The impact of workplace placement on students’ entrepreneurial attitude

by Manning, L. and Parrott, P.

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Abstract

Purpose: The aim of the research was to determine the impact of a workplace placement on the student participants’ self-reported entrepreneurial attitude (EA).

Design/methodology/approach: A review of relevant literature informed questions incorporated in the university’s annual feedback questionnaire completed by students (n = 461) on return from a work placement of between 44 and 52 weeks.

Findings: The study has shown that both gender and entrepreneurial legacy influence baseline and post-placement EA (p < 0.05). The interaction between EA, social learning, perceived behavioural control (PBC), subjective norms and perceived relational support (PRS) was also considered.

Originality/value: This research provides context for further qualitative work in this area, especially the influence of gender and entrepreneurial legacy on reported baseline EA and EA post work placement and will inform pedagogical development in terms of embedding entrepreneurial teaching in future curriculum development at the university.

Key words

Entrepreneurial legacy, entrepreneurial attitude, subjective norms, entrepreneurial bridging, entrepreneurial intention
1. Introduction

Although entrepreneurial behaviour is seen as an asset within the sector (Lans et al., 2015), agriculture has been considered as an inflexible, low-tech industry dominated by family businesses that are mostly focused on doing things better rather than doing new things. Indeed, entrepreneurship is vital for economic transformation, stimulation of global development and is a wealth generator at individual, regional, national and international levels (Obembe et al., 2014). Social and economic constructs mediate entrepreneurial activity. Social factors that are of influence can be cultural, political, or policy orientated, and consideration of rural entrepreneurship encompasses innovative activity to meet socio-economic issues such as food security, population growth, urbanisation, freshwater use, and effective soil management as well as those social issues affecting rural communities and places. Korsgaard et al., (2015) differentiate between entrepreneurship in the rural i.e. profit-oriented entrepreneurial activities with limited embeddedness in the wider rural social community and rural entrepreneurship meaning entrepreneurial activities that leverage local resources to re-connect place with space. An entrepreneurial mindset affords business operators the ability to take advantage of opportunities and also ensure their businesses remain viable and resilient to regulatory, market or environmental shocks especially important where businesses are connected to the land.

1. Factors that influence student entrepreneurialism

The term entrepreneurship pertains to the actions of a risk taker, undertaking a creative venture into a new business or reviving an existing business with notions of individuals being seen as having characteristics of individualism, drive, intuition, being highly motivated, creative, and energetic (Ehrlich, 1986; Hébert and Link, 1988; Obembe et al. 2014). Entrepreneurship has become a key subject in secondary and tertiary education, offering
promise for multiple stakeholders (Dahalan et al. 2013; Ishmail et al. 2015; Mat et al. 2015).

Students that come from farming families or families high levels of parental self-employment will have experienced social learning (SL) through their family social context or situation. Jaskiewicz et al. (2015:30) describe entrepreneurial legacy as “rhetorically reconstructed narratives of the family’s past entrepreneurial behaviour or resilience that motivate and give meaning to entrepreneurship”. Thus these students have grown up within a narrative of self-employment, and this may well influence their thinking, attitudes and potentially their behaviour. Indeed, entrepreneurial legacies, such as those derived from being involved with a farming business from birth, are “imprinted in children through active involvement in the family firm and through story telling within large and cohesive families” (Jaskiewicz et al. 2015). Further, the social aspects of the extended family construct leads to entrepreneurial bridging that nurtures entrepreneurship in younger generations as multiple generations work side by side in the family business. Families with an entrepreneurial legacy may also nudge their children toward educational settings and work experiences that are perceived as being of high value with regard to the degree of entrepreneurial knowledge and information (EKI) embedded in the learning experience, especially if previous generations of the family have attended the same establishment. There is therefore, in these families, a focus on context specific learning i.e. that the learning is related to the operations within the family business in terms of skills accumulation which can enrich the family business. Thus students may gravitate towards entrepreneurial universities that can provide educational setting and work setting experiences in the form of industry placements, scholarship opportunities and wider industry related activities. The families in turn will then provide the social and relational support and financial capital to underpin the next generation’s entrepreneurial activity.

Ambad and Damit (2016) conclude that three factors influence entrepreneurial intention: entrepreneurial attitude (EA) the greater the students’ attitude to entrepreneurship, the greater
the entrepreneurial intention; perceived behavioural control (PBC) the easier the student thought it would be to become an entrepreneur the more motivated they were to be entrepreneurial themselves; and perceived relational support (PRS) in that the greater the support from people around them e.g. parents, family, friends, network, the greater the student’s intention to be entrepreneurial. Camelo-Ordaz et al., (2016) consider entrepreneurial self-efficacy, a concept derived from Social Learning Theory (SLT), whilst others have described this characteristic as entrepreneurial orientation (EO), see Ishmail et al., (2015). Self-efficacy reflects an individual’s perception of, and their degree of personal confidence in, their own skills, abilities and competence, the ability in individuals to recognise opportunities, and fear of failure (Camelo-Ordaz et al., 2016; Kickul et al., 2008; Bandura 1989). Gender is a mediating factor (Camelo-Ordaz et al. 2016; Langowitz and Minniti 2007) and EA has been shown to be weaker in females (Karimi et al. 2013), but other studies have not found a gender influence more generally in perceptions of entrepreneurship (Obeme et al. 2014). Therefore the student’s transition between entrepreneurial attitude to entrepreneurial intention to exhibiting entrepreneurial behaviour is mediated by a number of interactions (see Figure 1) and factors such as EKI and SL play a role.

Take in Figure 1

A multiplicity of research questions arise that are worthy of consideration. An area of interest for this research was to determine the student self-reported baseline EA and then the impact of a workplace placement on the student participants’ self-reported EA. Work placements, sometimes called “sandwich years” have featured as a part of the higher education learning experience for some decades (Orrell, 2004). Little (2000) highlight that with a work placement as part of a wider curriculum framework, specific learning outcomes can be mapped against the experience in terms of skills development such as personal and social skills, problem solving, organisation skills and communication. Little and Harvey
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(2006) in their work on the role and value of work placements conclude that a work placement offers opportunity for personal development i.e. increasing confidence and interpersonal skills, better organisational, team work and time-management skills; more self-awareness and more self-criticality and also opportunity to increase subject knowledge. However the Little and Harvey (2006) study highlights specifically that a work placement had helped to inform student’s future intentions and career plans at the end of their programme, which is a focus too of the empirical study described in this paper, As such work placement experience is situated and also an opportunity to “learn in context” (Brown et al. 1989; by Crebert et al. 2004). The international work critiqued in this paper has been undertaken in the UK (see also the work of Gomez et al. 2004); Malaysia (e.g. Ishmail et al. 2015; Ambad and Damit, 2016 among others), the US and Australia. Thus it can be argued that work placement can contribute to both EKI and SL (see Figure 1). Figure 1 has been drawn together to demonstrate the overall relationship within the entrepreneurial behavioural model proposed by the authors. This research just considers the first element the dynamic between SL, EKI and EA.

The baseline level of student EA may be influenced by either the learning opportunities afforded at the land-based university in the preceding study years before their placement, their individual personal characteristics and/or the family context where in the past entrepreneurial characteristics have been evidenced. The work placement can also provide alternative social networks and access to capital and informational resources that will also provide a springboard for the student’s future career. The student body approach to work placement will be differentiated. Whilst some students may be influenced by either entrepreneurial legacy and/or entrepreneurial bridging others conversely may not. This will affect, both them as individuals and also as a collective group in terms of their development within the education setting and the way they personally interact with the learning experience.
and the subject studied and the associated placement opportunities on offer could influence the change in EA. The interaction between EA, PBC or PRS is unclear as well as the influence of additional factors such as fear of failure, risk tolerance or risk aversion in terms of future employment (Camelo-Ordaz et al. 2016; Ismail et al. 2015). The experience and knowledge gained during their work placement year may therefore influence EA in either a positive or a negative way. The main aim of the research was to consider the research question: **Does undertaking a work placement influence student entrepreneurial attitudes (EA)**?

Thus this research has been designed to consider four hypotheses:

- **H1** Gender influences baseline student EA.
- **H2** Gender influences the increase in student EA during work placement.
- **H3** Undertaking a work placement during a university course increases student EA.
- **H4** There is a difference in baseline student EA in line with course studied.

The paper is constructed as follows: firstly literature is used to provide context, secondly the methodology is explained; the results are analysed and discussed and finally conclusions drawn.

### 3. Method

The methodology used for this research was an intrinsic case study approach within the boundaries of issues of student work placement and self-reported EA. The data was collected in October 2016 at Harper Adams University, which is a specialist university for the land-based sector. Annually a multi-method survey approach is used to collect both qualitative and quantitative post work placement data in order to capture feedback from the students themselves relating to preparation for and support on placement. This data forms part of the course monitoring approach used in the university and students are actively encouraged to complete survey.
The sample population comprised of a group of students who had recently returned from a 44-52 week compulsory placement period (n=461) and were returning to their final year of study. Table 1 shows the profile of the survey population. The numbers surveyed on the Agriculture courses are subdivided by undergraduate BSc Honours degree course (four year including placement in the third year) or by FdSc Foundation degree course, a three year course with the placement in the second year of study. Specific questions relating to EA were included in the survey. The survey was completed anonymously and, in the instances where some respondents chose to not answer a given question, actual respondent frequencies of completion are shown in the results section to overcome differences in reporting frequency compared to the whole sample data set. Questions relating to EA before and after placement used a ten point scale where 1 = being no EA and 10 = being a high level of EA and the intention to start their own business or develop an existing business when the student leaves University and commences work.

Take in Table 1

The responses were part of a formal process of feedback and reflection following the work placement. A limitation of the study is that the students may have responded as a matter of routine amongst a series of questions. As the students know, albeit that the work placement receives a simple pass/fail mark that the completion of the questionnaire forms part of their formal obligations to the university and this may have led to some response bias. However the research has been carried out to provide context and to frame further research in this area with regard to students’ EA. Although the sampling method was convenience sampling, the researchers feel that as long as the results are interpreted within this in mind then the conclusions drawn in the paper have validity. Descriptive analysis of the data was undertaken using the calculation of a mean score for each factor. This gives statistical significance of 90% confidence with +/- 5% accuracy (West, 1999). Inferential statistical analysis
(independent samples t-test) was used to consider statistical significance and is reported at
(p<0.05).

4. Results

The response rate was 98.7%. The reason for this high response level is that all
students were required to complete the survey on their return from placement. The
respondents were asked to give an indication of their gender and 2.4% declined to identify
their gender for the survey (n=444). Of those who reported gender for the whole survey there
was an even split of males to females (49.5:50.5). Respondents did not answer all questions
so gender response is subsequently reported by question. Student views on the impact of
placement on their entrepreneurial attitudes were collated via the following question:

‘Please rank your entrepreneurial attitudes before and after the placement based on a scale
of 1 to 10 (1 being no entrepreneurial attitude and 10 being you have a high level of
entrepreneurial attitude and you intend to start your own business or develop an existing
business when you leave Harper Adams and start work).

The weighted mean scores for the respondents to this question (n=455) for this
question has been analysed by whole survey and by gender (Table 3) in order to test and gain
further understanding of hypothesis: H1: Gender influences baseline student EA.

Male students showed a greater EA pre-placement than females (score 5.66 and 4.61
respectively). However, it is interesting to note, that whilst the weighted mean post placement
for females is less than that of the males (6.99 compared with 7.68), the females show a
greater overall difference in EA post placement with a weighted mean difference of 2.38
compared to the whole survey sample (2.19). The results demonstrate (Table 2) that for the
weighted mean average the male students were more likely to intend to start their own
business or develop an existing business before placement than females concurring with
Ambad and Damit, (2016), and Karimi et al. (2013). Using the independent samples t-test
demonstrated there was a statistically significant difference at p<0.05 with regards to gender and that males had a higher baseline EA than females. This proves H1 in the context of this university. This study has also shown that gender influences baseline weighted mean student EA with females having a lower baseline weighted mean EA (H1), that gender too influences the difference in weighted mean EA before and after placement with females increasing more in weighted mean EA during a placement activity agreeing with Karimi et al. (2013) and others. There is also a difference in weighted mean baseline EA in line with courses studied as well as the proportion of increased weighted mean EA on different courses (H4).

Take in Table 2

The research also tested: H2: Gender influences the increase in student EA during work placement.

As previously described, the data in Table 2 demonstrates that increase in weighted mean average for females (2.38) was greater than males (2.02) thus proving H2. The difference in weighted mean before placement (1.05) between males and females narrowed after placement to (0.69). Using the independent samples t-test to analyse the increase in EA during work placement showed there was a statistically significant difference at p<0.05 with regards to gender with work placement having a greater positive influence on females than males, but this in part could be due to males having a higher baseline EA. Karimi et al. (2013) considered the gender relationship was nuanced and that whilst gender did not influence PBC and EI, gender did affect firstly EA, which was weaker for females, concluding that subjective norm (SN) was a stronger predictor of EI for female students than for male. SN is the perceived social pressure, in this case for female students, to perform or not perform a specific behaviour (Ajzen, 1991) in this instance, entrepreneurial behaviour. Thus it could be suggested that the activities and experiences associated with a work placement may overcome previous social learning that has led females to perceive that they should not engage in
entrepreneurial behaviour and this impacts their EA. This is worthy of more qualitative research.

The third hypothesis tested in this study is **H3: Undertaking a work placement during a university course increases student EA.** This hypothesis has also been proven in this study as previously described. The results show that undertaking a work placement does influence EA with an overall weighted mean EA before placement of 5.10 and after placement of 7.29. This clearly demonstrates that undertaking a work placement as a learning opportunity whilst at university increases weighted mean student EA (H3). Using the independent samples t-test demonstrated there was a statistically significant difference at p<0.05 with regards to gender and that females experienced a higher increase in EA as a result of placement.

The fourth hypothesis tested was **H4: There is a difference in baseline student EA in line with course studied.** The weighted mean before and after placement for individual courses has been collated (Table 3). The courses have been ranked by weighted mean before and after placement and by weighted mean difference and standard deviation difference.

**Take in Table 3**

Students studying on the Agricultural suite of courses showed a greater EA pre-placement than other courses although, there were differences between those on the BSc Agriculture course and FdSc Agriculture course where the weighted mean EA for the FdSc students was lower than BSc students (5.28 compared to 5.81) as shown in Table 3. However, the impact of the placement period for the FdSc students showed a greater weighted mean difference in EA post placement than BSc Agriculture students (2.38 compared with 2.25 respectively).

Students on the Animal Behaviour, Welfare courses showed least EA pre placement, but the weighted mean difference in EA post placement (2.29) highlighted the influence of the
placement experience. The students on the Agriculture BSc course, Vet Physiotherapy, Rural Estate Management and Engineering showed the greatest EA before placement. The Business, Agri-food and Agribusiness course and the Agriculture FdSc showed the greatest increase in EA during placement. The Food related courses showed the least increase in EA during placement so further investigations into the types of placement activities would be of value to see if there was a particular influence. The weighted mean EA difference overall for each course (Table 2) shows that females reported a greater overall difference to EA post placement (2.38) than males and above the average of the whole survey (2.19). On a course level, students on the Agriculture FdSc course and Business, Agrifood and Agribusiness courses showed greater weighted mean difference EA scores (2.38 and 2.37 respectively) than students on the other courses and Food related courses specifically showed that placement had the least reported impact on EA (1.76). Descriptive analysis of EA for all students on agricultural courses shows a shift in EA before and after placement with a generally uniform cohort before placement of students albeit with some tails that show heightened and conversely lesser EA (Figure 2).

**Take in Figure 2**

Analysis of the standard deviation in EA before and after placement (Table 3) shows a convergence of EA after placement for some courses (Agriculture; Business, Agrifood, Agribusiness; and Countryside, Environment and Geography) and to a lesser extent Vet Physiotherapy. For other courses (Engineering and Food) there is a greater divergence in EA after placement, but most noticeably for Rural Estate Management and Animal Behaviour and Welfare. There is a difference in the profile of students on the BSc Agriculture course before and after placement in terms of EA and standard deviation which suggests a multiple grouping of students in terms of EA initially, but this is much more uniform after placement (Figure 3). Students on the FdSc Agriculture course show greater uniformity as a cohort in
terms of EA both before and after placement although there is a recognizable tail on both
Agricultural courses that show a lag in reported EA (Figure 4).

Take in Figures 3 and 4

In order to explore the influence of entrepreneurial legacy on EA the respondents
were asked to consider their own background and identify whether they came from a
background of family business/self-employment and this is shown in Table 4. The
respondents who answered this question (n = 449) reported that two thirds (65.3%) came from
a background of family business and/or self-employment. There was a slight gender influence
with males coming from this background (67%) and females (64.7%). There was however a
greater bias towards a family background of self-employment in terms of Business, Agrifood
and Agribusiness courses (77.8%) Agricultural courses (77.2%) with little difference between
the BSc and the FdSc courses); Food related courses (76.9%) and Rural Estate Management
(68.4%). This compared with students on the Engineering, Vet Physiotherapy, Animal
Behaviour and Welfare, and Countryside, Environment and Geography courses that reported
a lesser background in self-employment (57.5%, 53.8%; 40.6 %and 37.8% respectively).

Take in Table 4

Those respondents who answered that they came from a background of family
business/self-employment, were subsequently asked whether it had shaped their views on
themselves starting a business or developing a business, although they were not asked to
identify quantitatively whether this was a positive or negative perception. Family background
of business or self-employment was a strong influence on shaping the views of respondents
who answered this question (n = 286) on whether they would themselves start or develop an
aspect of the business on all courses, with the exception of the students on the Food related
courses (Table 5). Overall 80.8% of respondents (n=231) reported that a background of
family business/self- employment had shaped their views on starting a business or developing
an existing business themselves in the future, highlighting the role of entrepreneurial legacy in guiding students views on starting a business or develop an existing business. There was a slight gender influence with males being more influenced by entrepreneurial legacy (83.9%) compared with females (77.5%). There was a differentiation of entrepreneurial legacy by course studied with influence highlighted by Agricultural programmes (90.9% for the FdSc course and 88.1% for the BSc course); and the Business, Agrifood and Agribusiness course (87%)

Take in Table 5

Before placement, there are two distinct cohorts on the engineering course with regard to reporting of EA (Figure 5) suggesting that there is sub-group of engineering respondents who report pre-placement EA whereas there is a second group that initially have reported low levels of EA. This shows the value of the placement in shifting entrepreneurial perceptions in students on the engineering course is mixed. Within the overall number of Engineering students in the study (n=41), 57.5% of these students stated that they came from a family background of family business or self employment (n=23) and of these students 79.2% (n=19) stated that this background had influenced their EA. This suggests that there may be two distinct cohorts on the engineering course with regard to EA.

Within the overall number of Animal Behaviour, Welfare students that responded in this study (n=64), 40.6% of these students stated that they came from a family background of family business or self employment (n=26) and of these students 76.9% (n=10) stated that this family background had influenced their EA. It can be shown through this study that both before and after placement there is a greater differentiation of students with regard to EA on the Animal Behaviour, Welfare studies course compared with the Agriculture related course (Figure 6). However with a weighted mean shift of EA difference before and after placement of 2.29 there is a clear demonstration of the influence of the placement work period for
students on the Animal Behaviour, Welfare studies course. The data implies that with regard to reported EA, as with the engineering course, there may be multiple sub-populations within the cohort of students.

**Take in Figures 5 and 6**

The number of students who responded that their background of family business influenced their EA on the Veterinary Physiotherapy course (n=5) from a small overall population in the study of 14); and Countryside, Environment and Geography course (n = 9 from a sample size in the study of 37) limited any further interpretation with regard to the impact of entrepreneurial legacy. There is a weighted mean shift of EA between before and after placement of 2.28 for the Vet Physiotherapy course and a weighted mean shift of EA between before and after placement of 2.08 for the Countryside, Environment and Geography course again demonstrating the reported influence of the placement work period for students on these two courses.

The Rural Estate Management students in the study (n=56), reported that 68.4% came from a background of family business or self employment (n=39) and of these students 71.1% (n=27) stated that this background had influenced their EA. The weighted mean average of EA before placement was 5.39 and after placement increased to 7.32 (Figure 7). There were twenty-six food students in the overall study, which makes interpretation of the trends with regard to student EA limiting. However weighted mean difference in EA before and after placement was lowest in this group at 1.76 (Figure 8). Whilst 76.9% of these students reported that they came from a family background of family business or self employment (n=20), of these students 60% (n=12) stated that this background had influenced their EA. Using the independent samples t-test to analyse the influence of family background on baseline EA demonstrated that those students from a background of family business had a higher baseline EA and a higher EA after placement which was statistically significant at
p<0.05. However the change in EA before and after placement between those students who had a background of family self-employment and those students who did not, showed no statistically significant difference at p < 0.05. All these factors are worthy of further study.

Take in Figures 7 and 8 and further qualitative analysis

5. Discussion

The main aim of the research was to consider the research question: Does undertaking a work placement influence student entrepreneurial attitudes (EA).

A review of relevant literature informed questions incorporated in the university’s annual feedback questionnaire completed by students (n = 461) on return from a work placement of between 44 and 52 weeks. The responses were reviewed and analysed in order to give an insight into the EA of students before and after placement, by cohort and also the influence of gender. Previous literature has highlighted that a work placement provides a situational and context driven learning experience and can aid personal development, provide opportunity to develop subject knowledge and also help to inform future intentions and career plans (Little, 2000; Crebert et al. 2004; Orrell, 2004; Little and Harvey, 2006).

The research explored and tested the four hypotheses that were all proven:

- **H1** Gender influences baseline student EA.
- **H2** Gender influences the increase in student EA during work placement.
- **H3** Undertaking a work placement during a university course increases student EA.
- **H4** There is a difference in baseline student EA in line with programme studied.

Students studying on the Agricultural suite of courses showed a greater reported EA pre-placement than other courses, potentially greater entrepreneurial legacy (Jaskiewicz et al. 2015) and potentially increased confidence in both PBC and PRS with an average background of self-employment of 77.1%. Students on the Animal Behaviour Welfare related courses showed the least EA before placement, however, the weighted mean difference in EA post
placement (2.29) was similar to Agriculture All (2.30) suggesting a similar influence from the placement experience even though baseline EA and potentially the level of entrepreneurial legacy (40.6%) was different. Therefore undertaking a placement activity has been shown to increase reported EA across all courses. The small sub-populations made detailed analytical analysis difficult. Two important findings are that:

- Female students show lower baseline reported EA but the overall difference in reported EA post placement was greater \((p < 0.05)\) and
- There was a difference noted between courses in student self-reported EA before and after placement but further work is required with a larger dataset to quantify these differences more objectively and/or see if the results are repeatable with a second student cohort.

Further research could be undertaken to consider the value of work placement to the student from a wider pedagogic framing in terms of the learned or lived experience of the work placement and its impact on EA. The influence of placement on female students overall is worthy of further qualitative study as to the exact nature of the factors that influence lower baseline EA. There are some factors identified in the literature, but an exploratory study would highlight their interaction more clearly how they interact especially how experience influences attitudinal response both before and after a work placement. Further research on the type, commonalities and differences of workplace experience by course would also be of value. This suggests that a wider exploration of pedagogic framing of the “lived learning experience” would be of value when considering the development of entrepreneurial attitude.

It would also be good to see how much pre-course work experience had been undertaken and whether this influenced baseline EA. This in part may be influenced by entrepreneurial legacy and that work experience before university in the family business or alternatively work experience in the industry in which students seek to have a career has already increased
baseline EA. This might go some way to explained why on some courses such as animal
behaviour and geography baseline EA is lower. The specific findings for females and the
impact of work placement on EA should be specifically considered in terms of encouraging
female education opportunities. Internationally, where female education opportunities may be
more limited than in the country in which the study took place, pedagogic development for
women who can access learning via a life-long learning work based programme should also
be considered.

6. Conclusion
Entrepreneurship is vital for economic growth and entrepreneurial behavior post education
amongst students has been the central element of this work. The aim of the research was to
determine the impact of a workplace placement on the statistically more likely to report
higher EA than females (p<0.05). However, a work placement during a university course may
overcome social pressure, social learning and the boundaries created by subjective norms
prior to university for females, as in this study they report they are more likely to intend to
start their own business or develop an existing business after the experience of work
placement. The increase in reported EA after placement was greater for females and was
influenced by the course of study. The influence of entrepreneurial legacy in terms of self-
reported EA has also been shown.
Further, this study does show that the process of adapting to cultural expectations and
organisational pressures during a work placement (see Crebert et al. 2004), does change the
student’s personal outlook and their attitudes towards their career destination influenced by
entrepreneurial legacy. This research also shows that the student body is not homogenous and
not only gender, but also previous experience, especially the social legacy of family context
and whether for example the student is from a family with a self-employed background, will
influence both baseline and future EA. This means that how the work placement is designed, implemented and mediated by the university, the student themselves and the learning experience provided via the employer will play an important part in the overall experience derived and the difference in baseline and completion levels of personal development and self-reflection on future career intentions.

This study was undertaken in the UK, but has potentially wider applicability in an international context with universities that undertake a placement period, with the caveats outlined with regard to the student family background and how this might influence this specific grouping of students. This study provides context for further qualitative and quantitative work in this area to explore more fully the influence of entrepreneurial legacy on EA in terms of both PBC and PRS. This work will also inform pedagogical development in terms of embedding entrepreneurial teaching in future curriculum development at the university.
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### Table 1. Survey Profile

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*Note the number is the number of respondents to the survey, not the number studying on the course.

### Table 2. Gender profile and difference in weighted mean EA before and after work placement

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<tr>
<th>Gender profile</th>
<th>Number of respondents</th>
<th>% Number of respondents</th>
<th>Weighted mean EA before placement</th>
<th>Weighted mean EA after placement</th>
<th>Weighted mean difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Survey</td>
<td>445</td>
<td>100</td>
<td>5.10</td>
<td>7.29</td>
<td>2.19</td>
</tr>
<tr>
<td>Females</td>
<td>217</td>
<td>47.69</td>
<td>4.61</td>
<td>6.99</td>
<td>2.38</td>
</tr>
<tr>
<td>Males</td>
<td>214</td>
<td>47.03</td>
<td>5.66</td>
<td>7.68</td>
<td>2.02</td>
</tr>
</tbody>
</table>

*The whole survey includes those who reported as female (n=217); male (n=214) and those who preferred not to say (n=14)
### Table 3. Course profile and difference in weighted mean EA before and after work placement

<table>
<thead>
<tr>
<th>Profile and related course</th>
<th>Number surveyed</th>
<th>Number of respondents</th>
<th>% Number of overall respondents</th>
<th>Weighted mean EA before placement</th>
<th>Weighted mean EA after placement</th>
<th>Weighted mean difference</th>
<th>SD difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Survey</td>
<td>461</td>
<td>445</td>
<td>100</td>
<td>5.10 (SD 1.95)</td>
<td>7.29 (SD 1.87)</td>
<td>2.19</td>
<td>0.08</td>
</tr>
<tr>
<td>Agriculture (All students)</td>
<td>140</td>
<td>139</td>
<td>31.24</td>
<td>5.58 (SD 1.85)</td>
<td>7.88 (SD 1.48)</td>
<td>2.30</td>
<td>0.37</td>
</tr>
<tr>
<td>Agriculture- BSc</td>
<td>79</td>
<td>78</td>
<td>17.53</td>
<td>5.81</td>
<td>8.06</td>
<td>2.25</td>
<td></td>
</tr>
<tr>
<td>Agriculture- FdSc</td>
<td>61</td>
<td>61</td>
<td>13.71</td>
<td>5.28</td>
<td>7.66</td>
<td>2.38</td>
<td></td>
</tr>
<tr>
<td>Business, Agrifood, Agribusiness</td>
<td>73</td>
<td>73</td>
<td>16.40</td>
<td>5.12 (SD 2.00)</td>
<td>7.49 (1.76)</td>
<td>2.37</td>
<td>0.24</td>
</tr>
<tr>
<td>Rural Estate Management</td>
<td>66</td>
<td>56</td>
<td>12.58</td>
<td>5.39 (SD 1.99)</td>
<td>7.32 (2.34)</td>
<td>1.93</td>
<td>-0.35</td>
</tr>
<tr>
<td>Animal Behaviour, Welfare</td>
<td>64</td>
<td>64</td>
<td>14.38</td>
<td>3.91 (SD 1.93)</td>
<td>6.20 (2.30)</td>
<td>2.29</td>
<td>-0.37</td>
</tr>
<tr>
<td>Engineering</td>
<td>41</td>
<td>37</td>
<td>8.31</td>
<td>5.38 (SD 1.67)</td>
<td>7.32 (SD 1.82)</td>
<td>1.94</td>
<td>-0.15</td>
</tr>
<tr>
<td>Countryside, Environment, Geography</td>
<td>37</td>
<td>36</td>
<td>8.09</td>
<td>4.53 (SD 2.20)</td>
<td>6.61 (SD 1.96)</td>
<td>2.08</td>
<td>0.24</td>
</tr>
<tr>
<td>Food</td>
<td>26</td>
<td>26</td>
<td>5.84</td>
<td>5.12 (SD 1.66)</td>
<td>6.88 (SD 1.76)</td>
<td>1.76</td>
<td>-0.10</td>
</tr>
<tr>
<td>Vet Physiotherapy</td>
<td>14</td>
<td>14</td>
<td>3.08</td>
<td>5.36 (SD 1.99)</td>
<td>7.64 (SD 1.95)</td>
<td>2.28</td>
<td>0.04</td>
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</table>

### Table 4. Reported background of family business/self-employment

<table>
<thead>
<tr>
<th>Profile and related course</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Survey Total</td>
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<td>65.30</td>
<td>156</td>
<td>34.70</td>
</tr>
<tr>
<td>Females</td>
<td>141</td>
<td>64.70</td>
<td>77</td>
<td>35.30</td>
</tr>
<tr>
<td>Males</td>
<td>146</td>
<td>67.00</td>
<td>72</td>
<td>33.00</td>
</tr>
<tr>
<td>Business, Agrifood, Agribusiness</td>
<td>56</td>
<td>77.80</td>
<td>16</td>
<td>22.20</td>
</tr>
<tr>
<td>Agriculture- BSc</td>
<td>61</td>
<td>77.20</td>
<td>18</td>
<td>22.80</td>
</tr>
<tr>
<td>Agriculture- FdSc</td>
<td>47</td>
<td>77.00</td>
<td>14</td>
<td>23.00</td>
</tr>
<tr>
<td>Food related</td>
<td>20</td>
<td>76.90</td>
<td>6</td>
<td>23.10</td>
</tr>
<tr>
<td>Rural Estate Management</td>
<td>39</td>
<td>68.40</td>
<td>18</td>
<td>31.60</td>
</tr>
<tr>
<td>Engineering</td>
<td>23</td>
<td>57.50</td>
<td>17</td>
<td>42.50</td>
</tr>
<tr>
<td>Vet Physiotherapy</td>
<td>7</td>
<td>53.80</td>
<td>6</td>
<td>46.20</td>
</tr>
<tr>
<td>Animal Behaviour, Welfare</td>
<td>26</td>
<td>40.60</td>
<td>38</td>
<td>59.40</td>
</tr>
<tr>
<td>Countryside, Environment, Geography</td>
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<td>37.80</td>
<td>23</td>
<td>62.20</td>
</tr>
</tbody>
</table>

*Respondent who did not report gender for this question was n=6*
Table 5. Has a background of family business/self-employment shaped your views on yourself starting a business or developing an existing business?

<table>
<thead>
<tr>
<th>Profile and related course</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Survey Total</td>
<td>231</td>
<td>80.80</td>
<td>55</td>
<td>19.20</td>
</tr>
<tr>
<td>Females</td>
<td>107</td>
<td>77.50</td>
<td>31</td>
<td>22.50</td>
</tr>
<tr>
<td>Males</td>
<td>120</td>
<td>83.90</td>
<td>23</td>
<td>16.10</td>
</tr>
<tr>
<td>Agriculture- FdSc</td>
<td>40</td>
<td>90.90</td>
<td>4</td>
<td>9.10</td>
</tr>
<tr>
<td>Agriculture- BSc</td>
<td>52</td>
<td>88.10</td>
<td>7</td>
<td>11.90</td>
</tr>
<tr>
<td>Business, Agrifood, Agribusiness</td>
<td>47</td>
<td>87.00</td>
<td>7</td>
<td>13.00</td>
</tr>
<tr>
<td>Engineering</td>
<td>19</td>
<td>79.20</td>
<td>5</td>
<td>20.80</td>
</tr>
<tr>
<td>Animal Behaviour, Welfare</td>
<td>20</td>
<td>76.90</td>
<td>6</td>
<td>23.10</td>
</tr>
<tr>
<td>Vet Physiotherapy</td>
<td>5</td>
<td>71.40</td>
<td>2</td>
<td>28.60</td>
</tr>
<tr>
<td>Rural Estate Management</td>
<td>27</td>
<td>71.10</td>
<td>11</td>
<td>28.90</td>
</tr>
<tr>
<td>Countryside, Environment, Geography</td>
<td>9</td>
<td>64.30</td>
<td>5</td>
<td>35.70</td>
</tr>
<tr>
<td>Food related</td>
<td>12</td>
<td>60.00</td>
<td>8</td>
<td>40.00</td>
</tr>
</tbody>
</table>

*Respondent who did not report gender for this question was n=4
Figure 1. Entrepreneurial Behaviour Model

Figure 2. EA of students on all Agricultural courses before and after placement.
Figure 3. EA of students on the BSc Agricultural course before and after placement.

Figure 4. EA of students on the FdSc Agricultural course before and after placement.
Figure 5. EA of students on the BSc Engineering course before and after placement.

Figure 6. EA of students on the BSc Animal Behaviour Welfare course before and after placement.
Figure 7. EA of students on the BSc Rural Estate Management course before and after placement.

Figure 8. EA of students on the BSc Food related course before and after placement.