

Work Placements in Safety Critical Industries: a Built Environment Case Study



PREPARED BY: ROBERT SMITH
SUPERVISING TUTOR: DR FRED SHERRATT



1 Table of Contents

1 Table of Contents.....	i
2 Table of Figures.....	ii
3 Introduction.....	1
3.1 Objective.....	2
4 Context.....	3
4.1 Work Experience.....	3
4.2 Safety Critical Industries.....	5
5 Research Method.....	7
5.1 Research Approach.....	7
5.2 Method of Data Collection.....	7
5.3 Method of Analysis.....	9
5.4 Summary.....	9
6 Analysis.....	11
6.1 Host Organisation.....	11
6.2 Student.....	12
6.3 Tutor.....	12
6.4 Summary.....	13
7 Discussion.....	14
8 Conclusions.....	17
9 Recommendations.....	18
10 References.....	19
11 Appendices.....	22
11.1 Appendix A – Interview Framework.....	22
11.1.1 Student.....	22
11.1.2 Host Organisation.....	22
11.1.3 Tutor.....	22
11.2 Appendix B – Participation Information and Consent Form.....	24

2 Table of Figures

Figure 6.1.....	11
Figure 6.2.....	12
Figure 6.3.....	12
Figure 6.4.....	13

3 Introduction

Work placements are an important and often integral part of the education process with 29% of UK students participating in a work placement scheme (Little, 2007). This large percentage of students receive great value from taking part as it has been well established that, in general, work placements are of a benefit to the stakeholders involved in the process. However, it can also be seen that there are additional factors involved when the work placement is within a safety critical industry, such as the built environment and construction industry.

For construction based disciplines, such as construction management or civil engineering, it is vital to gain experience and understanding of the construction environment. Not only does it provide a good insight into the workings of the industry, but the opportunity for employment is greatly increased upon graduation for those that have some work placement experience. However, gaining this experience in a dangerous environment is not something for the feint hearted. Just how much this safety critical aspect affects the work placement experience is currently unknown.

This research takes an initial, exploratory look at work placements within safety critical industries, with a case study focus on the built environment and the construction industry. There are a wide range of differing health and safety hazards on most construction sites, ranging from power tools to heavy plant or even hazardous substances. All these things must be considered during work placements through risk assessments, training, and observation. It is understood that these hazards are not just unique to construction environments and can be transferred, either in part or in combinations, to other work environments within safety critical industries. This research is intended to inform both academic and industry practice, and will seek to examine placements within safety critical industries from key stakeholder perspectives.

3.1 Objective

At present, there is no firm information leading to a conclusion of the relationship between work placements and safety critical industries. This leads to the following, investigative, research question as a stepping stone to further understand any correlation:

Do placements in safety-critical industries limit the placement experience for the student and for the host organisation?

4 Context

4.1 Work Experience

Oxford Dictionaries (2010) defines experience as “practical contact with and observation of facts or events - the knowledge or skill acquired by a period of practical experience of something, especially that gained in a particular profession”

It is generally accepted that “everyday work activities when effectively structured provide opportunities for accessing and constructing robust and transferable vocational knowledge” (Billett, 1995). So it can be seen that practical work experience for any student represents an enhancement to academic study in order to provide a more balanced education in terms of supporting academic knowledge with real-world application. Morgan and Turner (2000) found that “Industry looks to individuals to be able to operate on their knowledge and deploy these operational capacities in the world of work.”, belying any belief that a student is ready for their working life at the end of their education without any prior preparation for real world work environments. Furthermore, “a professional qualification confers a licence to practise, and students’ best chances to learn professional practice in the field alongside working practitioners and with real clients happen during placements” (Cameron-Jones & O’Hara, 1990). With a continuing emphasis within higher education institutes for the accreditation of professional bodies, the implementation of work placements within a course of study becomes all the more important.

It can be seen that there are clear advantages to the student who undertakes a work placement. Bullock, et al. (2009) found that “extended work placement enhances the likelihood of a good degree and preferred employment”. Combined with that, most students feel that a work based learning activity helps to improve their personal transferable skills whilst also allowing them to apply theories they have learned to real life project (Dickens & Arlett, 2009). Sharp and Shieff (1992) suggest that those organisations who recruit young people often items such as punctuality, attendance, learning new tasks, and working with adults cause greater problems than a lack of job related skills. Thus, an awareness of these concerns may help alleviate difficulties when a student moves on to full time employment. However, it is important to understand that whilst age and ability may have an apparent effect on the overall experience, students should not be categorised directly in this way as

confidence levels and personal circumstance may prove to be an overwhelming factor Sharp and Shieff (1992). More mature students may have a better working experience, but may lack the self belief required to excel due to previous setbacks in life, conversely, a younger student may not have the interpersonal or job skills necessary to work independently, but could be much more confident or naturally gifted.

The extent to which a work placement profits a student largely depends on the environmental factors surrounding their experience. Little (1998) emphasises that “if students on placements are treated ‘just’ as any other employee, then some of the intended benefits of frameworks (in terms of maximising opportunities for learning, through reflecting on work experiences) might not be realised”. For a work placement to be successful it is, therefore, imperative to implement a robust framework for support and reflection in which the student can feel comfortable and also benefit from the knowledge of those around them. Yaakob and Kawata (1999) believes that a variety of criteria must be used when evaluating a workers’ suitability for a particular job. As a work placement proffers to provide the the student with a real world experience, so too should the student be evaluated in the same manner as a regular employee in order to ascertain their suitability for a given job. The support offered by the supervising tutor may also have a bearing on the fulfillment that the student receives out of the expereince; Bourner and Ellerker (1998) found that frequency of contact with the supervising tutor had a direct effect on the quality of the experience for the student.

It should also be noted Browne, et al. (2012) suggest that work placements as part of an undergraduate programme not only provide a benefit to the student undertaking the placement, but also to the host organisation in the form of current practices, audits, development of procedures and much more. Additionally, “work experience is also a means by which employers can develop links with higher education institutions for a range of things, including research and development through to targeting ‘high-flyer’ recruits” (Harvey, et al., 1998). Work placements are invaluable for “improving the potential labour market pool by helping educationists to better prepare students for work and for adult life and responsibility” (Sharp and Shieff, 1992). In many cases, students have been offered permanent employment following on from their work placement which can elicit a win-win situation for both the student and the host organistion, allowing for both experience and future employment for the student and a potential employee who is already with familiar with the organistaion’s procedures.

4.2 Safety Critical Industries

“For a number of years industrial practitioners have expressed a strong opinion that graduates of industry-focused courses should be capable of immediately undertaking skilled technical tasks” (McNamara, et al., 1997). Whilst it has been established that in a well-managed framework a work placement can be of great benefit in order to introduce these technical skills to the student, it should be noted that placements within safety-critical industries, such as those within the built environment disciplines, place more stringent limitations with regards to health and safety. This is due to the potential dangers of an on-site working environment where heavy plant, hazardous materials, and other obstacles are present.

According to Universities and Colleges Employers Association (2009), any of the following undesirable situations can arise from the presence of a student within a work environment:

- The student could be injured or suffer ill health as a result of working at a placement provider.
- The student could be injured or suffer ill health while on placement but not as a result of working at the placement provider.
- The actions of the student could cause injury or ill health to others, damage to property, or loss of income to a business.

“If any of these were to occur, criminal or civil action might be taken against the student, the placement provider or its employees, or the HEI or its employees, depending on the circumstances” (Universities & Colleges Employers Association, 2009). To this end, the student should be treated as an employee of the host organisation and the regulations set out in the Health and Safety at Work Act 1974 (HM Government, 1974). This also implies that the student responsibilities to follow instructions and act sensibly to protect their own health and safety and that of others.

Hill (2010) finds that “the proactive management of health, safety and welfare by employers, particularly contractors and subcontractors working directly on site is such that the consideration of the placement student is assured. This is supported not only by compliance with legislation but with ethical and moral consideration”. This does depend on the host

organisation having the resources available to ensure that this proactive management is carried out with particular emphasis on the student attending. Close and strict supervision is one of the most important factors in ensuring those that have neither the inclination nor the experience necessary to adhere to health and safety protocols modify their behaviour appropriately (Teo, et al., 2005). Whilst it should not be assumed that a student has no interest it can be argued that the same close supervision is useful to ensure protocols are not breached.

Linde and Visagie (2011) explain that members of an organisation that do not understand or those who believe company policies to be unclear are highly unlikely to adhere to them. In light of this it is easy to see why “training is an important way to enable workers to work safely, because they are equipped with the knowledge of how to work safely” (Teo, et al., 2005). In this manner, Findley, et al. (2004) believe that safety should be approached as a skill to be developed at all levels of an organisation. As previously discovered, for the purposes of health and safety, the student is to be treated as an employee of the host organisation, so it is necessary to ensure that ‘safety skill’ is developed within the student during their time on placement.

As described by Summerton and Berner (2002) there can be a conflict of interests between the “Obey and follow rules” control of health and safety and the learning through thought and reflection aspect of education. In the instance of safety critical industries it can be much harder for a work placement student to use their initiative to learn through experimentation and experience due to the constraints placed upon them by the health and safety regulations that must be adhered to.

5 Research Method

5.1 Research Approach

The research being carried out is based upon organisational strategic decisions taking place in a socioeconomic context, which, as Williams and Lewis (2005) explain, results in a qualitative approach being adopted in order to acknowledge the importance of the subjective elements that contribute towards the strategic decisions. That is to say, whilst quantitative data is likely to show exact figures for students in work placements, qualitative data is more useful when trying to ascertain the sociological influences created by the work placement environment.

5.2 Method of Data Collection

A qualitative approach was made through a series of interviews carried out with four members from each stakeholder group (twelve interviews in total) to take into account differing opinions within each group. These members will be involved with work placements positioned in the Built Environment / Construction industry. This sample of convenience (referred to by Bailey, et al. (1996) as an opportunity sample) has been chosen due to the time and logistical constraints of this study. Interviewing was chosen as the most appropriate method of data collection as it lends itself well to retrieving in-depth information through probing as suggested by Kumar (2005).

Jepsen and Rodwell (2009) recommend that convergent interviewing techniques should be used when a researcher requires a method to identify key issues. Convergent interviewing provides a combination of structured questions and open dialogue through a semi-structured interview to generate specific ideas and themes that help to focus the discussion. The semi-structured interviews will allow for pre-determined definitive questions to be asked, but at the same time will give ample opportunity for the respondents to express themselves along the way and provide licence to probe deeper about specific topics as required (Bailey, et al., 1996; Farrell, 2011). The pre-determined questions allow the interview to progress in a controlled manner, without going too far off topic whilst providing the facility to delve further into relevant topics of interest that may not otherwise be explored. In order to obtain as much information as possible from the interviewee it is necessary to ensure that the

questions are as open as possible, but this will, inevitably, result in responses that are opinions as opposed to hard facts.

“There is a clear imperative for rigour to be pursued in qualitative research so that findings may carry conviction and strength” (Long and Johnson, 2000). The reliability of the questions asked in the interviews will be unproven, so it is necessary to improve the internal reliability through the use of baskets of questions that ask for the same response but in a different way. Added to this the use of written notes and also cross-referencing of the themes obtained from different stakeholder groups will assist to verify the reliability of the data. In addition to this, respondent validation will be carried out through checking of the whole study with respondents as suggested by Long and Johnson (2000). However, it is pertinent to remember that whilst this will show a level of validity, the time lapse between interviews and data validation is insufficient to demonstrate validity in a truly meaningful manner. In being aware of potential anomalies in the data and biased subjectivity is should also be possible to avoid much invalidity. As proposed by Fellows and Liu (2009) interaction between respondents will be excluded to prevent cross-respondent influences and regression to the mean within responses.

Before carrying out the interviews, a pilot study was carried out in order to ascertain the effectiveness of the questioning. This helped anticipate any problems of comprehension or other sources of confusion (Walliman, 2011). As there is only a small sample size involved in this study and the interview framework will be largely similar across the different stakeholder groups the pilot was carried out with one interview. Once this pilot study was successfully completed, the main interview process began. This pilot study allowed for the testing and refinement of the interview framework which can be seen for each of the three interview types in Appendix A.

Drawing upon the information gathered within the literature review key considerations were targeted within the interview framework. It was evident that the need for balanced, objective views and opinions was key to the success of the data gathered; all stakeholders were probed for both positive and negative experiences in order to facilitate this. Areas such as logistics, participation issues, training, satisfaction, and differences between stakeholder experiences were also identified as key.

5.3 Method of Analysis

During the process of carrying out the interviews the data was analysed in order to identify categories, themes and ideas within the data and obtain something meaningful as soon as possible (Fellows and Liu, 2009). Analysis was applied to the data gathered at each interview, immediately it had been undertaken. This data was also amalgamated through a constant comparison approach (Flick 2009) and analysis of the data as a whole reviewed after each interview. Carrying out meaning condensation in order to compress longer statements into briefer statements where the main sense of what is said is still present, Kvale and Brinkmann (2009), allowed for swifter identification of categories and themes.

Thematic analysis was undertaken through the use of spider diagrams as suggested by (Bailey, et al., 1996) which started with a central idea and radiated out to broader theories. A diagram was created which identified themes for each of the three stakeholder groups and finally all were amalgamated into one combined diagram which allowed for the identification of patterns both within and between the stakeholder groups.

It should be noted that the theories gathered for such a small sample size are exploratory rather than generalisable and, as such, will not be inferred to a broader population, but should still provide enough insight to draw useful conclusions. Such conclusions should then be able to provide the focus for recommendations of further study in the future.

5.4 Summary

In summary, the method used in collecting and analysing the data is very similar to the seven step procedure of an interview inquiry recommended by Kvale and Brinkmann (2009):

1. Formulate the purpose of the investigation (literature review)
2. Plan and design the study (interview framework)
3. Conduct the interviews
4. Prepare the material for analysis
5. Analysis of the data (using a thematic approach)
6. Verification – the results will show certain levels of validity and reliability, but they will not necessarily be generalisable

7. Report findings

This step by step methodology makes for a clear and succinct final report that will provide the findings in a reliable manner. A thorough analysis of the collected data will create a solid set of conclusions upon which future recommendations can be made.

6 Analysis

Thematic spider diagrams showing the amalgamation of data collected and appropriate links to various other themes. Colour coded diagrams allow for simple identification of the major subjects, blue being a common set of header categories which were identified early in the research, green showing some of the frequently referenced themes, and pink to show the overall consolidation of the themes. Finally, one point is highlighted in red and yellow as it was of particular interest.

6.1 Host Organisation

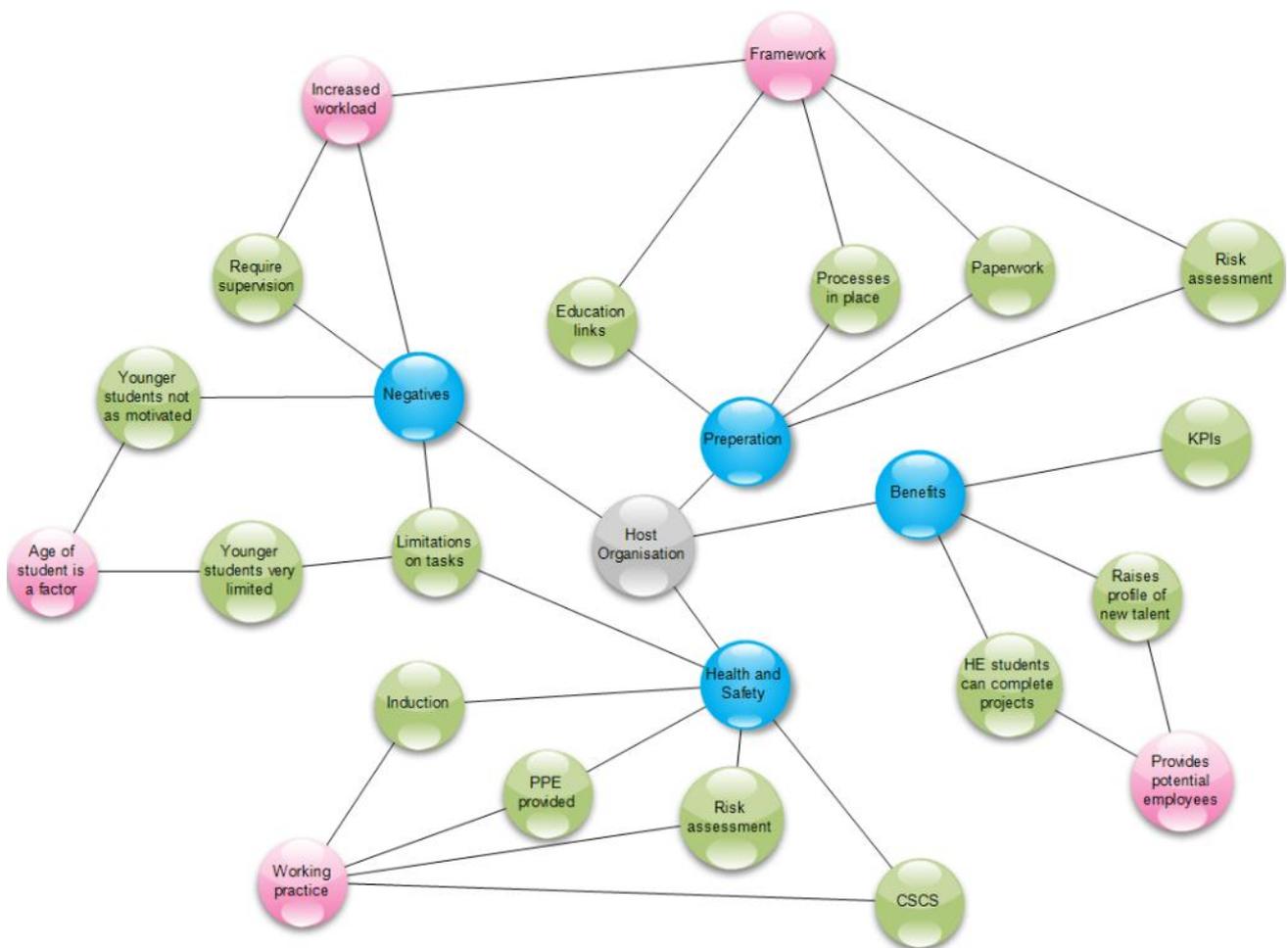


Figure 6.1

6.2 Student

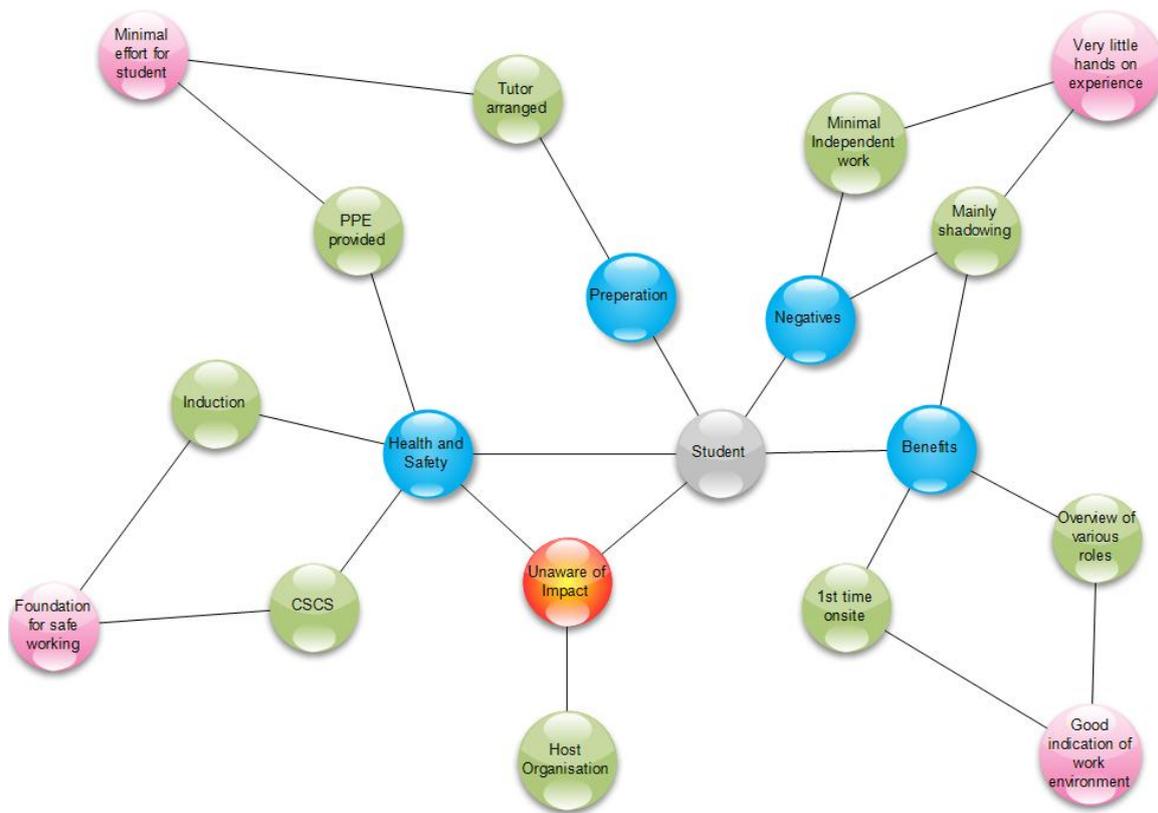


Figure 6.2

6.3 Tutor

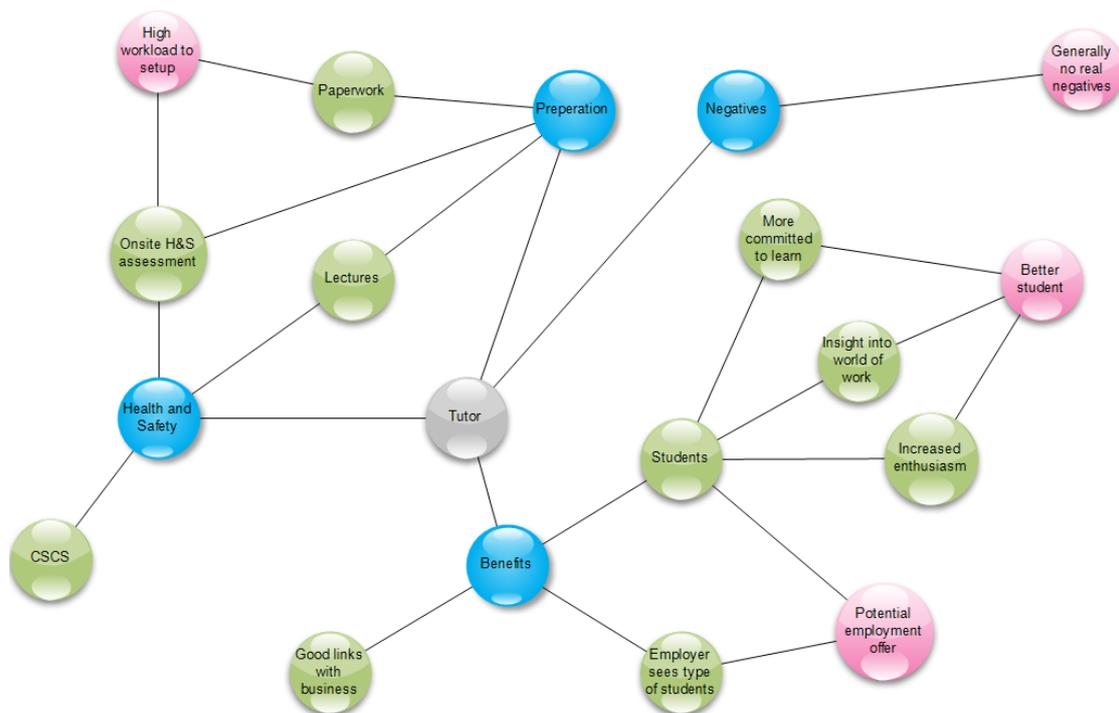


Figure 6.3

6.4 Summary

An amalgamation of the key themes from each of the stakeholder groups, showing the overall important factors influencing this research.

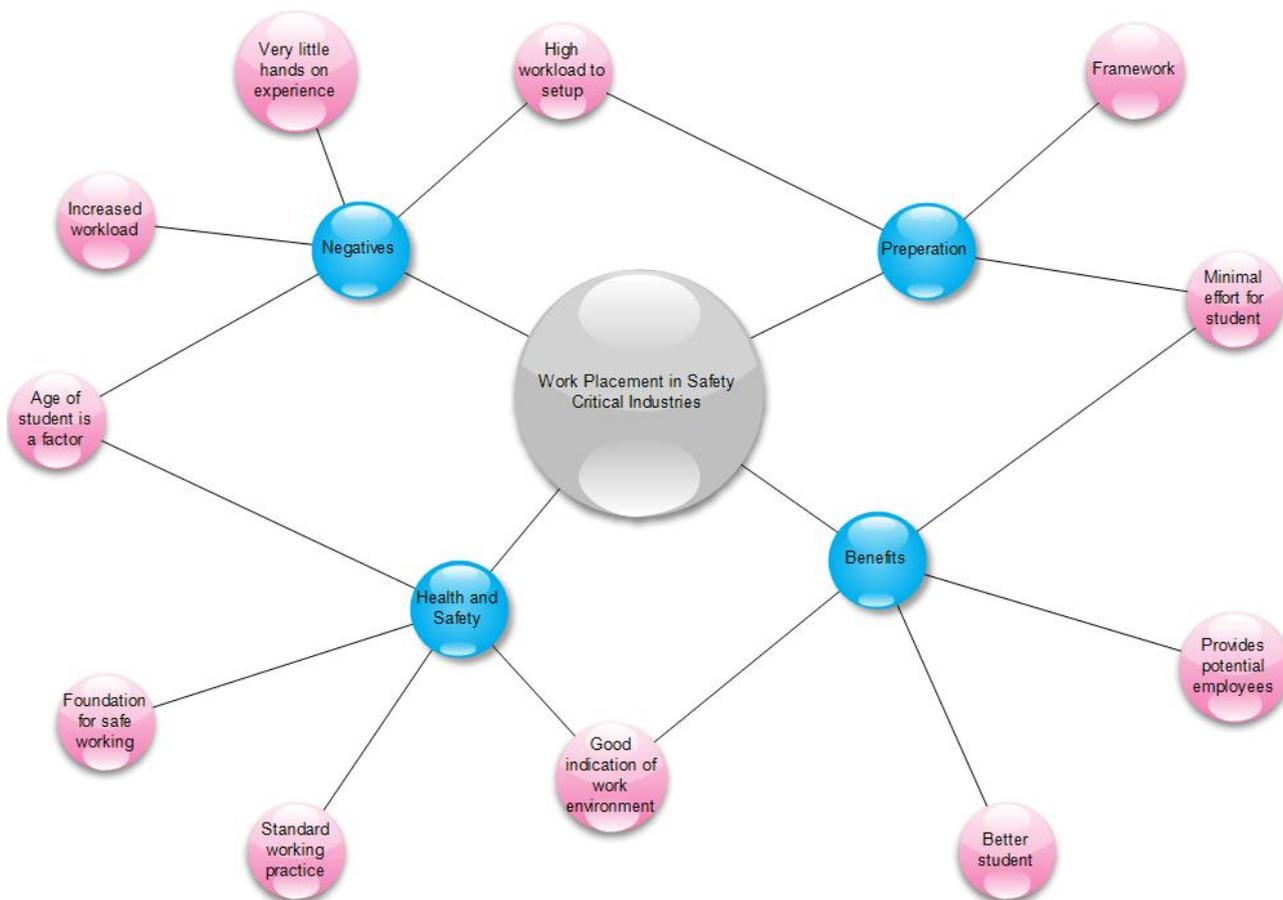


Figure 6.4

7 Discussion

It is clear to see from the analysis that benefits have been identified for Students, Host Organisations and Tutors involved in the work placement process. In the case of each stakeholder group advantages were soon identified. Many of these advantages overlap into other groups too which shows that the rewards affect more than just one party. There are also a number of drawbacks evident too, although these tend not to affect all the stakeholder groups. For example, the increased workload is not felt by the student, but is seen by the host organisation and tutors.

The safety critical nature of the industry results in distinct management practices (Risk Assessments, CSCS cards etc.), which allow for tailoring of the work placement programmes to minimise the impact of health and safety on the overall experience. Because “safety risk assessment has become a very important topic in the construction project management in recent years” (Aminbakhsh, et al., 2013), Host organisations have frameworks already set up to incorporate all of these potential issues. When combined with extensive guidelines, such as the UCEA Health and Safety Guidance, which describes to tutors “what is required in approving placements, preparing students for placement and supporting the students in terms of their health and safety on placement both in the UK and overseas.” (Universities & Colleges Employers Association, 2009), essentially protective environment is provided in which the student can work safely. Risk assessments carried out by both tutors and host organisations allow for tailoring of the work placement programmes to suit the students capabilities, which then minimises the impact of health and safety on the overall experience for the student.

This management framework does, however, come at a cost in terms of administrative time and effort. One tutor even stated that it “can be a nightmare to set placements up”, indicating that it is not always a straight forward process. Other tutors, however, stated that the host organisations often take up most of the responsibility in terms of health and safety training and assessments. This was reaffirmed by members of the host organisation stakeholders, one of whom commented that they are “well practiced, with thorough procedures in place”. Most organisations already have these procedures available to their permanent staff, so extending their use to work placement students provides little extra overhead for them.

The age of the participating student is an overwhelming factor in the work activities they are able to participate in due to:

- Mental maturity

As a generalisation it can be seen that the younger a person, the less they are able to participate. However, in reality this is not truly about the age of the student, but rather their mental maturity. It became clear that there is a general bias against those of a younger age from within the host organisations, which is due to the stereotypical behaviour of younger students. There are exceptions to the rule though, with one host organisation representative citing that a younger student came to him having worked within his family plumbing business and this resulted in him becoming a good asset to the host organisation during his work placement period. So, whilst it is established that age has a large bearing on the experience, it is not necessarily due to the mental maturity of the student, rather each individual has their own level of maturity which much be assessed on a case by case basis.

- Insurance

There are impositions placed upon employers who hire young members of staff in terms of increased insurance premiums. As previously established, a student on work placement is considered to be a member of staff, so there are obvious cost implications in taking on younger work placement student.

- Law

For young people “there are some restrictions in the Approved Codes of Practice covering lifting, power presses, woodworking machinery, and fork lift trucks), and there are also some other prohibitions and limitations, particularly in agriculture” (Health and Safety Executive, 2008)

An additional point of interest is that most students are largely unaware of the impact the safety critical nature of the industry has on the placement they are undertaking. As such, the students are oblivious to the limitations that are placed upon them. This seems to be down to the fact that the whole work placement process is simplified for the student through good frameworks and the high workload of other stakeholders. The smooth operation of the predefined frameworks even led to one student saying health and safety “had no real effect as there were no restrictions”. This phenomenon is due to the expectations of the student being carefully managed, it would never be expected that a student would be placed in control of an excavator, for example. Thus, most students are coming away from their work

placement very satisfied. The biggest complaint in this regard was that there was not enough hands on experience of skilled tasks, but the students that raised this issue also conceded that they did not have the skillset required to carry out further tasks.

The vast majority of the responses all painted a positive picture of the value of work placements within safety critical industries. The general consensus with tutors is that upon returning from work placement, the student is likely to have a renewed enthusiasm for their studies having been able to apply them in the real world. There is a question over the value of placements to those who have prior experience within industry, but even then there is provision for additional insight into new areas.

8 Conclusions

In order to conclude with an answer to the original question of “Do placements in safety critical industries limit the placement experience for the student and the host organisation?”; it is necessary to summarise the main points discussed.

- The Host Organisations, through their existing work practices in their safety critical industries, are able to easily manage students on placements.
- The Host Organisations placement experience is largely positive and not limited beyond their usual work practice constraints.
- Tutors found the placements overwhelmingly positive and supported the student learning at all levels.
- The Student placement experience is limited by age, mental maturity and legal constraints.
- **However**, the Students are largely unaware of this limitation.
- The Student experience is also largely positive, despite these limitations

Consequently, it can be concluded that placements in safety critical industries do not limit the placement experience, in terms of Student expectations. Were the students made to believe that they would have an opportunity to use dangerous equipment or heavy plant then they would surely be disappointed upon carrying out their placement. However, when realistic tasks and targets are set the student, host organisation, and tutor can all see great benefits.

9 Recommendations

A further study is recommended to determine how student age and life experience plays a contributing factor to the placement experience. It is possible that the experience they receive is well suited to the student based on their current stage of education and life experience. However, it is a critical consideration given the likely age of many students attending placements is in the region of 18 to 21 years which would likely limit the amount of life experience available to them.

Due to the importance of the student expectations, it would be prudent to explore further with particular regard to identifying any relationship with student age. It would also be useful to see these expectations before and after the experience in order to allow for a true comparison of how realistic expectations are.

This phenomenon could also be explored for placements outside of safety critical industries, or even safety critical industries within other business sectors. For example, would a family owned and run farm have the same kind of frameworks in place as a multi-million pound construction company?

10 References

- Aminbakhsh, S., Gunduz, M. & Sonmez, R., 2013. Safety risk assessment using analytic hierarchy process (AHP) during planning and budgeting of construction projects. *Journal of Safety Research*, 46(0), pp. 99-105.
- Bailey, V. et al., 1996. *Essential Research Skills*. London: HarperCollins Publishers.
- Barbour, R. S., 2001. Checklists for improving rigour in qualitative research: A case of the tail wagging the dog?. *British medical journal*, 322(7294), pp. 1115-1122.
- Billett, S., 1995. Workplace learning: its potential and limitations. *Education + Training*, 37(5), pp. 20-27.
- Bourner, T. & Ellerker, M., 1998. Sandwich placements: Improving the learning experience--part 1. *Education & Training*, 40(6/7), pp. 283-287.
- Browne, J., O'Brien, D. & Doran, J., 2012. Who do work placements as part of an undergraduate degree programme benefit?. *Physica Medica*, 28(4), pp. 343-344.
- Bullock, K., Gould, V., Hejmadi, M. & Lock, G., 2009. Work placement experience: should I stay or should I go?. *Higher Education Research & Development*, 28(5), pp. 481-494.
- Cameron-Jones, M. & O'Hara, P., 1990. Placement as part of higher education. *Higher Education*, 19(3), pp. 341-349.
- Dickens, J. & Arlett, C., 2009. Key aspects of teaching and learning in engineering. In: H. Fry, S. Ketteridge & S. Marshall, eds. *A Handbook for Teaching and Learning in Higher Education*. Oxon: Routledge, pp. 264-281.
- Farrell, P., 2011. *Writing a Built Environment Dissertation*. Oxford: Wiley-Blackwell.
- Fellows, R. & Liu, A., 2009. *Research Methods for Construction*. 3rd ed. Oxford: Wiley-Blackwell.
- Findley, M. et al., 2004. Safety Program Elements in Construction. *Professional safety*, 49(2), pp. 14-21.
- Harvey, L., Geall, V. & Moon, S., 1998. *Work Experience: Expanding opportunities for undergraduates*, Birmingham: Centre for Research into Quality.
- Health and Safety Executive, 2008. *Safe use of work equipment*. 3rd ed. s.l.:HSE Books.

Hill, C., 2010. The concerns of health, safety and welfare within the tri-partite relationship surrounding work placement for construction. *Proceedings 26th Annual ARCOM Conference*, Volume 1, pp. 185-192.

HM Government, 1974. *Health and Safety at Work etc. Act 1974*. [Online] Available at: <http://www.legislation.gov.uk/ukpga/1974/37> [Accessed 25 May 2013].

Houghton, C. R. P., Casey, D. R. P., Shaw, D. C. & Murphy, K. B. P., 2013. Rigour in qualitative case-study research. *Nurse Researcher*, 20(4), pp. 12-19.

Jepsen, D. M. & Rodwell, J. J., 2008. Convergent interviewing: a qualitative diagnostic technique for researchers. *Management Research News*, 31(9), pp. 650-658.

Kumar, R., 2005. *Research Methodology*. 2nd ed. London: Sage Publications Ltd.

Kvale, S. & Brinkmann, S., 2009. *InterViews - Learning the Craft of Qualitative Research Interviewing*. 2nd ed. London: Sage Publications Ltd.

Linde, H. M. & Visagie, J. C., 2011. Experience of Workplace Regulations in a Multi-National Construction Organisation. *The Business Review, Cambridge*, 17(2), pp. 205-212.

Little, B., 1998. *Developing key skills through work placement*, London: The Council for Industry and Higher Education.

Little, B., 2007. *ASET Annual Conference - Proceedings of the 2007 Placement and Employability Professionals' Conference*. Cardiff, ASET.

Long, T. & Johnson, M., 2000. Rigour, reliability and validity in qualitative research. *Clinical Effectiveness in Nursing*, 4(1), pp. 30-37.

McNamara, E. T., Howarth, T. A. P., Hill, C. J. & Stoneman, G. R. W., 1997. Mentoring construction graduates: bridging the gap between academia and industry.. In: P. Stephenson, ed. *Proceedings 13th Annual ARCOM Conference, 15-17 September 1997*. Cambridge: Association of Researchers in Construction Management, pp. 511-520.

Morgan, A. & Turner, D., 2000. Adding value to the work placement: Working towards a professional qualification in an undergraduate degree programme. *Education & Training*, 42(8/9), pp. 453-460.

Oxford Dictionaries, 2010. *Oxford Dictionary of English*, Oxford: Oxford University Press .

Sharp, G. & Shieff, R., 1992. Work Experience: The Perks and Perils for Employers. *Education & Training*, 34(2), p. 27.

Summerton, J. & Berner, B., 2002. *Constructing Risk and Safety in Technological Practice*. London: Routledge.

Teo, E. A. L., Ling, F. Y. Y. & Ong, D. S. Y., 2005. Fostering safe work behaviour in workers at construction sites. *Engineering, Construction and Architectural Management*, 12(4), pp. 410-422.

Universities & Colleges Employers Association, 2009. *UCEA Health and Safety Guidance for the placement of Higher Education students*. [Online] Available at: <http://www.ucea.ac.uk/download.cfm/docid/6217CBEC-4722-43F5-877B61D6F7986BCB> [Accessed 25 05 2013].

Walliman, D. N., 2011. *Your Research Project*. 3rd ed. London: Sage Publications Ltd.

Williams, W. & Lewis, D., 2005. Convergent interviewing: a tool for strategic investigation. *Strategic Change*, 14(4), pp. 219-230.

Yaakob, S. B. & Kawata, S., 1999. Workers' placement in an industrial environment. *Fuzzy Sets and Systems*, 106(3), pp. 289-297.

11 Appendices

11.1 Appendix A – Interview Framework

11.1.1 Student

1. What was your involvement in the work placement?
2. Did you find the placement beneficial? Why?
3. Were there any precursors? Paperwork?
4. Was any specific HandS preparation needed? Training, CSCS cards, PPE, insurances
5. Did you enjoy the placement experience?
6. Was it beneficial to those involved? How?
7. Were there any negatives?
8. Were you able to fully participate in the workplace?
9. Were you comfortable? Did you feel safe?
10. Were you satisfied with the placement experience?
11. Do you think HandS influenced how you were able to integrate into the workplace?
Can you give examples?

11.1.2 Host Organisation

1. What was your involvement in the work placement?
2. Did you find the placement beneficial? Why?
3. How difficult was it to set up the placement? Were there any specific terms?
4. Were there any precursors? Paperwork?
5. Was any specific HandS preparation needed? Training, CSCS cards, PPE, insurances
6. Did you enjoy the placement experience?
7. Was it beneficial to those involved? How?
8. Were there any negatives?
9. Was the student able to fully participate in the workplace?
10. Did the HandS requirements of the workplace limit student participation?
Onsite/Office?
11. Were you satisfied with the placement experience?
12. Do you think HandS influenced how the student was able to integrate into the workplace? Can you give examples?

11.1.3 Tutor

1. What was your involvement in the work placement?
2. Did you find the placement beneficial? Why?
3. How difficult was it to set up the placement? Were there any specific terms?
4. Were there any precursors? Paperwork?

5. Was any specific HandS preparation needed? Training, CSCS cards, PPE, insurances
6. Was it beneficial to those involved? How?
7. Were there any negatives?
8. Were you satisfied with the placement experience?
9. Do you think HandS influenced how the student was able to integrate into the workplace? Can you give examples?

11.2 Appendix B – Participation Information and Consent Form

Participation Sheet

Work Placements in Safety Critical Industries

My name is Robert Smith. I am a full time student at the University of Bolton. I am undertaking a research project with the support of the University as part of the ASET student research bursary scheme.

Interviews will be carried out with students, host organisations and placement tutors in order to ascertain whether placements in safety-critical industries limit the placement experience for those involved.

You have been identified as a key stakeholder in the placement of students within safety critical industries and, as such, have been chosen to provide comment on your experiences based around this involvement.

What will I have to do if I take part?

If you agree to participate, I will ask you some questions. These questions will be seeking your opinions on the processes and experiences of your involvement.

Do I have to take part?

No, **taking part is voluntary**. If you don't want to take part you do not have to give a reason and no pressure will be put on you to try to change your mind. You can also stop the discussion at any time.

If I agree to take part, what happens to what I say?

The discussion will be recorded and I will use the data to construct a summary document recording your views and opinions. This document will then be sent to yourself for confirmation and approval that it is a true representation of your views and opinions; you are able to make any changes at this time. The final approved document will then be incorporated within the thesis of the project, to provide industry validation and comment on the project itself.

You will remain confidential within the thesis, and will only be identified as a key stakeholder, relevant to comment on the placements carried out.



The data will be collected and stored in accordance with the Data Protection Act 1998 and will be disposed of in a secure manner.

What do I do now?

Think about the information on this sheet and ask me if you are not sure about anything. If you agree to take part please sign the attached consent form. This will not be used to identify you, it will be filed separately from all other information and forms part of the University’s ethics procedures.

If, after the discussion, you want any more information about the study, please contact me at The University of Bolton on ras1aes@bolton.ac.uk.

Participation Consent Form

Work Placements in Safety Critical Industries

I have been issued with and read and understood the Participation Sheet for the Work Placements in Safety Critical Industries Study being carried out by Robert Smith.

I understand that my participation is voluntary and I can stop the discussion at any time without having to give a reason, and I am not under any obligation to participate.

I give my consent to participate in this study and allow our discussion to be recorded digitally.

I give my consent for what I say to be transcribed and presented as a summary, subject to my final approval.

Name:.....

Signed:.....

Position:.....

Company:.....

Date:.....

Discussion Ref (Researcher to complete):.....