent will being involved in extra-curricula activities improve your employment prospects? *

Mark only one oval.

	1	2	3	4	5	
A great deal	<input type="radio"/>	Not at all				

41. Please use the space below if you wish to make any other comments on this 'Employability' section of the questionnaire

Your placement experience

42. Did you consider NOT undertaking a placement ? *

Mark only one oval

- Yes (Please add any comments below)
- No (Please add any comments below)

43. Did you consider NOT undertaking a placement ? Add your comments here.

.....

.....

.....

.....

44. I knew what I needed to learn from my placement PRIOR to going out on placement. *

Mark only one oval.

1 2 3 4

Strongly Agree Strongly Disagree

45. Were you assigned a mentor from within your placement company for the duration of your placement ? *

Mark only one oval.

- Yes
- No

46. Throughout my placement I was able to work closely with more knowledgeable staff. *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

47. I was able to recognise learning opportunities during my placement. *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

48. To what extent did university staff, visiting you on placement, help you understand the links between theory and practice. *

Mark only one oval.

1 2 3 4

A Great Deal Not at All

49. To what extent were the academic skills you developed at university used during your placement. *

Mark only one oval

1 2 3 4 5

Essential Of no use whatsoever

50. To what extent did you expect to learn the following PRIOR TO undertaking my placement *

Mark only one oval per row.

	A great deal	Quite a lot	A little	Very little	Not at all
Teamwork	<input type="radio"/>				
Communication	<input type="radio"/>				
Technical Knowledge	<input type="radio"/>				
Confidence	<input type="radio"/>				
IT use	<input type="radio"/>				
Management of People	<input type="radio"/>				
Mature as a person	<input type="radio"/>				
Practical experience	<input type="radio"/>				
Knowledge of related disciplines	<input type="radio"/>				

51. To what extent did you reflect on your learning PRIOR TO your placement ? *

Mark only one oval.

1 2 3 4 5

A great deal Not at all

52. To what extent did you reflect on your learning WHEN ON placement ? *

Mark only one oval.

1 2 3 4 5

A great deal Not at all

53. When out on placement I tended to reflect less on my learning and more on if I was fitting in to my placement company. *

Mark only one oval.

1 2 3 4

Strongly Agree Strongly Disagree

54. To what extent do you reflect on your learning since returning from placement ? *

Mark only one oval.

1 2 3 4

A great deal Not at all

55. To what extent did you learn the following DURING your placement ? *

Mark only one oval per row.

	A great deal	Quite a lot	A little	Very little	Not at all
Teamworking	<input type="radio"/>				
Technical Knowledge	<input type="radio"/>				
Communication	<input type="radio"/>				
Self-confidence	<input type="radio"/>				
Management of People	<input type="radio"/>				
IT skills	<input type="radio"/>				
Maturity	<input type="radio"/>				
Knowledge of related disciplines	<input type="radio"/>				
Practical Experience	<input type="radio"/>				

56. There has been a change in my character since undertaking my placement. *

Mark only one oval.

1 2 3 4 5

Strongly Agree Strongly Disagree

57. Consider the points below and describe to what extent you would say your character has changed since your placement. *

Mark only one oval per row.

	A great deal	Quite a lot	A Little	Very little	Not at all
A change in my work ethic	<input type="radio"/>				
Confirmation I am on the right career path	<input type="radio"/>				
An increased willingness to question things	<input type="radio"/>				
Increased maturity	<input type="radio"/>				
A great recognition of how theory is linked to practice	<input type="radio"/>				
A change in how I now approach my studies	<input type="radio"/>				
Increased Self-confidence	<input type="radio"/>				

58. On return to university, I have been able to use my placement learning in my modules. *

Mark only one oval.

1 2 3 4

Strongly Agree Strongly Disagree

59. What opportunities have you had to use your placement learning since returning from placement ? (Please use the space below to make your comments)

.....

.....

.....

.....

60. Please use the space below if you wish to make any other comments on this 'Your Placement Experience' section of the questionnaire

.....

.....

.....

.....

The future

61. I expect my degree to open up more employment than would be available were I not to have a degree. *

Mark only one oval.

1 2 3 4

Strongly Agree Strongly Disagree

62. I feel I have forgone income I could otherwise have earned had I not attended university ? *

Mark only one oval.

1 2 3 4

Strongly Agree Strongly Disagree

63. I expect to earn a higher salary as a university graduate than a non-graduate *

Mark only one oval

1 2 3 4

Strongly Agree Strongly Disagree

64. Thinking about the impact of the increase graduates entering the labour market will have on your employment prospects, consider the following statements below and identify to what extent you agree or disagree with each. *

Mark only one oval per row.

	Strongly Agree	Agree	Disagree	Strongly Disagree
I work in a specialised discipline therefore expect to gain employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I have the necessary skills to gain employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is increased competition for jobs therefore it will prove difficult to secure employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My degree will open up more employment prospects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My placement experience will increase my prospects of finding suitable experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My employment prospects would be the same even if I had not done a placement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

65. I feel my degree has been a worthwhile investment in my future. *

Mark only one oval.

1 2 3 4 5

Strongly Agree Strongly Disagree

66. To what extent do you feel ready to enter the graduate market in your chosen discipline ? *
Mark only one oval

1 2 3 4

Completely Ready Not ready at all

67. Please use the space for any other comments you would like to make.

Thank you very much for completing this questionnaire, your input is very much appreciated. Good luck with your remaining studies and your future career.
