

Rosalyn Collings | Learning Enhancement and Innovation Bid | July 1, 2017

Stats Mentors

Project funded by ILT



# Research Team

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Dr Collings is a senior lecturer in Psychology and Statistics and has been teaching research methods and statistical analysis since she was an undergraduate. Fifteen years of teaching experience within the area alongside a PhD research topic of Peer Mentoring in Higher Education has led to the development of the Stats Mentor Project.

## Co-Investigator:

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Dr Kimberley Hill is a lecturer in Psychology and has been teaching statistics for almost ten years. As a National STEM Ambassador, Kimberley is dedicated to the enhancement of teaching and learning, access to subject-based knowledge and improving graduate employability. An active researcher, with expertise in mixed-methods approaches, Kimberley is works to improve the dissemination and impact of psychological research.

## Researcher:

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Ms Moring achieved a first class BSc (Psychology) and an MSc (Child and Adolescent Mental Health) with distinction from the University of Northampton. Ms Moring has been teaching A-Level and Access course Psychology for 6 years, is an Associate Lecturer at the University of Northampton and a Research Assistant to several Quantitative and Qualitative projects.

# Institute of Learning and Teaching in Higher Education

The University of Northampton Learning Enhancement and Innovation bid is an internal funding source developed and provided by the Institute of Learning and Teaching in Higher Education. The funds allow for staff within the university to run projects within the field of pedagogic development, research and innovation. Funds run from £3, 000 to £10,000 with a bid deadline of September and a start date within November. In November 2016, he Stats Mentor project secured a fund of £7,000 to pilot a statistics mentoring project and evaluate its outcomes, in the hope that the project could become embedded within the Psychology department and funded by the Faculty of Health and Society.

# Contents

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  | Page |
|  |  | Research Team  | 1 |
|  |  | Institute of Learning and Teaching | 1 |
| 1 |  | Introduction | 3 |
|  | 1.1 | Mentoring | 3 |
|  | 1.2 | Statistics Mentoring | 4 |
|  | 1.4 | Project aim and objectives | 5 |
| 2 |  | Mentors | 5 |
| 3 |  | Project Blog | 6 |
| 4 |  | Evaluation aim and objectives | 7 |
| 5 |  | Methods | 8 |
|  | 5.1 | Design | 8 |
|  | 5.2 | Participants | 8 |
|  | 5.3 | Analysis | 9 |
|  | 5.4 | Ethics | 9 |
| 6 |  | Findings (Scoping Evaluation)  | 11 |
|  | 6.1 | Results | 11 |
|  | 6.2 | Discussion | 15 |
| 7 |  | Findings (Mentor/Mentee Evaluation) |  |
|  | 7.1 | Findings and Discussion |  |
|  | 7.2 | Conclusions  |  |
| 8 |  | Bringing it all together |  |
| 9 |  | Observations from an organizers perspective |  |
| 10 |  | Recommendations for Programme |  |
| 11 |  | Recommendations for Evaluation |  |
| 12 |  | References |  |

# Introduction

Research Methodology and Statistics are a compulsory aspect of any BPS accredited Psychology degree programme. Students’ knowledge and application of statistics is widely used beyond the classroom (Chiou et al, 2014) and can aid in student writing by enhancing the understanding of empirical research and critical thinking required for essays within other modules throughout the degree programme. For many students, statistics is a negative aspect within their curriculum (Schacht & Stewart, 1990; Onwuegbuzie & Leech, 2003) and many are likely to develop severe anxiety related to statistics (Collings, in prep; Onwuegbuzie, 1998; Onwuegbuzie & Leech, 2003, Zeidner, 1991). Students have reported research methods as a major barrier in their degree and struggle to see the relevance to their course (Onwuegbuzie & Leech, 2003). This anxiety for statistics is not conducive of learning and has shown a negative association with achievement (Collings, in prep; Onwuegbuize & Seaman, 1995).

# Mentoring

Peer mentoring has become increasingly popular within higher education (Collings, Swanson, & Watkins, 2014, 2015). A large number of research studies have highlighted the benefits of these schemes to both mentees and mentors and can help to reduce statistics anxiety (Andrews & Clark, 2011, Collings et al, 2014, Phillips, 2010). Mentoring schemes can have a psychosocial orientation, usually focused on the first year experience in higher education (Chester et al, 2013), or an academic focus (Bowman-Perrott et al, 2013). However, many naturally have benefits in several areas. Benefits of peer mentoring schemes for the mentees are considered to be diverse and cover academic achievement, student wellbeing, and student retention (Collings et al 2014, 2015). Mentors also benefit greatly from these scheme, as they highlight enhanced transferable skills, the ability to revise knowledge, altruistic behaviour and a sense of being part of the university (Beltman & Schaeben, 2012). The University of Northampton Psychology Stats Mentor scheme aimed to utilise a peer mentoring scheme to enhance engagement with and the learning of research methods. Mentoring schemes tend to be generic or focused on the first year experience, but this project aims to include students within all years of the Psychology undergraduate programmes.

Although mentoring has been shown to be beneficial for both the mentee and the mentor it does not come without its challenges and barriers. Specific challenges within this project are mostly focused on the mentors. Mentors may worry that they are not confident enough themselves in research methods or may face time constraints outside of this role in relation to the course (Collings, et al; submitted). Mentors are there to provide support and alternative explanations based on their own experiences of studying research methods as well as to discuss generic research study skills.

# 1.2 Stats Mentor

Stats Mentor is a peer mentoring programme within the University of Northampton which has a specific focus on supporting students with Statistics and Research Methods in their Psychology programmes. Stats Mentor provides one-to-one mentoring on any area related to statistics, with the option for mentors to support students in classes if the student wished to. Mentors were paid for their time and were required to keep a log and register with UniTemps, an on-campus recruiting agency.

Mentors were recruited through advertisement within main research methods lectures and across Northampton Integrated Learning Environment (NILE) sites. The key criteria for mentors was an interest in research methods and statistics, to expand their own knowledge in statistics and a wish to help others. The team were not specifically looking for “A” grade students, but instead students who had the ability and motivation to support students, while being able to explain key statistical concepts in a simplistic and understandable language. Most of the students who came forward to become mentors did tend to be “A” grade students, however, two B/C grade students who participated had a personable and empathic personality and were excellent at SPSS.

Mentors received training and were offered a hierarchy of support from tutors, which aimed to increase their own levels of engagement in the scientific research process. Students were required to commit to 30 hours of mentoring alongside other demands, as research suggests that it is essential that mentees get to know a particular mentor (Phillips, 2010).

# 1.3 Programme Aim and Objectives

The Stats Mentor project aims to facilitate the learning and understanding of research methods in Psychology by providing support and training to year 2 and 3 students to become mentors to year 1 and 2 student mentees (respectively). It was anticipated that these mentors would mostly work outside of class time on a one-to-one basis with their mentees. It is argued that Stats Mentors will be able to enhance student curiosity and confidence, therefore decreasing statistics anxiety. The main objective of decreasing anxiety is to further improve achievement and retention, given the importance of statistics within BPS-accredited Psychology degrees. As students sometimes feel that approaching staff is too difficult, it is hoped that having fellow students as peer mentors would make them more accessible.

# 2 The Mentors

Mentors supported students in the year below them. The majority of students were within the second year of their degree but, due to the high number of requests from this year group, there were some cases where students mentored students within their own year group. The Stats Mentors can be seen in Table 1.

**Table 1 Stats Mentors for the Academic Year 2016/ 2017**

|  |  |  |
| --- | --- | --- |
| Name | Year | Short Bio |
| Mia Jakeman | 2 | *“Hi, I’m Mia. I signed up to be a stats mentor because I struggled a great deal through my 1st year, after not doing any form of maths for 6 years; but was greatly helped by having a fantastic tutor and now wish to complete a MRes after my BSc. I hope to be able to help those that are also struggling, whilst solidifying my own knowledge at the same time.”* |
| Chelsea Markwell | 2 | *“Hi, Chelsea here. Throughout GCSE, A-Levels and my first year of University I had always been anxious about using statistics. However, I have overcome the anxiety and would therefore like to help you overcome your anxiety of any confusion you may have too.”* |
| Luke Percival | 3 | *“Hi everyone, my name is Luke. I know how daunting research methods and statistics can be. I am looking forward to helping you with this and providing some extra guidance. Please get in touch and I look forward to hearing from you.”* |
| Quoc Dai Tran | 2 | *“Hi! My name is Dai. I’m currently a second year on the Psychology course, so two things: One! I’m not exactly an expert when it comes to stats. Two! I’ve been through what you’re doing and I’ve done well thus far. Research method is very relevant for you moving forward with the course, especially stats and SPSS, so it’s necessary that you get a good grasp of the basics now while you still can. If there’s anything that you don’t quite understand or just want to improve on your general stats knowledge, we can meet up and go over them. Finally, I know it’s a bit of a personal opinion but stats is not by any means a difficult thing to wrap your head around, I honestly believe that once you start to appreciate and enjoy it you will find it very useful.”* |
| Violet Skinner | 2 | *“Hi, I’m Violet. I enjoy the statistics modules in psychology, especially learning quantitative methods. I find helping others to understand statistics very rewarding.”* |
| Kathleen Wood | 2 |  *“My name is Katie and I’m currently a second year student studying Psychology, with the hope of going in to research after I graduate. I have previous experience with mentoring in maths and have helped individuals reach their true potential.  I hope to be able to help others through sharing my knowledge once more. I understand that aspects of stats are difficult and would like to support individuals with this. I appreciate that people learn in different ways and am able to adapt to suit those individual needs.”* |

# 3 Project Blog

As part of the overall project the research team maintained a blog of the project progress. This can be found at: <https://mypad.northampton.ac.uk/statsmentor/>. This included monthly updates on topics such as the project aims, objectives, Stats Mentor recruitment, meetings, an overview of the Stats Mentors, activities, challenges, updates, reflections on the project and future plans. Mentors were invited to share their experiences of mentoring and to contribute to the blog. Blog updates invited comments from readers, were shared on Twitter using the hashtag #UoNPsychStatsMentor and though the Facebook UoN Psychology Stats Mentors group on: <https://www.facebook.com/groups/924026244303775/>

# 4 Evaluation Aims and Objectives

## 4.1 Evaluation Aim

Program objectives were to consider the impact of Stats Mentors on levels of curiosity, confidence and anxiety for Statistics. In addition to this, it was important to consider the mentors, including their experiences, the impact of time given to the project, their own confidence and anxiety, as well as their potential enhanced interest towards statistics. Therefore, the aim of this evaluation was consider the potential impact that the Stats Mentor project had on both mentors and mentees. This may also help to determine project is viable for funding at the Faculty level for an additional year.

## 4.2 Evaluation Objectives

* To obtain in-depth information on the level of engagement, benefits and potential negative effects on the mentors.
* Additionally, to consider the impact of mentoring on mentee confidence and what barriers there may be in mentoring uptake.

# 5 Methods

## 5.1 Design

In order to evaluate the Stats Mentor project, a Qualitative approach was adopted involving both mentors and mentees. Semi structured interviews were utilized in order to provide in depth information that would target questions around the project aims but also allow some freedom and flexibility in discussion. As this was a pilot year for the project, the uptake was too low to consider changes quantitatively. However, a survey was distributed among first and second year Psychology students to gauge student expectations and requirements of a stats mentor, as well as to understand what some of the barriers may have been to requesting a mentor this year.

### 5.1.1 Scoping Evaluation

An evaluation of students’ expectations and requirements of a mentor, including what they feel a mentor can offer, as well as their functions, was completed via quantitative online survey. Questions were loosely derived from the multidimensional mentoring measure (Scandura & Ragins, 1983) which captures the functions and behaviours between mentors and mentees. The questions were adjusted to be statistics specific and focused on what a potential mentee would consider a mentoring role could offer them, rather than what had already been received. The original questionnaire had 15 items scored on a scale of 1: completely disagree to 7 completely agree. Some items were removed and other items were added to relate to the current scheme: for example, “*a mentor should show you how to conduct analysis on SPSS*”. The original scale comprised of three dimension measurements, including career support, psychosocial support and role modelling. The scale shows acceptable reliability (.91-.93) although little validity related evidence exists. More recent studies of the reduced nine item scale indicate good levels of convergent and discriminant validity (Castro, Scandura and Williams, 2004). A similar measure has been used within research by Phillips (2010) to measure expectations of a whole university mentoring scheme. As the current study focused on exploratory descriptive statistics of each item, Cronbach Alpha was not required.

During the second part of the evaluation, students were asked to indicate what they would utilize a stats mentor for. Statements were based on activities throughout the academic year, which included examinations and assignments, as well as some research methods specific activities e.g. use and interpretation of SPSS. Specific statistics-related statements were derived from the existing literature on statistics anxiety. Students were asked to indicate on a scale of 1 (strongly disagree) to 7 (strongly agree)whether they would access a mentor for aspects such as “*help with assignments*”, “*help to understand SPSS output*”. The current study focused on descriptive statistics of each item, rather than the whole and therefore Cronbach Alpha was not required.

### 5.1.2 Mentee Evaluation

An evaluation of mentee’s experiences was completed via semi structured interviews with mentees. This focused on the reasons why mentees requested support, what they expected and what they achieved from asking for a mentor.

### 5.1.3 Mentor Evaluation

An evaluation of mentor’s experiences was completed via semi structured interviews with mentors. Questions related to the motivations for becoming a mentor, challenges they faced and aspects of support. Of additional interest was how mentors may have benefited themselves from being a stats mentor. Interviews took place after all mentoring for first sit and second sit opportunities had been completed and was conducted face-to-face or via Skype.

## 5.2 Participants

### 5.2.1 Scoping Evaluation

Evaluating the scheme overall via a quantitative survey, a total of 35 students completed the questionnaire link. Participants were mostly second year students, representing only 7% of all first and second years, therefore caution is required for the interpretation of the results.

### 5.2.2 Mentee Evaluation

As we maintained anonymity from course tutors of all students who accessed a mentor, emailing students personally was not possible. A request was placed on the Psychology NILE website for first and second year students who may have requested a stats mentor. In total, only two mentees came forward for an interview. One mentee received one-to-one mentoring on the run up to the Research Methods exam. The second mentee attended the peer led revision sessions organized by a mentor from January.

### 5.2.3 Mentor Evaluation

All mentors were invited to take part in a short interview. In total, 4 mentors came forward for an interview. Two of the mentors were heavily involved in the scheme, saw students regularly and helped set up peer revision sessions. Two of the mentors were less involved within the scheme and only saw mentees for one off sessions, mostly related to revision for the exam.

## 5.3 Analysis

### 5.3.1 Scoping Evaluation

Analysis of the quantitative data was done purely using exploratory descriptive statistics. Results are displayed in the form of descriptive tables and error bar charts. Non-normality at the univariate (item) level was present in a large proportion of the variables.

### 5.3.2 Mentee and Mentor Evaluation

In order to understand the experiences of mentees and mentors throughout the Stats Mentors scheme, all 6 transcripts were coded together.

Following transcription, semi-structured interviews were analysed using thematic analysis and the six phases outlined by Braun and Clarke (2006). Researchers familiarized themselves with the transcripts, which were then individually coded, with excerpts collated into meaningful units relevant to mentor and mentee experiences (see Appendix 2). These codes were then condensed into the final set of three main themes and ten sub-themes by combining some codes and discarding others which were irrelevant or not representative of the data (See Appendix 3). Final themes and sub-themes were then reviewed, refined and named, with the final interpretation discussed within the research team. This allowed researchers to identify, analyse and report on patterns within the data, from individual and group interpretations of mentoring experiences.

## 5.4 Ethics

Ethics approval was sought and gained from the School of Social Sciences ethics committee (Quantitative Measures) the Faculty of Health and Society ethics committee (Interviews). All ethical approval was gained by March 2017.

Ethical approval included the introduction of the programme, recruitment strategies, data collection tools developed and supporting documentation (participant information sheets).

The study followed the BPS code of Ethics in Research and the University’s best practice ethical guidelines:

* Valid and fully informed consent with no coercion
* Anonymization of the data and storage/ destruction in line with the Data Protection Act (1998)

Specific issues discussed were confidentiality for the mentors. As there were only 7 mentors, whose names were publically available within the Stats Mentor blog, it was harder to maintain confidentiality within the reports. This was even harder when the different mentors organized different strategies of mentoring – group revision sessions for example. Mentors were fully briefed that any quote provided in an interview may appear in the final report and, although anonymized, they may be recognizable. Mentors were allowed to withdraw any data from the interview or withdraw completely and consented to the use of their quotes for the final report, conference presentations and potential papers.

# 6 Findings (Scoping Evaluation)

### 6.1 Results

Of the 35 participants 23 (65.7%) had heard of the Stats Mentor project, but 12 (34.3%) stated that they had not heard anything about it. Of those that did know about the scheme they had mostly gathered this information through lectures/ seminars, tutors and tutor recommendations, NILE sites, the Facebook page and the project lead (posters on door). Three of the 35 respondents had asked for and engaged in the Stats Mentor scheme. They stated the reasons to be:

“In order to gain more knowledge and have an all rounded skill set relating to stats”

“I needed the help revising for an exam”.

“I wanted to understand stats better and felt I needed help”.

Of the 32 who had not engaged in mentoring, 28 (87.5%) stated that if they were provided with opportunity next year they would request a mentor, with only 4 (12.5%) stating that they would not.

Participants were asked to indicate on a 7 point likert scale (strongly disagree to strongly agree) where they would consider seeing a mentor for 8 statements. Results for each item can be found in figure 1.



**Figure 1: Areas where students would seek support from a mentor.**

Figure 1 indicates that students would find a stats mentor helpful on all the aspects questioned about, with no areas scoring below 4 (neither agree nor disagree). ‘*Help with understanding assignment feedback’* appears to be only area that students feel a mentor will not be able to help as much as the other areas discussed. It is possible that this statement was confusing, as it appeared to focus on general feedback, rather than statistics specific feedback. In several cases, approximately 50% gave their answer as strongly agree, with the exception of ‘*help with understanding assignment feedback’*, where 21.3% state within the “disagree” categories and 21.2% stated “strongly agree”. For ‘*understanding statistical concepts’* and ‘*interpreting and understanding data’* 60.6% and 66.7%, respectively, strongly agreed that they would utilize mentors.

Participants were also asked about potential mentoring roles and whether they agreed that various statements should be considered as a stats mentor role. Results can be found in figure 2



**Figure 2: The perceived role of a Stats Mentor**

Results indicate that participants mostly felt a stats mentor role related to encouragement, explaining and conveying empathy with the situation. Participants were less likely to feel that a mentor should provide assignments to help understanding or provide assignments to help in upcoming exams/ assignments. Of particular interest are two items that our Stats Mentors were informed during training were NOT their role – helping a student to complete an assignment and providing notes to take into an [open book] exam. Taking a closer look at these two specific items indicate that a high proportion agree that helping to complete an assignment is not a mentor’s role (27.3%). However a large percentage believe it is (18.2% indicating strongly agree). Regarding providing notes for the exams, the majority believe this is not a mentor’s role (42.4%), but again a portion of the students believe this is a statistics mentor role (12.1% indicating strongly agree). This indicates a lack of understanding of what mentors are available for (See Figures 3a and b).



|  |  |
| --- | --- |
| Figure 3a) | Figure 3b) |

Participants were asked in an open ended question to state what the barriers to accessing mentors may be. The comments were categorised into frequently stated headings using content analysis. Participant answers fell into several headings, so percentages cannot be calculated. Twenty four participants provided answers to this question, which can be found in Table 2.

|  |
| --- |
| Table 2 Content analysis from the open ended question…  |
| BARRIER | Frequency | Example |
| Time | 11 | “Finding a time to meet that both mentor and student can do.”“You cannot expect them to be there 24/7 as they will have their own work to do and need to respect that.” |
| Confidence in self/ anxiety | 6 | “You may feel your questions are silly to start with. You may feel they won't know enough as they are fellow peers.”“The student may feel incompetent that they don't understand and maybe embarrassed that they need help” |
| Confidence in mentors | 5 | “If the mentor is not so knowledgeable in the degree you're doing it might be hard for them to be able to help with things like exams and assignments rather than SPSS help alone!”“May not understand the nature of the research and struggle to explain the results in SPSS” |
| Availability of mentors | 6 | “There may not be enough mentors available to meet the demand at a given time”“If there are enough available” |
| Lack of knowledge (about scheme) | 3 | “Not knowing who the mentors are, and how to gain access to having one.”“Didn’t know where the stats mentor is based”. |
| Others |  | “May have disagreements which lead to issues outside of mentoringFinding the right person that helps understanding of stats work”“Pressure on both sides to do well” |

### 6.2 Discussion and recommendations

Conclusions from the scoping quantitative project indicate that students are keen on the idea of utilizing stats mentors, however, some are stating that they were not aware of the scheme. Further iterations of the project therefore must be fully advertised from the start of the year in order for students to benefit the most. It appears that the majority would access a mentor for support in most of the aspects questioned. This helps to provide a clear and strong definition of the role and the benefits of engaging in the Stats Mentor scheme.

The results from the functions/ role of mentoring indicated that no participants disagreed with any of the statements, although some were on the neither agree nor disagree border line. A worrying aspect is the belief that mentors should provide notes for an open book exam and that they should be able to help a student complete an assignment. Of greater interest is that students were not as keen on statements relating to additional assignments to help aid understanding, or getting students to think more critically about research design and analysis. Instead, they focused their agreement on mentors showing them how to complete and interpret statistical analysis, which highlights the possibility that students may just want the answer. Perceptions of mentoring should be much more focused on the process, or the why, which will aid deeper learning. Recommendations for future iterations of the scheme is to ensure the role and functions of a mentor are clear from the outset in order to give mentors the courage to say no to an inappropriate request.

The barriers to accessing a mentor mostly revolve around time. This is in support of an Urb@n study on the proposed functions of mentoring (Collings and Barkute, 2013 unpublished research). An issue of time regularly makes an appearance in the mentoring literature as a negative for the mentors (See Phillips, 2010 for a review of the literature), but little research has been conducted on the barriers of mentoring from the mentees’ perspective. This finding is intriguing, because it implies that individuals are not willing to make the time to improve within their academic career. This means that either statistics is not a priority, in which further interventions to enhance its worth are required, or studying as a whole is not a priority. Some students mentioned time in relation to finding a “space” where both mentee and mentor could sit down and discuss assignments, feedback and exams, but this depends on the availability and willingness for flexibility of the mentor as well. Additionally, one participant discussed the need to respect a mentors’ time, as they are also completing a degree and this requires reiterating at regular points within the mentoring relationship.

Interestingly, several participants mentioned their own “confidence”, “anxiety” and “shy”[ness] stopped them from asking for a mentor. Participants were concerned that they would appear “silly” in comparison to their peers. One of the successes of previous peer mentoring schemes over support from an academic is that students feel more confident approaching a peer (Topping, 1996). One student believed that, by participating in mentoring, it may confirm how far she was behind in the subject. In a subject that already has high anxiety and low engagement (Collings, in prep) this additional stress of seeking help, even from a peer, make sense. Students may also feel fraudulent within their degree and studies have shown that lower levels of self-esteem are linked to greater degrees of imposter syndrome feelings (Ross and Krukowski, 2003; Sonnak and Towell, 2001). Seeking support from a peer who appears to completely understand may confirm those inadequate feelings.

The mentors competence level was also discussed, although this was mostly related to a lack of understanding on the mentors’ part in relation to a particular degree, module or research project i.e. if the mentor had had no experience of the assignment themselves. There was no concern raised that the mentor employed would not know what they were doing at a more fundamental level. Once again, this statement relates to Stats Mentors’ competency levels and highlights a desire to have the answers, rather than gain a deeper understanding of the statistical principles that can later be applied on multiple levels. Research suggests that having confidence in a peer tutor aids the reduction of anxiety and increases confidence (Topping, 1996), so this may explain why some students feel that accessing a mentor could increase apprehension around statistics.

# 7 Findings (Mentor/ Mentee Evaluation)

### 7.1 Findings and Discussion

The main themes identified by this research were related to benefits of the mentoring programme, challenges and implications for the future, each with a number of sub-themes related to the experiences of mentors and mentees. These are now described with illustrative quotes.

1. *Mentoring Benefits:*

During the interviews, mentors spoke effortlessly about the positive aspects they felt that the Stats Mentor scheme had to offer, to themselves and those around them. Mentoring benefits were related to a) improving knowledge, understanding and skills, b) mentoring being intrinsically rewarding, c) helping others and giving back, and d) defining future career aspirations.

1. Improving Knowledge, Understanding and Skills

Being a stats mentor appeared to benefit both those being mentored and the mentors themselves, in revising constructs related to research and statistics which would then be used within their assignments, exams and final year dissertation. As Hayden explains:

“I’ve always enjoyed actively teaching someone something … [it] helps you learn. That was always one of the methods I’ve always been taught, if you actually relay information to someone, then you will learn as well.” (Hayden, Year 2 mentor, pg. 2)

Teaching others to improve their own knowledge and understanding of statistics appeared to be one of the greatest benefits of mentoring. This was because, for all mentors, the need to continually update and refresh statistical knowledge from one year to the next was important. As Andy explains:

“You know what it’s like when you don’t do it every day or every week or every month, you start to forget and it’s just, not as quick as you want to work, perhaps…that was one of the reasons to help with my revision too, so kind of a selfish one but I do want to also better myself.” (Andy, Year 2 mentor, pg. 2)

This did not always come naturally to mentors, but they used this opportunity to identify and improve weaknesses in their knowledge and to mentor effectively. Andy continues:

“The fact that I couldn’t answer the question straight away […] but at first I did have to go back and get the books open and remind myself.” (Andy, Year 2 mentor, pg. 2)

Sam explains that this is useful in preparing for their upcoming dissertation module:

“It keeps it in the front of your mind, it keeps it fresh rather than just forgotten, because if you don’t use it you will just forget it […] helps you clarify your own knowledge, makes sure your understanding is right, is correct, you’re getting all of it. It’s just brilliant, I love it for that!” (Sam, Year 2 mentor, pg. 8)

Hayden agrees, adding:

“The experience of teaching someone, you know, so having to go over the information with other students, all the basic stats, will help me in my own studies because, you know, I’m not just putting it to one side and forgetting it.” (Hayden, Year 2 mentor, pg. 2)

The benefits of mentoring in order to enhance academic knowledge and to refresh previous knowledge has been noted within the existing literature (Galbraith & Winterbottom, 2010; Hill & Reddy; Thomas, Casey, & Houston, 2006). Mentors appear to use these experiences as opportunities to identify weaknesses in their own subject knowledge, forming additional links between key conceptual areas. While many mentors were already confident in their statistical abilities before the Stats Mentor scheme, the programme appeared to enhance their self-esteem and confidence with statistics. For example, Andy explains:

“It gave me the, the confidence to then go yes I am actually do this OK” (Andy, Year 3 mentor, pg. 2)

Increased confidence and reassurance is something that is often found in the mentoring literature (e.g. Collings, Swanson, & Watkins, 2014; 2015) and is further support by Sam’s account:

“I think it has given me a lot of confidence, […] it got me out of my comfort zone because I’m having to meet new people, having to talk to people, having to, realise that not everyone learns in the same way, having to adjust the way I do things, so it’s made me a bit more flexible?” (Sam, Year 2 mentor, pg. 8)

In particular, by identifying their own weaknesses with statistics, mentors were able to adeptly provide mentees with greater support in these areas.

“Being able to teach on something, you have to have some sort of level of good understanding of something to, manipulate the way you, portray it…Like people understand things in different ways, and you have to, erm, change how you teach it to suit how people learn.” (Rory, Year 2 mentor, pg. 4)

Mentees explained how this enhanced their learning and understanding, as Frankie explains:

“Having a mentor is like having your own personal teacher and this means they can teach you in a way that is most effective to you, rather than appeal to the whole classroom.” (Frankie, Year 1 mentee, pg. 1)

This ability to gradually translate knowledge in a way that suits the student demonstrates pedagogical flexibility, whereby students consider complex ideas from multiple perspectives (Shaw, 2017). It enables mentors to develop completely new ways of thinking about a statistical construct and then use this to convey that construct to a student. Therefore, by using knowledge in different ways, mentors can build transferable and employable skills beyond research and statistics, while increasing their levels of confidence.

1. Mentoring as Intrinsically Rewarding

Almost every mentee took part in the Stats Mentors programme because it was personally satisfying for them. As Sam explained:

“I really enjoy teaching stats, because I love stats and I love helping” (Sam, Year 2 mentor, pg. 1)

This form of altruistic peer tutoring is prevalent in the literature and often associated with a sense of achievement, feelings of pride and the satisfaction that tutors have made a difference (Galbraith & Winterbottom, 2010). As Sam explains:

“I like to help people, when you get that feedback from them, the happiness from them, the ‘thank you so much for doing that!’…Really rewarding to help people and for them to know that you’ve helped them, and you’re really grateful for it and they can now go and do the project to the best of their ability. I found it so rewarding.” (Sam, Year 2 mentor, pg. 10)

Students commonly perceive statistics as a standalone aspect of the course, rather than something embedded (Onwuegbuzie, 2004; Onwuegbuzie & Wilson, 2003). Stats Mentors acknowledged the value of statistics, but were aware that this was an area which required greater effort. Andy describes his previous learning experiences:

 “…you need to own stats…so we went and owned it!” (Andy, Year 3 mentor, pg. 4)

Mentors wanted to instil their motivation and passion for statistics in others, which is why they experienced much satisfaction in sharing their knowledge and understanding. In particular, this sense of accomplishment was more pronounced when mentors experienced transformative learning moments and were able to share these with mentees, as Andy explains:

“That feel good factor is, is great when you get that buzz from, I don’t know what it is, I don’t know how to convey it…when they get it.” (Andy, Year 3 mentor, pg. 4)

1. Helping Others to Achieve and Giving Back

Mentors described a range of reasons for mentoring, including experience, CV enhancement and getting paid. It was clear from the interviews that a sense of helping and giving back was the main reason mentors took part. Hayden explains:

“So when [tutor] mentioned about stats mentors and the fact that it could help improve other students confidence, I was really up for that” (Hayden, Year 2 mentor, pg. 1)

A sense of giving back is discussed in many papers around mentoring in organisations and universities (Colvin & Ashman, 2010; Fowler & Muckart, 2004; Hill & Reddy, 2017; Colvin & Ashman, 2010, Topping, 1996). Additionally, many of the mentees had a sense of empathy for the students and identified with them based on their own anxieties about statistics. Hayden explains:

“Because I’ve been in that position when I’ve been anxious about stats and maths in my first year, but as my confidence grows then I’ve thought it is important to help other students as well.” (Hayden, Year 2 mentor, pg. 1)

This form of empathy could act as a source for altruistic motivation, leading mentors to take up their roles. These are often referred to as essential mentor characteristics (Terrion & Leonard, 2007; Hawkey, 2006) and an empathic emotion has been shown to be a driving force for altruistic motivation (Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Feigin, Owens & Goodyear-Smith, 2014. Rory also explains how she gives back, adding:

“I quite like stats, weirdly enough, erm and I know that it can be tough, I thought as I quite enjoy it anyway and I’m not the worst person at it, it would be helpful to kind of help people to do it who can’t get it quite as well or aren’t confident…” (Rory, Year 2 mentor, pg. 1)

Sam referred to their role as a Stats Mentor as a duty, adding:

“Because I like stats, it’s not complicated to me, too much […] I seem to pick things up in that area quicker than other people, so I think ‘I should help them […] as the deadline approached more people were saying “oh I still don’t understand this” so I thought “oh why not help them”, you know, it’s kind of the right thing to do,” (Sam, Year 2 mentor, pg 1)

Mentees explained the value of this help, in terms of being able to achieve more than they previously could and the reduction in statistics anxiety or stress related to having a mentor. Frankie explains:

“It can be very frustrating when you don’t understand something so having someone there to guide you helps alleviate some of that stress” (Hayden, Year 2 mentee, pg. 1)

Frankie, another mentee also added:

“[My Stats Mentor] really helped to calm my nerves regarding the exam, and I feel more confident knowing I can just send a mentor an email when I am struggling. I am no longer as put off with Stas as I was before I saw [them].” (Frankie, Year 1 mentee, pg. 1)

1. Defining Future Career Aspirations

Mentors used the Stats Mentors scheme to obtain experience in the environments they may later be working in. As Andy explained:

“I don’t know where my career is going to take me but, I’d certainly like to – you know, I would explore tutoring…becoming a tutor whether that is something I would, it is certainly on the list so it’s all good practice for me as well.” (Andy, Year 3 mentor, pg. 4)

By taking part in the programme, mentors not only obtained and built on many of the transferable skills developed in mentoring make a mentor desirable within employment (Mavirnac, 2005), but also clarified their career options and aspirations. For example, Rory explained:

“Because I may go into teaching, so it’s kind of a step into teaching […] well it will actually let me know if I’m able to do it. ” Rory, Year 2 mentor, pg. 3

The external motivations for mentoring have been highlighted in previous research (REF) and like the current study these external motivations typically are secondary to internal motivations. Becoming a mentor for the CV is often an additional benefit that would not impact an individual from becoming a mentor if it were removed (Phillips, Unpublished PhD). Beyond this some mentors also discussed a wish to go on and study a masters in varying areas from neuroscience to research methods where having a solid foundation in statistics could only add to their experiences in future academic courses.

1. ***Mentoring Challenges:***

During the interviews, participants mentioned a number of challenges related to mentoring students and in having a Stats Mentor. These challenges related to a) the pressure felt by mentors to be a statistics expert, b) differences in mentor and mentee expectations and c) communication issues.

1. Pressure to be a Statistics Expert

Mentors frequently described the pressure they felt to be an expert in statistics, with knowledge about everything they had been previously taught. Many mentors were worried that, in taking up the role, they would be “found out” and look “silly” amongst their peers. As Andy explains:

“I guess that’s my own personal fear, of you know, not being good enough or, you know… yeah that I guess… looking silly in front of someone when you’ve put yourself as a mentor and the ‘this [person] must know everything and you don’t so …” (Andy, Year 3 mentor, pg. 2)

This was a concern that most mentors had, as Hayden described:

“My main concern was that if someone asked me something and I didn’t know the answer” (Hayden, Year 2 mentor, pg. 2)

It was a common misperception of the Stats Mentors programme that if students signed up to become a mentor they were top-grade students. This was a view held by both mentors and mentees, as Charlie explains:

 “I think isn’t there some sort of rule that they have to have an A- as a minimum, overall? For their research methods they have to have – to be a stats mentor.” (Charlie, Year 2 mentee, pg. 2)

One way mentors alleviated this pressure of “being the expert” was by over preparing for mentoring meetings, as illustrated by Sam’s quote:

“I’d already done my SPSS output, so I took that along with me. […] And I made sure that I had bookmarked the pages in my books so that if I did need to flick through it it’s there. I do like to be prepared, because if someone asks you a question and you don’t know the answer it’s awful to have to look it up while you’re there.” (Sam, Year 2 mentor, pg. 7)

Andy described how he would put in additional time if, during mentoring, he uncovered a gap in his own knowledge:

“…if someone would have asked me a question and I, I stumbled on it or I didn’t know, but then I would have hit the books straight away and found out… Anything that would have been thrown at me I was ready to handle” (Andy, Year 3 mentee, pg. 2-4)

While over-preparing created additional work for mentors and could put them at risk of burnout, it was greatly valued by mentees, as Frankie explains:

“She was fully prepared in terms of bringing resources that she thought might help me, and even helped prepare me for the exam itself… [my mentor] went beyond my expectations” (Frankie, Year 1 mentee, pg. 6)

It is not surprising that mentors strived to over prepare, as this is something seen in starter teachers and early career academics who often prepare beyond the scope of the curriculum (Carrillo & Baguley, 2011).

Mentors were incredibly honest about their mentoring experiences, with many participants describing occasions where they had, in their view, gotten something wrong. However, by highlighting that not everyone knows the answer to everything and working with mentees to solve problems actually improved mentee confidence. As Sam explains:

“I was occasionally saying “oh, I don’t think that is quite right”, and then would look it up, and I’d be right and she’d be wrong, and vice versa. So I think it sort of gave us all that confidence that there was not one person in the group that was completely au fait with it all.” (Sam, Year 2 mentor, pg. 3)

As illustrated by the above quote, rather alarmingly participants often referred to doing statistics the “right way” suggesting that many viewed research methods and statistics as ‘black and white’. For example, Charlie described how, during group mentoring sessions:

“You knew you were doing it right because there was a group of five of us […] say I put it in this way, and then somebody else would say I put it in slightly different, and then we’d discuss it, and then we’d work out how it *should* be done” (Charlie, Year 2 mentee, pg. 2)

While the peer context facilitated problem solving, it reinforced the notion that there is always a right answer. Mentees clearly valued the reassurance from mentors that they were “doing the correct thing”. However, instead of encouraging debate, discussion and curiosity among students, this may have influenced mentees perceptions of statistics. In particular, by leading students to strive for perfection in finding the correct solution to a statistics problem and fearing making a mistake. In particular it can lead to fragmented views rather than a focus on higher order statistical thinking (Reid, & Petocz, 2002). Leckey & Mcguigan (1997) discuss the impact that such an attitude may have in academic careers in the halting of the development of generic skills that can then be utilised within employment.

1. Managing Mentee Expectations

It appeared clear from the accounts of mentors and mentees that one of the biggest challenges of the programme was managing expectations. This included mentors’ perceptions of what they could provide and mentees’ expectations of what a Stats Mentor could do for them. For example, some students requested mentors a few days before an assignment was due, or they had to sit an examination. As Sam explained, this was difficult because:

“The person I mentored seemed to think I was going to do the work for him.” (Sam, Year 2 mentor, pg. 3)

It is possible that these differences in expectations, combined with ambiguity around Stats Mentors roles may have led to disappointment, negative feedback and a lack of engagement from mentees when they needed it most. While this may have provided mentors with negative mentoring experiences, some mentors were clear that they were there to “help, not to do it for them”, as Andy explains:

“I never answered – I never did any of the work for them, I made sure that we went through it together so we could come to the same conclusions together, so for instance I, I would be like “what do you think that value means?” you know, I never gave the answer” (Andy, Year 3 mentor, pg. 2)

Mentors were surprised that mentees contacted them with only vague ideas of what they wanted mentoring sessions to cover. Many also came to sessions unprepared, as Sam explains:

“they were really vague [in explaining what they wanted from mentors] … I kind of expected it to be people struggling, but I didn’t expect it to be that far back, I kind of had to walk people through it step by step every step of the way…. they hadn’t bought any preparation or anything at all, which I was kind of expecting them to…I don’t even mind if they’ve just got a little bit of basic knowledge, but trying to start from the absolute beginning is just so difficult!” (Sam, Year 2 mentor, pg. 3)

This was also experienced by Rory, who explained:

“They wanted help with everything. Apparently they didn’t have any clue at all about anything [laughing]. I just kind of had to go on a whim and say everything! (Rory, Year 2 mentor, pg. 2)

This highlighted the importance of having structured mentoring experiences, particularly when mentees were unprepared, as well as the dual responsibility of mentor and mentee. When it was clear mentees “had not attended any class[es]” mentors felt “thrown into the deep end” by having to cover “everything”. These sessions could not be easily prepared for and left mentors feeling dissatisfied about their own mentoring performance, as Sam explains:

“I’d feel like if I’ve covered things vaguely then I’ve not really explained it very well, I’ve just given them a little bit of knowledge to get them by. I’d rather make sure people have got their own really good understanding of something so that they, it’s really robust and they can go away and they can, build on it or they can use it in their projects and apply it ….if I only give them a vague knowledge…if something else comes up in the future, it’s not robust enough to stand up to that, they’d just be back at square one again.” (Sam, Year 2 mentor, pg. 3)

Mentors were aware that it is possible that students were vague because they lacked insight into what knowledge they were missing, as mentors explained many students “didn’t really know what they wanted to be taught”. However, in describing these challenges, it was clear that mentors went above and beyond their mentoring role by adeptly developing mentoring activities, despite having very little to work with.

“After the first session I said well what we’ll do is if I go home and look through things, erm, like the old powerpoints from my first year and label like what they were, and I could then send her the list and she could pick out what ones she thinks she needs to go over.” (Rory, Year 2 mentor, pg. 2)

Previous research has found differing perspectives of the mentor’s roles between mentors and mentees and that these also differed from an instructor’s perspective (Colvin & Ashman, 2010).

1. Mentor-Mentee Communication Issues

Building on the notion of dual responsibility, many mentors explained that they spent time attempting to contact and chasing mentees. As Rory explains:

“Our mentees didn’t want to contact us…If they really wanted the help then they should have contacted me, otherwise you don’t actually know if they want the help anymore.ds” (Rory, Year 2 mentor, pg. 5)

Andy also described how he was surprised that mentees did not take initiative to get in touch with their mentor when they were needed:

When I hadn’t heard anything the next day I emailed them but I never heard back from all four of them which was really, really strange… I mean I’m looking at these in front of me, all these emails, these are students who didn’t respond and come back and I think that’s a shame really” (Andy, Year 3 mentor, pg. 1-4)

Many mentors spoke about the connection they made with mentees and that they wanted to provide ongoing support but, as Sam explained:

“I just didn’t hear anything basically from anyone”. (Sam, Year 2 mentor, pg. 2)

Formal mentoring programs are often contracted for much shorter periods and are not as successful as informal mentoring (Murray, 1991; Poldre, 1994) although much of this research has been conducted within the organisation and business literature. The feeling of failure and disappointment at an unsuccessful peer mentoring relationship has been discussed before (Collings, in prep) with some programs highlighting that students wanted more contact with their mentees (Hill & Reddy, 2007)

1. ***Implications for the Future***

Mentors and mentees clearly valued and took ownership of the Stats Mentors programme, often referring to their plans for improving the project next year. These implications for implementation were related to a) the benefits of group and classroom mentoring opportunities, b) additional endorsement and support by staff and c) mentor role clarification and availability.

1. Group and Classroom-Based Mentoring

In almost every case, mentors preferred and valued mentoring a group a mentees rather than in one-to-one sessions. Mentors referred to many group dynamic processes when describing their mentoring experiences. As Charlie describes, the peer setting meant that they no longer felt isolated:

“The first thing was knowing that I wasn’t on my own, and that and that I wasn’t stupid, that other people were worried about the same things I was.” (Charlie, Year 2 mentee, pg.2)

The group setting appeared to facilitate learning, as the group had an increased knowledge and skills base compared to individual mentors and mentees. This can mean that groups are more productive, as collaborative decision making can take place, which identifies alternative perspectives on the problem (Topping, 1996).

Group coherence was enhanced by all participants wanting to find answers to similar problems. Previously it was mentioned that participants were concerned about doing statistics the ‘right way’. In the group setting, groups were driven to find a consensus, but evaluated solutions. Instead of making risky or quick decisions, as can often happen in a group setting (Vinokur, 1971), participants felt responsible for to find the best solution, based on available alternatives. For example Charlie also describes that confirmation and clarity came from group endorsement:

“We’d discuss it, and then we’d work out how it should be done…It was the reassurance, that you were all doing it right because you, you weren’t doing it on your own… we were all getting it right together.” (Charlie, Year 2 mentee, pg.2)

Sam also added that group mentoring were one of the highlights of the programme for them:

“I really enjoyed that! I did enjoy, I enjoyed the group thing more than the one-to-one thing actually because I did explain things and some people got it and some people didn’t, so then I went back “right OK, how can I explain this a different way?” and of course the people who got it actually helped explain it to the people who didn’t, so there was a whole— because we were all in the same boat.” (Sam, Year 2 mentor, pg. 6).

The less formal context was preferred by mentors and mentees and, following increased participation and solution justification, it possible that comprehension of a group-based solution is high. For others, the peer support setting was more useful because many students did not want to take problems to their tutor:

“A mentor would be seen as… a peer rather than an authority figure…it would make a big difference, yeah. I was amazed at how many students were, were nervous about talking to a tutor… I asked a lot of youngsters and they kept coming up with the same thing ‘oh I daren’t talk to them.’ I said ‘are you joking, they’re there to help you! Honestly go and try it out!’ (Andy, Year 3 mentor, pg. 8)

Mentors were more relatable than tutors, as they had very recently gone through what mentees were now learning in class, as Charlie explained:

 “specifically for the younger ones that can relate to them more…I think the younger ones would relate more to somebody of their age group, showing them [how to do it].” (Charlie, Year 2 mentee, pg. 3-4)

Many mentors related group-based mentoring sessions to classroom tutoring and were keen to help in these contexts. One reason for this was because the classroom would provide structure, which was important if mentees did not know what they wanted mentors to cover and because there would be teacher support if needed. For example, Sam explains that:

“If you go into a classroom you know what to expect, if you have any problems there’s a tutor there or around somewhere, whereas if you’re just meeting up in the library you’ve no idea what to expect, you, the person for all you know could get annoyed with you, the way you’re explaining things.” (Sam, Year 3 mentor, pg. 2)

However, others felt group mentoring required more skills and was more difficult than one to one tutoring, but Rory explained that the confidence gained from the Stats Mentor programme made her consider classroom-based mentoring:

“not at that moment when I started it, but it might be now, because I was kind of less confident about talking to loads of people if that makes sense…yeah I found it easier to do a one-to-one to, get a feel for it, but I might, if I were to do it again then I might be able to go into a classroom as well.” (Rory, Year 2 mentor, pg. 4)

While the relatively higher status and named role of the mentors meant that they provided a natural leader for the group, it is possible that group members could take over, while others might engage in social loafing. It is likely that group mentoring has an optimal group size and while group mentoring could allow for a more efficient use of resources and time it also requires great effort on the part of mentor and mentee (Long, 1997).

Although mentoring is often considered asymmetrical in nature with the beneficiary being the mentee only (see Phillips, 2010) other authors have recognised the potential for mutuality and reciprocity in the relationship (e.g. Hunt & Michael, 1983; Kram, 1985) Ragins & Verbos (2007) discuss the reciprocal nature in terms of shared learning and that this enhances a sense of purpose whilst simultaneously fosters a deeper feeling of belonging. This collegiate learning as fostering togetherness over isolation was found within the interviews.

“Knowing that I wasn’t on my own, and that I wasn’t stupid, that other people were worried about the same things I was” … “I found in a group setting I was able to add, you know it wasn’t just me taking which was great.” (Charlie, Year 2 mentee, pg. 2)

Not only was Charlie’s own feelings of inadequacy greatly reduced from seeing other around her feeling exactly the same but they also felt enabled to give back. The group became much more of a team working together the finds the solutions which aided integration and confidence (Christie, Tett, Cree, Hounsell, & McCune, 2008).

1. Additional Endorsement and Staff Support

Mentors were able to provide mentees with reassurance and support, but this was something that they often sought themselves and sought from members of staff. Many mentors felt well supported throughout the project, as Sam explains, she felt:

“Really supported, you know, any problems, and it was much more supportive than I expected it to be actually, in terms of tutors and people who organised it.” (Sam, Year 2 mentor, pg. 2)

However, some members felt that they could have been better supported during their time as a mentor. As Hayden explains the guidance they expected did not materialise:

“No one got me involved though, you know, I didn’t know what I was supposed to be doing.” (Hayden, Year 2 mentor, pg. 1)

Despite the large uptake of mentors by students, many felt that the programme had not been fully endorsed within the University, or by other members of staff. It is possible that this was because the programme had not been widely promoted, both within and beyond the subject area. Charlie explained that staff need to promote the programme within their classes, so that students know they exist:

“[they need to say] don’t worry about that, this is here to help you, these people are here to help you.” (Charlie, Year 2 mentee, pg. 2)

While mentors valued the promotion through the Northampton Integrated Learning Environment (NILE) and through the blog, Twitter and Facebook, they felt that this was not enough. For example, Andy explained:

“I’ve seen students who haven’t logged onto the NILE- they’ve got like, 300 messages sat on there. […] they might be on Facebook but are they looking at the Psychology?” (Andy, Year 3 mentor, pg. 6)

Andy later explained that personally introducing mentors to students and getting them to talk about what they could offer would be useful in future projects, but that he was aware of difficulties with doing this:

 “it would be nice if the mentors were introduced personally, but then there’s no single stats class is there, they’re all on different days so that’s awkward getting everyone in on all those days to introduce them.” (Andy, Year 3 mentor, pg. 6)

Importantly, mentors felt that staff should endorse the project because it would enhance their teaching practise, by assisting them during busy examination or assessment periods and when students support was in high demand. Charlie explained how signposting to mentors could relieve this pressure:

“I don’t have time in my schedule to go through this… the actual staff, he was really busy with third year dissertations, so you could never get an appointment, because they had to take the preference…these people know what they’re talking about so and go and look there.” (Charlie, Year 2 mentee, pg. 2-3)

This suggests that the benefit of the Stats Mentors project goes beyond those directly involved and could benefit the learning community, both within and beyond one subject area.

Being available for students would increase the level of instructor immediacy which has been discussed as a moderator in the statistics anxiety and achievement relationship (Williams, 2010). Instructors who are unavailable and not as “visible” increases levels of anxiety around the subject. The presence of an easily contactable mentor may help to decrease that anxiety. In addition the discussion that mentors were peers also made an appearance. Mentors and mentees discussed the fact that there would be less anxiety approaching someone who was not in authority.

“I don’t think that a mentor would be seen as – yeah from a peer, viewed as a peer rather than authority figure yeah I think it would make a big difference” (Andy, Year 3 mentor, pg. 8)

1. Mentor Role Clarification and Availability

The Stats Mentors programme provided mentors with flexibility in deciding what support they wanted to provide, based on their interest or expertise. Stats Mentors assisted mentees in a range of areas, including assignments, examination preparation, study skills and technical queries. While this was welcomed, all mentors felt that their roles required further clarification. When asked Sam provided information that she would want passed onto a potential mentee:

“Not there to do the project, and that I can go over specific things that they don’t understand but I can’t teach them the whole syllabus type of thing” (Sam, Year 2 mentor, pg. 9)

Availability was a common theme among all mentors. For example, in some cases, mentees were getting in touch with very limited time before assignments were due, which added pressure onto the mentor. As Sam explained:

“You’re trying to get them up to a standard where they can do the project and it’s just not doable. It’s just not doable, especially in like an hour or so…Like he wanted me to teach like a whole year worth of knowledge in, you know, in an hour.” (Sam Year 2 mentor, pg. 8-9)

 In particular, mentors explained how demand for mentors increased significantly during examination and assignment periods, often when mentors were completing their own examinations and assignments. Mentors were clear that their mentoring came after their studies, because they simply “didn’t have the time” to help other when they had their own responsibilities and deadlines. Despite this, many mentors empathised with students and wanted to help them as they could “see they were really struggling”. In many cases, mentors tried to help where they could but, as Rory explains:

“By the time I’d actually arranged with the mentee to meet with them we didn’t really have a lot of time.” (Rory, Year 2 mentor, pg. 2)

Sam adds:

“It was, very last minute, and very rushed…if you’re leaving it to the last minute a stats mentor isn’t going to be able to [help]!” (Sam, Year 2 mentor, pg. 5)

Mentors were honest about some of the issues they encountered with the scheme, as Rory explains, she would have liked longer to fully engage with the programme:

“There was a lot of delay on it, in that process of it actually being getting sorted out…I think if there was a longer period I might have found something, but yeah. (Rory, Year 2 mentor, pg. 4)

# 8 Bringing it all together

All stats mentors talked passionately about mentoring being intrinsically rewarding and that empathy became a source of altruistic motivation. A sense of understanding statistics anxiety and a need to give back to the students alongside a notion of satisfaction when feedback was received from mentees and/ or achievement was evident. However, there was an underlying pressure to be “the expert” which may have fuelled an imposter phenomenon feeling. To compensate for this, many mentors over-prepared and went beyond mentees’ expectations. Over preparing is not always a bad thing, however, as an additional benefit is the ability to revise the work; to keep revisiting the basic principles of statistics and to remain up to date with the literature, all of which would solidify their knowledge and help mentors within their future (i.e. dissertations). Also emerging from the interviews was the development of pedagogical flexibility. The ability to adjust to the moment and to do so quickly will enhance confidence levels. Such flexibility may translate into other areas of a student’s life and this ability to adapt in teaching styles, as well as the wider impact on academic and personal careers requires further investigation.

The biggest issue evolving from the interviews is the expectations of what a mentor’s role is within the general hierarchical structure of Higher Education and tutoring. Some mentees had a notion that the mentors would do the work for them; provide the notes for exams and/or help them complete an assignment. This was also highlighted within the scoping report. Defining the mentor’s role within the current project is therefore paramount for future work in order to enhance the relationship between mentor and mentee. In addition to this, many mentors discussed the “vagueness” around the mentee request for support and help. This related to the mentee not understanding their own limitations and a hope that the mentor had the answer. This vagueness often led to mentees coming unprepared for the session with mentors arguing that a mentoring session is a dual responsibility.

# 9 Observations from Organizers Perspective

The initial set up of the scheme was met with several barriers. Specifically, students do not believe they are “good enough” to be a mentor, so are anxious about taking up such a responsibility in teaching others. As a research team with almost 25 years of combined statistics teaching, we remind the students constantly that we are still not experts. We are all learning and it is when we think we know it all and stop learning that we face a problem. Training and extensive support to let students know that it is okay to not be perfect and to not know the answer should increase confidence in students to engage in mentoring. This may be where the peer support groups would bolster the confidence of the students, because there is the sense of togetherness in the process. How students would contact mentors then becomes a significant debate. For example, providing students’ personal email addresses was not considered beneficial and we were concerned that a generic email account would lead to e-mentoring, which has previously proved unsuccessful in the Psychology department. The decision to have admin support who would receive the requests and pass one was decided upon so that students did not have to email a tutor (which subsequently may create anxiety). This process needs thorough consideration for next year, with the consideration of a “StatsMentors” Gmail account that staff cannot access, but would assist with the logging and volume of requests. A significant barrier this year was the payment of mentors and the transfer of funds from one department to another. Although mentors have said they would volunteer freely, now that the Stats Mentor scheme has been set up with UniTemps payment should not be a problem for next year. In addition to this, the mentors themselves rarely sought out support from the research team, despite our reassurances that they could come any time. Reading through the transcripts, it appears that some mentors would have appreciated the research team initiating the contact, rather than the other way around. While we will do this in the following year, this may have significant impacts on our workload. Therefore, we will be looking to expand the support team to ensure the hierarchy of support is available at all times to mentors.

# 10 Recommendations for future Stats Mentor initiatives

* More endorsement from academic staff
* Greater advertising
* Consider the impact of peer led sessions and in class teaching
* Greater communication between Mentors and Mentees
* Clarity for the mentees on the role of the Mentor
* Encourage engagement early on instead of “last minute”

# 11 Recommendations for further evaluation

* Longitudinal analysis on cohort level statistics anxiety, confidence, engagement and attainment
* Qualitative analysis considering the impact for the mentee for both one-to-one and peer group learning
* Interpretative Phenomenological Analysis considering the lived experiences of mentors in depth.
* Secondary data gathering from students requesting a mentor, engaging, no shows and times of year this is occurring
* Provision of checklists for mentors log books (what the mentees come for)

# 12 The Future…

All the stats mentors have stated that they wish to continue next year and are happy to do so on a voluntary basis. In fact, three mentors never claimed any expenses throughout the time they mentored. The subject area of Psychology have specifically requested Stats Mentors for the new MSc Psychology Conversion course which is due to commence on 2018. The project lead is an invited speaker within two universities to discuss the potential of Stats Mentors development within other Psychology departments. In addition, one university within Scotland has been highly commended for using final year students to teach the second year students (4 year program) research methods. The evidence from this pilot year will be presented to the Dean of the Faculty for consideration of some future funding so the Stats Mentors can be secured in terms of time and space on the move to the new Waterside Campus in 2018.

The research team will continue to disseminate this work and, so far, work from this pilot study has been presented at the Institute of Teaching and Learning Conference in May 2017 where it was received well. Additionally, this research has also been accepted for presentation at the BPS East Midland Inaugural conference. The researchers are currently writing a bid with the Society for Research in Higher Education to continue to evaluate the scheme within the next academic year with the aim to present at their annual conference in December 2018.

The data presented in this report is very rich and the researchers aim to publish the findings in journals of high academic standing, as well as disseminating the implications and recommendations in relevant periodcals. In addition the project lead is writing a commentary on “The Dark Side of Mentoring” which will include some of the data on “pressures of being perfect” alongside previous research that uncovered a theme of “the burden of responsibility”.

# 13 References

Batson, C.D., Duncan, B.D., Ackerman, P., Buckley,T., & Birch, K. (1081). Is empathic emotion a source of altruistic motivation? *Journal of Personality and Social Psychology, 40 (2), 290*-302

Beltman, S., Schaeben, M. (2012). Institution-wide peer mentoring: the benefits for mentors. *The International Journal of the First Year in Higher Education, 3 (2),* 33-44

Bowman-Perrott, L., Davis, H., Vannest, K., & Williams, L., Greenwood., & Parker, R. (2013) Academic benefits of peer-tutoring: A meta-analytic review of single-case research. School *Psychology Review, 42 (1),* 39-55.

Carrillo, C., & Baguley, M. (2011). From school teacher to university lecturer: illuminating the journey from classroom to the university for two arts educators. *Teaching and Teacher Education, 27 (1), 62-72*

Castro, S.L., Scandura, T.A., & Williams, E.A. (2004). Validity of Scandura and Ragins (1993) Multidimensional Mentoring Measure: An Evaluation and Refinement. Management Faculty Articles and Papers 7. <http://scholarlyrepository.miami.edu/management_articles/7>

Chester, A., Burton, L.J., Xenos, S., & Elgar, K. (2013). Peer Mentoring: Supporting successful transition for first year undergraduate psychology students. Australian Journal of Psychology, 65 (1), 30-37.

Chiou, C.C., Wang, Y.M., & Lee, L.T. (2014). Reducing statistics anxiety and enhancing statistics learning achievement: effectiveness of a one-minute strategy. *Psychol Rep, 115 (1),* 297-310

Christie, H., Tett, L., Cree, V.E., Hounsell, J., & McCune. V. (2008). A real rollercoaster of confidence and emotions’: learning to be a university student, Studies in Higher Education, 33:5, 567-581, DOI: 10.1080/03075070802373040

Collings, R. (in prep) Curiosity and confidence as predictors of statistics anxiety and achievement.

Collings, R. (in prep) Mentors Experiences of Peer Mentoring in Higher Education: A Focus Group Study.

Collings, R., & Swanson, V., Watson, R. (2014). Peer Mentoring in Higher Education: A Controlled Comparative Evaluation. *Higher Education, 68,* 927-942

Collings, R., & Swanson, V., Watson, R. (2015). The Utilization of Peer Mentors during the First Weeks at University. *Studies in Higher Education* DOI: 10.1080/03075079.2015.1007939

Colvin, J. W., & Ashman, M. (2010). Roles, Risks, and Benefits of Peer Mentoring Relationships in Higher Education. *Mentoring & Tutoring: Partnership in Learning, 18 (2),* 121 – 134.

Galbraith, J. & Winterbottom, M. (2010). Peer-tutoring: What’s in it for the Tutor? *Educational Studies, 37(3), pp.321-332.*

Feigin, S., Owens, G., Goodyear-Smith, F. (2014). Theories of human altruism: a systematic review. Annals of Neuroscience and Psychology, 1: *1* Retrieved from <http://www.vipoa.org/neuropsychol>

Fowler, J., & Muckart, M. (2004). Tiered Mentoring: Benefits for First Year Students, Upper Level Students, and Professionals. Paper presented at HERDS conference, 2004. Retrieved 2006 from herdsa2004.curtin.edu.my/contributions/RPapers/PO42-jt.pdf

Hill, R., & Reddy, P. (2007). Undergraduate Peer Mentoring: An Investigation into Processes, Activities and Outcomes. *Psychology, Learning and Teaching, 6 (2),* 98 -103.

Jacobi, M. (1991). Mentoring and Undergraduate academic success: A literature review. *Review of Educational Research, 61 (4),* 505-532

Leckey, J. F., & McGuigan, M.A. (1997). Right Tracks—Wrong Rails: The Development of Generic Skills in Higher Education. Research in Higher Education, (38), 3, 365-378

Long, J. (1997). The dark side of mentoring. *Australian Educational Researcher, 24 (2)* 115-133

Mavrinac, M.A. (2005). *Transformational Leadership: Peer Mentoring as a Values-Based Learning Process.* Retrieved from: <https://muse.jhu.edu/article/185021/pdf>

Onwuegbuzie, A. J. (1998). The role of hope in predicting statistics anxiety. *Psychological Reports, 82,* 1315-1320.

Onwuegbuzie, A. J. (2004). Academic procrastination and statistics anxiety. Assessment & Evaluation in Higher Education, 29(1), 3-19. doi: 10.1080/0260293042000160384

Onwuegbuzie, A.J., & Leech, N.L. (2003) Assessment in statistics courses: more than a tool for evaluation. *Assessment & Evaluation in Higher Education, 28 (2),* 115 - 127.

Onwuegbuzie, A.J., & Seaman, M.A., (1995). The effect of time constraints and statistics anxiety on test performance on a statistics course. *Journal of Experimental Education, 63*, 115-124.

Onwuegbuzie, A. J., & Wilson, V. A. (2003). Statistics Anxiety: Nature, etiology, antecedents, effects, and treatments–a comprehensive review of the literature. Teaching in Higher Education, 8(2), 195-209. doi:10.1080/1356251032000052447

Reid, A., & Petocz, P. (2002). Students’ Conceptions of Statistics: A Phenomenographic Study. *Journal of Statistics Education* Volume 10, Number 2 (2002), [www.amstat.org/publications/jse/v10n2/reid.html](http://www.amstat.org/publications/jse/v10n2/reid.html)

Phillips, R. (2010). *The Impact of Mentoring in UK Higher Education.* Unpublished PhD Thesis. University of Stirling.

Ross, S.R., & Krukowski, R.A. (2003). The imposter phenomenon and maldaptive personality: Type and trait characteristics. *Personality and Individual Differences, 34 (3),* 477-484

Ruggeri, K., Diaz, C., Kelley, K., Papousek, I., Dempster, M., & Hanna, D. (2008). International Issues in Education. Psychology Teaching Review, 14, 65-74.

Scandura, T.A., & Ragins, B.R. (1993). The effects of sex and gender role orientation on mentorship in male-dominated occupations. *Journal of Vocational Behavior, 43,* 251-265.

Sonnak, C., & Towell, T. (2001). The imposter phenomenon in British University students: Relationships between self-esteem, mental health, parental rearing style and socioeconomic status. *Personality and Individual Differences, 29 (4),* 629-647.

Shaw, G. (2017). Bending so as not to break: Pedagogical flexibility as an asset. Accessed at: <https://vp.commons.gc.cuny.edu/2017/02/24/bending-so-as-not-to-break-pedagogical-flexibility-as-an-asset/> [Accessed: 01/08/2017]

Thomas, J., Casey, M., & Houston, S. (2006). *Peer Mentoring: A support strategy moulded by students for students.* Retrieved from: [www.cs.surrey.ac.uk/BIMA/people/M.Casey/downloads/publications/2006\_thomas\_casey\_houston\_peer\_mentoring.pdf](http://www.cs.surrey.ac.uk/BIMA/people/M.Casey/downloads/publications/2006_thomas_casey_houston_peer_mentoring.pdf)

Topping, K.J. (1996). The effectiveness of peer tutoring in further and higher education: A typology and review of the literature. *Higher Education, 32 (3),* 321-345

Vinokur, A. (1971). Review and theoretical analysis of the effects of group processes upon individual and group decisions involving risk. *Psychological Bulletin, 76*(4), 231-250.

Williams, A. S. (2010). Statistics Anxiety and Instructor Immediacy. Journal of Statistics Education, 18 (2), [www.amstat.org/publications/jse/v18n2/williams.pdf](http://www.amstat.org/publications/jse/v18n2/williams.pdf)

Zeidner, M. (1991). Statistics and mathematics anxiety in social science students – some interesting parallels. *British Journal of Educational Psychology, 61,* 319-328

Appendices:

Appendix 1: Transcripts Page 2

Appendix 2: Initial coding Page 34

Appendix 3: Themes Page 37

Appendix 1: Transcripts

**Interview 1**

I: OK, so we’ve got a few questions for you. Am I right in thinking that you didn’t have any mentors— mentees?

P: I didn’t, no. I did receive an email that I was copied into from a member of staff at the university, I’m guessing who was running the scheme or something…

I: OK

P: who had emailed the student back saying that you can have a student—you can have a stats mentor if you wish, but the student never got back into contact with me, so…

I: OK

P: Yeah

I: OK so some of the questions may be a little bit more difficult to answer, but we’ll, we’ll go through them anyway.

P: Yep, OK.

I: So, can you briefly just explain why you wanted to become a stats mentor in the first place?

P: erm…I guess…I’ve always struggled with maths, through secondary school it wasn’t my best subject, erm, but then when we started doing stats I loved it, and I actually surprised myself with how good I was with it, and I think that the reasons why I didn’t succeed so well in secondary school was because of my confidence

I: OK

P: see, at university the levels of teaching were much higher and I was better at it than I thought I was, so when Roz mentioned about the stats mentors and the fact that it could help improve other students’ confidence, I was really up for that, if I had that [sic] then yeah…

I: OK, so perhaps something that you wish would have been available to you?

P: Yeah, so just because I’ve been in the position when I’ve been anxious about stats and maths in my first year, but as my confidence grows then I’ve thought it is important to help other students as well.

I: OK, and did you have any concerns about becoming a mentor?

P: erm, I guess my main concern was that if someone asked me something and I didn’t know the answer but I did speak to erm, Roz about that and they said you know, you’re not always going to know the answer, and part of their teaching as well is making sure that they’re prepared, and not to worry if I didn’t know, and to just go away and research for the students.

I: OK. Was— So mainly your own, essentially, lack of knowledge? Or there anything else?

P: Yeah. So, yeah. It was just, if they asked me something that, perhaps was one of my weakest knowledge in stats, and there and then I didn’t know the answer…

I: OK. Do you think— how do you think being a stats mentor might impact your academic career?

P: Erm…well I guess in a way I’ve always enjoyed that actively teaching someone something helps you learn, that was always one of the methods that I’ve always been taught, if you actually relay information to someone, then you will learn as well. So obviously it looks great on the CV, erm it’s great experience, and yeah.

I: OK, is there any other impacts? Was it mainly the idea of putting something on your CV?

P: pardon?

I: was it mainly something you wanted to put on your CV?

P: Yeah, yeah. It’s great for the CV, but also the experience of teaching someone, you know, so having to go over the information with other students, all the basic stats, will help me in my own studies because, you know, I’m not just putting it to one side and forgetting it, because I actually have to teach these students as well.

I: OK so keeping the knowledge fresh, as well?

P: yeah, yeah, it— yeah.

I: Ok. Would you sign up to be a stats mentor again?

P: erm, I would, but I’d have a few questions about the support I got.

I: In what way?

P: Erm, so, I signed up— I had one meeting with Roz and that was it, just about what the like, what it is, and then I signed up, did all of the stuff where you had to give your information to the unitemps that were going to pay you or whatever, and then I didn’t hear anything else, I didn’t hear from any students, I didn’t hear from Roz or any member of staff, as far as I was aware, I don’t even know if it had been started or if it had even been there, erm I just didn’t hear anything basically from anyone.

I: OK, so you’d want more support in place, more, more face-to-face support?

P: yeah, or even an email.

I: so just additional communication

P: yeah, communication. I had no idea what was going on, and I, you know, I didn’t even know if I was supposed to be contacting the students, if students were supposed to contact me, because I just didn’t have any, anyone contact me.

I: OK, so that’s possibly something that, I’m guessing, you’d have as a suggestion for improvement?

P: yeah, definitely.

I: yeah, is there any other suggestions that you think would be beneficial?

P: I don’t think so, no, just, you know, I don’t know, it was just strange because I was really looking forward to it, but just nothing happened!

I: [laughing] yes, I guess it’s quite difficult to think about how to improve it if you were less involved, I guess?

P: Yeah, I, I wasn’t, no one got me involved though, you know, I didn’t know what I was supposed to be doing, I didn’t have anyone contact me.

I: OK, so any final suggestions for improvement if we were to run it again, other than communication?

P: Yeah, communication definitely.

I: OK. That’s all the questions, thank you for your time.

**Interview 2**

I: So were you on the mentee side?

P: yes, I wasn’t a mentor

I: so did you have someone that you met with, that was helping you, or—?

P: only as a group.

I: *only* in the group setting?

P: yeah, yeah.

I: OK, we’ll change this a little then. OK so why, so this group that you attended, what were your reasons for wanting to attend?

P: it was mostly for reassurance, that was, that was my main thing, because, could you just hold on two seconds, could you just not shout just a minute, please? I may have to move into another room, this one’s just a bit crazy! Erm. Yes, so it was more to do with the reassurance, that if you were doing this— if you were doing this research this particular way, and you were analysing it on SPSS in this particular way, erm, then you knew that you were doing it right because there was a group of, five of us I think there was, all sitting studying together, and there would be things like, say, erm, oh I put it in this way, and then somebody else would say I put it in slightly different, and then we’d discuss it, and then we’d work out how it *should* be done.

I: OK, so kind of like a peer learning experience where you were all teaching other a little bit and sharing knowledge?

P: yes, yes.

I: ok so, was it more of, that was what you were looking for from that group, or where you expecting something slightly different?

P: no, that was more what I was looking for, I didn’t feel the need for a one-to-one mentor, and at that time there wasn’t, erm I don’t think that erm system had come into play anyway, I think it was after because the hardest one we did was I think it was the first, yeah it was the first erm research project group that we did, erm, in second year, and that was— the second one was— the first one was qualitative and second— the first one was quantitative and the second one was qualitative, so erm, and there wasn’t any stats mentors then, so…

I: OK, so it was more of support, initial support at that point that you were looking for.

P: yeah [inaudible]

I: Pardon?

P: I could see how it could work, though, you know if you need a mentor…

I: Yeah. So, so you mainly had peer support?

P: yes.

I: so what aspect did it help you with the most?

P: I think it was, like I say, it was the reassurance, that you were all doing it right because you, you weren’t doing it on your own, and, the saying well this is how I’ve done it [sic] and someone else said well this is how I’ve done it, and, the ones that were— the ones that were— the one that was in the, the— one of the students that is now a stats mentor, she, was in our group, and erm she’s very confident, so the things she was saying, reassuring us, was that was what we were doing correct [sic], the correct thing.

I: OK, so mainly looking for the reassurance of…

P: absolutely

I: that I’m not doing it completely different to everybody else?

P: yes, yeah.

I: so how do you think, kind of being in, I’m going to call it a mentor setting, the peer mentor setting, how do you think that impacted your own, confidence or anxiety?

P: oh it helped tremendously. I felt that I could go away— it was, it was a research project that I started with very little confidence, I was really worried about it, I didn’t really understand it, erm, but, because it was an assignment, we were given very little direction, with, I felt, looking back we probably did get a fair bit but at the time, my confidence was on the floor, but I came out with an A- with that, because and I think it was that peer support giving me the confidence.

I: so did it help reduce anxiety as well, then? In relation to statistics?

P: absolutely, yeah.

I: was there any particular way that it helped reduce the anxiety? Was it just kind of the, having the confirmation or was there something else?

P: I think it was two-fold really. The first thing was that you weren’t on your own, and that other people were feeling as, as, as, erm, unconfident as you were? And that was great. That was oh I’m not on my own and especially being a mature student, and not being in the learning setting for quite a few, well, lot of years, I did find that I had less confidence academically than any of the others, erm but then seeing, you know, 20 year olds that were struggling with exactly the same thing I was struggling [sic], that was really, that was really reassuring.

I: OK. So do you think, that that was perhaps your biggest gain, or was there something else that you think you gained from having the support?

P: erm, I think, one— the two things, like I said. The first thing was knowing that I wasn’t on my own, and that and that I wasn’t stupid, that other people were worried about the same things I was, and then secondly that we were all getting it right together, because, erm, I wouldn’t say that academically I got a huge amount out of it, but it gave me the, the confidence to then go yes I am actually doing this ok, and I found in that group setting I was able to add, you know it wasn’t just me taking which was great, and I think that was probably why I wouldn’t go to a stats mentor, erm, I find, I find that, that sometimes with the stats mentor that was in our group I was occasionally saying oh I don’t think that’s quite right, and then would look it up and I’d be right, and she’d be wrong and vice versa, so I think it sort of gave us all that confidence that there was not one person in the group that was, completely au fait with it all.

I: OK so if the scheme was running again, you, you wouldn’t opt for a one-to-one stats mentor?

P: erm, probably not, no. and I don’t want to say that really, because at the end of the day, I know a lot of people that got, you know, I know a lot of people that got a lot out of that, and having that stats side, erm and having that stats mentor, so I don’t really want to say that and the funding not come through! [laughing]

I: [laughing] I wouldn’t, I wouldn’t worry about that. Everybody has a different experience. So perhaps, if, if there was the possibility of peer mentoring in a group session rather than in a one-to-one session would that then be something that you would possibly take up more willingly?

P: yes. Definitely. Definitely. And I know that quite a few people that did the sort of group study sessions, I know that they got a lot out of that, and I don’t know anybody personally who just did a one-to-one, I don’t know them personally but I’ve heard that it was a good system, and people have taken them up on that offer.

I: do you think, the mentoring scheme would help where perhaps academic staff wouldn’t be able to?

P: erm, I think, specifically for the younger ones that can relate to them more? Erm, and also, and I found this quite a lot in second year where this, erm, when things were coming up that stats mentor ­­­­­\_\_\_\_\_ in particular, he erm, you know, the, oh, the people that you go and get the help from, the actual staff, he was really busy with third year dissertations, so you could never get an appointment, because they had to take the preference, so I think it took the— takes the pressure off the staff, erm, and secondly I think the younger ones would relate more to somebody of their age group, showing them.

I: so what about, kind of, away from the younger students the typical 18 19 etcetera, how do you think it would have helped *you* to have the peer support, as opposed to the academic staff supporting?

P: erm, I felt because I, I did do both, I did go and get academic support, and I felt that there’s a time constraint there, you’re trying to get all the questions in, erm, it’s a lot more formal, whereas erm, whereas when it’s in a peer group like that you’re far more relaxed, and you can say oh yeah I remember, I needed to erm, ask about that, and then someone else will ask another question and, I’d think oh yes I meant to ask that as well, being in a group I think you have the— you don’t— you’re not under as much pressure.

I: OK. What barriers do you think people might face when they’re requesting a stats mentor?

P: a peer stats mentor or a stats *mentor*?

I: either.

P: I think initially asking for that help, erm, yep, I think initially asking for the help and that’s why group setting is better, erm, I don’t, I don’t have— it’s difficult to answer because I don’t have difficulty asking for help, you know if someone said “oh if you ever need help with that” and I always say never say that to me because I will take you up on that offer, I’m not scared of asking for help, erm, maybe it is that saying to people that I can’t do this or I’m worried about doing this.

I: So perhaps the process of admitting that perhaps there’s something that you need support with?

P: Yeah

I: OK. So if— this may be quite difficult to answer— if the scheme was being rolled out again next year, with the mentors, and perhaps with the groups as well, what things do you think we could do to improve it?

P: erm, I think, it would be great to mention it in erm, the stats lessons, that would be— because not everybody has Facebook and Roz is absolutely fab for answering your questions on facebook and promoting the stats mentors and everything, but I think the actual staff saying “these are people that you can access, and people that are in the same boat as you and doing the same assignments as you and under the same pressures as you, so therefore you will be able to relate to them, the classes go erm, the actual workshops go really fast, they’re incredibly fast, and sometimes you come out of them and you think “what have we just done?” and then you can’t— the next week you’re onto another subject, so if the staff are actually saying “if you’re struggling with this then remember you can have a stats mentor one-t-one, you can have a peer session and if you’re feeling that you can’t maybe, you don’t want to access that on your own then get a group of you together, and then get a stats mentor to come in”.

I: Yeah, ok, so perhaps more publicity for the scheme?

P: yeah, yeah. But through the, the, through the lecturers rather than public…

I: so specifically in a face-to-face setting rather than through social media channels?

P: yeah, no definitely face-to-face, because also that’s the, erm, lecturers endorsing the scheme themselves. “I don’t have time in my schedule to go through this any slower, but these people know what they’re talking about so go and look there.” And it’s endorsing it, isn’t it, whereas I think just social media and, I don’t know, posters, that kind of thing, I don’t think— I don’t know, I think it’s better to have that endorsed at the time. Because they’re going to know who’s struggling, they know who’s struggling in those lessons and they can sort of give them sort of that bit of reassurance and say “look, I’m sorry I don’t have much time with this, but here— this is good, this is a good scheme, go and access this.”

I: ok so if they’re saying it, then it’s a little bit more solid than a random poster that they’ve seen on facebook or something.

P: yeah, and to befair, when you’re in panic mode as I was in a lot of year 2, I never ever want to do year 2 again, then, when you’re in panic mode you don’t have time to read all that, you were just— so say for example that I was really panicking to grasp the concept during the workshop, and I knew that the lecturer then had to go straight off to another workshop lecture whatever, I would come out of there panicking, and when people are in that panicking mode, they don’t access the things that they should, they don’t have time to read everything that’s coming out of social media, but, but like I say that endorsement by a lecturer of “don’t worry about that, this is here to help you, these people are here to help you, and especially the year two’s going into year three because they’ll have just done it, you know they’ve just done it, and their assignments— because I think isn’t there some sort of rule that they have to have an A- as a minimum, overall? For their research methods they have to have— to be a stats mentor…

I: yes…so I guess you then have the knowledge that they are doing well anyway?

P: yes

I: so are you more confident in their abilities?

P: yes.

I: OK. Brilliant. That pretty much sums up then.

P: OK, thank you.

**Interview 3**

I: so you’ve been quite involved with the scheme throughout this year? I’ve got that you did peer revision sessions as well, and you also did one-to-ones?

P: yep, yep. I did, erm, peer revision sessions but that wasn’t actually— that was before the scheme got running but that was about, discussing that with Roz and things, so she knew that I, what I was doing as part of my application process almost.

I: OK. So why did you want to become a stats mentor in the first place?

P: erm, well as I just mentioned I did peer revision sessions, I was helping my friends out with stuff and I actually liked helping them, and I like teaching other people things, so I thought why not get paid for it! [laughing]

I: [laughing] bonus!

P: If I’m doing it anyway…yeah

I: ok so more because you were already doing it anyway…

P: yeah. It’s kind of, I didn’t realise until this year that I was actually really enjoying teaching stats, because I love stats, and I love helping— when, for one of our projects this year it was really difficult, and I ended up goin down to the erm, the room in the library where they’ve got computers and then huge tables around and I put, connected my laptop up to a screen and then in front of about ten, ten to fifteen people I went through things and did them— I was a bit nervous about that because at the start it was just a few friends saying “can you explain this to me” and I’m like “yeah that’s fine” and then other people are like “oh can we come too?” and I ended up being this huge group, and it was terrifying but actually I did it quite well and explained things and it was, it just sort of came naturally to me, because I like stats, it’s not complicated to me, too much. It’s always a bit difficult but, I seem to pick things up in that area quicker than other people, so I think “I should help them”.

I: OK, was it people in your year? Or year below?

P: In my year. No, the peer revision sessions were people in my year, that group was people in my year. I’d started the prject and worked out the— it was the SPSS output that they couldn’t understand. It was for an ANOVA and it just threw out loads of figures and I looked at it and I got my head round it, and as the deadline approached more people were saying “oh I still don’t understand this” so I thought oh why not help them, you know, it’s kind of the right thing to do.

I: oh brilliant” That sounds really good. Were you— so obviously you were kind of already doing it anyway, was there anything you wer concerned about before you actually started the mentoing programme?

P: I think the idea of meeting with people that I didn’t already know, it was kind of a bit— I had to consider that before signing up for it, I did have a think about that because it’s different with friends than it is with people you don’t know. Because you don’t know what they’re going to be like, how they’re going to take you telling them what to do, erm, what their reaction to you as a person is going to be, you just don’t— it’s an unknown quantity, whereas I know with my friends and people in my year who really wanted my help they were, you know, they were going to be nice and kind to me and erm, if anyone had sort of said “can I come along?” who I knew would be trouble or would be awkward I probably would have said “oh I’d rather not” [laughing]

I: yeah [laughing]

P: yeah, fully bookd! I think when, especially when not even having a face beforehand, not being able to see the person and just being able to arrange to meet somewhere, and I didn’t even know who I was gonna meet up with, and I just said to them “look for the girl with the purple dreadlocks, you can’t really miss them!”

I: [laughing] ok so were you more confident delivering it to the people that you knew, than people you didn’t?

P: yeah. Or even er, Roz talked about going into a classroom, I feel like that would be easier for me because it’s a more formal setting, with a group of people, there’d be a tutor there, so, it’s, it’s kind of a…not a safety thing as such but ore of a, feeling comfortable knowing what to expect whereas if you go into a classroom you know what to expect, if you have any problems there’s a tutor there or around somewhere, whereas if you’re just meeting up in the library you’ve no idea what to expect, you, the person for all you know could get annoyed with you, the way you’re explaining things, not be very nice to you. But to be fair, I think I’m probably, that’s not how I’ve found it to be…

I: so all the people you did it with

P: well I’ve only done it with one person! [laughing] But yeah…

I: so was that your one-to-one?

P: that was one-to-one, yeah. And Roz was really supportive, you know, any problems, and it was much more supportive than I expected it to be actually, in terms of tutors and people who organise, I don’t know who organised it, was it you? But yeah, someone emailed me, and said “this person” yeah and it was good that way, but I think, I tend to worry about things, about meeting new people anyway so…

I: ok so it’s more of your confidence in the situation rather than—

P: yeah. It’s not the situation— it’s not the whole scheme, just that initial meeting that person, not knowing who I’m meeting. Even if you kind of had a face to the name, that would be good, even if you just, you know, sort had a picture to say “ok I know who I’m meeting and not just sitting there, looking” — because I was sitting there looking thinking “is it him, is it him, is it her, or?” you know…

I: ok so perhaps, having some sort of preparation beforehand—

P: yeah, even if it was just a photo downloaded off Facebook, or just some, just some crappy mobile photo just so you can identify the person say right “this is who I’m meeting” because it’s a bit disorientating when you’re sitting there waiting for someone to come and you don’t know who it is, especially if they’re late and every person whos coming through the door “this must be them. No, OK…”

I: so helping you feel more prepared in the immediate run up?

P: yeah

I: ok. So what was the biggest thing that people needed support with?

P: the person that I, erm, the person I mentored had, erm, issues with— they were really vague, that’s one thing I really wanted to pick up on, it was really vague in the email that I got, about exactly what they wanted to do. I t was kind of just a heading of a topic so I was like “so *all* the topic?!” [laughing]. But then I realised when I met them it was because they didn’t really know what they’re doing, and I know that sounds really harsh but they were *really*— it just seemed to me that they probably hadn’t attended any stats seminars or anything, they just didn’t even know the simplest first thing, and I was talking him through what you need to put on an information sheet, what you need to put on an ethics form, he, they didn’t even know that, you erm, you needed to erm, have all that done before you submit ethics and things like that, so it was really basic stuff, sorry I know I shouldn’t talk about an individual case!

I: it’s fine, you only did one one-to-one, so…so was it, did it take you by surprise having to backtrack quite so far? From a stats point you were thinking it would be something like how to run an ANOVA, but then having to backtrack?

P: Yeah. I kind of got the impression— they said basic things and stuff so I thought “OK, so if it’s year one it will be, maybe, they want to know what correlation, explain what a correlation is or explain, you know, the basics of it.” I didn’t realise it would go right back to that really basic level of what to put on an information sheet, what to— what you need to er, do ethics form or everything [sic]. It was like “OK…this is really basic!”

I: so it took you by surprise?

P: yeah took me by surprise how— I kind of expected it to be people struggling, but I didn’t expect it to be that far back, I kind of had to walk people through it step by step every step of the way and, erm, the person I mentored seemed to think that I was going to do the work for him.

I: Oh really?

P: Yeah! Erm, I showed him an information sheet and he said “Ooh, can I take that and take that away?” and I said “this is just an example, you can’t just take that away and then copy it and put your, you know, change a few words.”

I: Did they bring something with them?

P: they only brought a notepad and pen.

I: OK, so they didn’t— I wondered if they had brought a project that they were working on.

P: No. They told me what the project was, and it was obviously similar to what I’d done the year before. But they hadn’t brought any preparation or anything at all, which I was kind of expecting them to at least bring, I don’t know. I don’t really know what I was expecting, but not just a notepad and pen, perhaps, you know, what they were working on!

I: Like possibly some output or something?

P: Yeah!

I: Or some raw data or something and they could then run it on?

P: yeah. something— even if they had just brought the, you know the information sheet about the projects that we have to do, just something to show me what I’d be dealing with! Because it was a bit like, erm, just, being put in this position like, throwing me in at the deep end, that’s the expression I’m looking for! Because I didn’t know exactly, I think if it was specific, if people were more specific about what they wanted from the stats mentor then it would be easier for us, and the more specific people are— so if they want an answer to a specific question, for example if that, erm, person wanted erm, us to explain what a correlation is, you know, you can go “yep ok” and you can revise that to make sure I know it inside out and then I can explain it, erm, and I can get all the you know, I can even get examples from the book or something to do with them.

I: OK so had they been more specific you would’ve been able to plan a little bit more structure?

P: Yes

I: is that why you think it would have been good to go in a classroom, because it would have been that much more structured?

P: Yeah, because it’s that that was lacking with my experience. I really— I’m quite organised, when it comes to teaching people things or showing people things. I like to know what I’m going to be doing beforehand, and I think it could’ve been that it was very just because the person didn’t really know what they wanted to be taught, but if it’s— if other people have had vague things that have been given to them, I think it perhaps should be more specific or, you know, if there’s like three or four points that they want covered…

I: So something to work through?

P: something to work with, erm, but when I was actually there the person was quite receptive and really good about it.

I: Did you, erm, did you meet them once or did you meet them several times?

P: I met them once, but I did say to him I said “you’ve got my email, if you want to meet again let me know and I can go through some other stuff with you.” Because it was preparation for ethics, I thought you know— “when you’ve got the data, if you still need some help,” with how to work SPS[S] or something, I said “come and email me or email the stats mentor team and we can sort something out.” Obviously I felt like this person might need a lot of help! [laughing].

I: Did they contact you again?

P: No, they didn’t. I don’t know, to be fair, he seemed so overwhelmed by it I, I doubt that he even did it in the end, I really— I can’t see how he could have, could have completed that project with the knowledge that he had so he either— I don’t, I mean I don’t know what will happen but I just felt like he was going to be really struggling, it wouldn’t surprise me if he just like, gave up or something.

I: OK. SO did he strike you as a person who, so he had come to you looking for a last minute “I’ve got to get this project done” thing and expect you to do it?

P: Yes, yes. Absolutely.

I: So rather than just going “I want to improve my grades and I want to improve my understanding.”?

P: [nods] It was literally last minute, he had a meeting with his erm, supervisor the day before— the day after, sorry, to discuss ethics and he wasn’t, he’d done nothing yet, so it was, right last minute…he was supposed to have everything— from what it, again he was quite vague, but from what it sounded like he was supposed to have his ethics done by this meeting, all of his preparation for it and he was doing it the day before.

I: OK so *very* last minute.

P: *Very* last minute! Which flustered me a bit again because it, it was just kind of like “oh my goodness! How am I going to tell him everything he needs to know in, you know, the day before!”. I was thinking “there’s no way, unless he stays up all night I just cannot see how he’s going to get all this done.”

I: How long were you with him for in that?

P: I was with him for erm, an hour. Going through, telling him, walking him through you know, what an information sheet should include, what everything should include, and things like that, and showing him examples that either I’d done myself or I’d got off the internet, you can— there’s hundreds of examples on there, and saying to him “look there’s different types but you need to tailor it to your project” and things but he, yeah. That’s when he asked “can I take your, can I have a copy of your information sheet?” and I was like “No.” [laughing]. “You can’t copy what I did.” But yeah. It was, very last minute, and very rushed, and very flustered, I, I think, I think I would be happier if the person knew that you know, if you’re leaving it to the last minute a stats mentor isn’t going to be able to do it all for you! I’m sure you probably made that clear anyway.

I: he probably came *out* the meeting thinking that, probably didn’t go *in* thinking that! So what was the biggest challenge that *you* faced, obviously surrounding the issues of having that one-to-one?

P: I think the biggest issue in the one-to-one was that he, lack of preparation from him. He hadn’t thought really thought about what he wanted to know, he was really vague about what he asked me. He, erm, he just, had no, not even the basic knowledge that you would need to do projects— I felt like I was starting from square one, like it was the first day of the first stats session and I just, I found that really difficult to do and difficult to deal with.

I: So possibly lack of structure again, not being able to structure it beforehand?

P: Yeah. It just— I assumed, rightly or wrongly, that I would be helping people expand on their knowledge or build on existing knowledge they had, erm, even explaining some things, making it clearer for them, but not teaching it right from the get go.

I: So more of a revision of knowledge, and clarification rather than *you* being the teacher.

P: Yes! [laughing].

I: For the first time!

P: First time! [nods]

I: So someone else has taught them it and we’re just going to refresh it—

P: refresh it yeah, that kind of thing. Because I, I know from personal experience that it doesn’t go in first time when you do stats, and I’ve had to ask teachers and I’ve had to discuss with my friends, and not everyone has got that good friendship bond that they can go to their friends and say “OK, what does this mean?” or perhaps their friends don’t have the knowledge either, but, that’s the kind of thing I expected to be giving, sort of that reassurance that yep, this means this or OK I’ll explain this principle to you, but not— with them having some knowledge to back it up rather than [laughing] nothing.

I: [laughing] that completely makes sense! Why do you think being a stats mentor— what kind of impact do you think that will have on your career? Or career aspirations?

P: I think it’s really good, because I think it’s given me a lot of confidence, erm, again it’s got me out my comfort zone because I’m having to meet new people, having to talk to people, having to, realise that not everyone learns in the same way, having to adjust the way I do things, so it’s made me a bit more flexible? Erm, I really like it because it keeps my skills up to date as well, because I’ve seen that third year we’re not going to have stats, and I want to keep, erm, I want to, I want to keep my mind fresh because I remember the first year when I went to summer holiday and then when I came back— I didn’t do any revision, which I realise now is completely foolish! [laughing]

I: so is there an element of you having to relearn?

P: Yes

I: So by doing this do you think you’ll be able to keep it fresh after a break?

P: especially with doing my dissertation, I don’t want to go into it cold as it were and be thinking “oh my god I’ve got to relearn all this stuff!”. I don’t think I will because I think second year consolidates your knowledge a little bit more, but I just don’t want that to happen again where I’m completely back at square one and having to remember everything from the start, and having to go right through my notes from year one *all* the way through, but, erm, I think it’s really useful to, to help my revision because when they come up with things they want to learn I have to go over it to make sure I know it, so it helps me revise, too.

I: How did you find, so when you were doing your peer revision sessions, obviously ten to fifteen people, how did you find teaching lots of different people with lots of different ways at the same time? So you obviously said about being flexible with how you’re teaching it, what about trying to do it all at the same time? [laughing]

P: [laughing] yeah, it was really, I really enjoyed that! I did enjoy, I enjoyed the group thing more than the one-to-one thing actually because I did explain things and some people got it and some people didn’t, so then I went back “right OK, how can I explain this a different way?” and of course the people who got it actually helped explain it to the people who didn’t, so there was a whole— because we were all in the same boat as it were, we were all helping each other and trying to make the most of the time we had and, I think I like, I like it when people help each other and, rather than me just talking at them…

I: so was it kind of like a snowball, so you kind of taught some people, they got it, then they helped those who still didn’t get it?

P: well we were all in one session, so it was just a case of I explained something and then I was trying to think of ways, different ways and then someone would pipe up with “well look at it this way,” or “look at it that way,” and I was kind of “oh yeah, that’s a really good way of explaining it!”

I: OK so once they had got the knowledge, they could kid of interpret—

P: Yeah! it was like in the classroom when someone doesn’t get it, you can kind of all work as a team to try and help everyone understand it, or that’s how it’s happened in my stats sessions! Erm, I just, and it helped me learn as well, about how different people learn and like, I’ve got ideas of how to explain things because I was having to explain, or other people were explaining things to that person in a way that perhaps I wouldn’t but now I’ve got that, I know for next time.

I: Do you feel your knowledge is better, for having people explain it in different ways?

P: yeah, yeah. I feel it can, it definitely erm, makes my knowledge more concrete in my mind, when I’m explaining it to someone else, you know you can, you know you really know a topic when you can explain it to someone else erm, and obviously even before the peer review, sorry, the peer revision sessions I went to, make sure I knew them, and when I’d done the revision session I actually felt like I knew it better because I’d explained it to someone else. It does really help your own skills.

I: yeah. So kind of, by you helping others to revise you’d also revised it yourself?

P: yeah, yeah. it was a revision session for me, too, because I had to go and, you know, explaining things is a way of revising for me, sometimes I do write things out over and over again so, to revise, doing that verbally was a good way of revising for me.

I: Maybe it’s better to revise by *doing* something, physically, sometimes.

P: Yeah. I really enjoyed that. It was brilliant! Having the screen, and, being like a teacher now!

I: [laughing] did you prepare material for it as well?

P: erm yeah, because we were working on the same project, I’d already done my SPSS output, so I took that along with me, and I said, erm, you know I pointed at things on the screen and said you know, “this means this, this is where you’ve got to look for this answer and this is why it’s there,” and things. And I made sure that I had bookmarked the pages in my books so that if I did need to flick through it it’s there. I do like to be prepared, because if someone asks you a question and you don’t know the answer it’s awful to have to look it up while you’re there. But, I, I’ve done, I think I’ve done things like this in the past on an informal basis with friends, trying to help them, because I’ve always been quite a numbers person, I like maths and I like stats, and things like that, so this kind of thing really appeals to me [laughing].

I: OK so it’s within your comfort zone already, the material?

P: Yes. I mean I wouldn’t do it if it was in another module that my knowledge was shaky on, I just wouldn’t feel comfortable doing it. I think you’ve got to have good concrete knowledge of it and, and understanding of it to be able to just teach it to someone else, because if you teach it wrong then that’s got a huge impact on them!

I: absolutely. So, obviously we talked about revision for yourself as well as revision for others, so do you feel that your knowledge of statistics has improved by being a mentor?

P: Absolutely, yes. It keeps it in the front of your mind, it keeps it fresh rather than it just being forgotten, because if you don’t use it you will just forget it. It really helps keep it fresh, keep it at the front of your mind, helps you clarify your own knowledge, makes sure your understanding is right, is correct, you’re getting all of it. It’s just brilliant, I love it for that!

I: Did anything come up that made you then go away and go “I think I need to look at this again?”

P: erm, I did look for this, because it was quite vague the revision session that I did on a one-to-one basis, I did go away and look at confidence intervals, because they are my Achille’s heel, so I made sure that I went and revised them again because I thought “if they come up and I haven’t revised them, I’m not going to be able to help!”

I: in case the person came back for a second session?

P: yes, in case, because I thought when you get the SPSS output and writing up there’s all the confidence intervals and everything, so I thought “I’m going to have to go away and just look at them because if I don’t and he comes back for a second session then it’s not going to work”. For some reason, just that one little thing, I stumble on, and, so I wanted to make sure that I was absolutely clear on that, so that, that made me do that.

I: so you’ve clarified that now?

P: Yeah. I mean I still, it’s still my weaker area but I made sure that I knew what, what it was, generally.

I: OK. Was there any negative aspects of being a mentor? So obviously the issue of backtracking I guess which you mentioned earlier, but any others?

P: yeah. The process of getting paid! I’ve still not been paid for that hour I did! I just…

I: When did you do it?

P: it was before my exams, so before May time, so I’ve just given up with that to be honest because it was only an hour, and, with my exams in May— I think it was in April I did it, or the beginning of May, oh it was just too much hassle, I didn’t have the time with all my exams I just had to focus on all my exams and things and just forget about that, because it was stressing me out! The erm, the process of submitting time sheets with unitemps was just, it was just, really awkward. And I think once its set up it will be fine, but you have to pull up, you have to select a job from a drop down list. Now, every time I’ve tried to go in and do it, that drop down list has not had a job in it, so I cannot submit a timesheet. So…

I: OK.

P: So, I’ve emailed Roz about it, and I emailed the unitemps about it, and it was kind of, one was saying it’s the others’ fault [laughing] and, and I know, obviously I know Roz and I know she was doing everything she can [sic] to get it done, but somewhere in the communication between them something was going wrong, and I don’t know if it’s been resolved because I just haven’t, [laughing] bothered to try anymore.

I: Ok, because it was a while ago. Any other aspects relating to the mentoring experience? Obviously there’s the admin side of it—

P: yeah.

I: needs improvement!

P: I think that, I, just like I said before, being more specific about what people want, erm, and making sure that they understand that we’re not going to do the work for them and, erm, just, hopefully having people that I can build on their knowledge rather than having to start from absolutely scratch. I don’t even mind if they’ve just got a little bit of basic knowledge, but trying to start from the absolute beginning is just so difficult!

I: so having something to build from, rather than having to completely teach it.

P: having to explain what a variable is and things like that is just, just— and then you know you’re trying to get them up to a standard where they can do the project and it’s just not doable. It’s just not doable, especially in like an hour or so.

I: No. So if you had more time as well?

P: yeah. I think the time thing was I could have spent however long, but the time thing was he didn’t have the time, erm, he had to go to a lecture, or there was some reason that he had to go, but erm, it’s kind of like “oh my god, there’s so much,” I don’t think I could have even done it in a day! Like he wanted me to teach like a whole year worth of knowledge in, you know, in an hour and I just, I think perhaps expectations as a mentee need to be managed a bit more!

I: [laughing] OK so perhaps making it clear to them that you’re not there to do the work for a project for them?

P: not there to do the project, and that I can go over specific things that they don’t understand but I can’t teach them the whole syllabus type of thing.

I: OK so perhaps encouraging mentees to pick a specific area that they want to work on?

P: yeah that would be really good. If they had that specific area then I can go through it really thoroughly and make sure that they really understand it, whereas if they say “just teach me everything,” then I have to just quickly brush over everything and just, it doesn’t feel like I can do a good job.

I: I see. You’d tried to, from the negativity side of it, trying to cover a lot vaguely whereas you’d rather cover a small amount in depth with them?

P: yes, cos I’d feel like if I’ve covered things vaguely then I’ve not really explained it very well, I’ve just given them a little bit of knowledge to get them by, but I’d rather make sure people have got their own really good understanding of something so that they, it’s really robust and they can go away and they can, build on it or they can use it in their projects and apply it, actually be able to apply the knowledge that I’ve helped them with. Erm, because I feel like if I only give them a vague knowledge in reference to that particular project, if something else comes up in the future, it’s not robust enough to stand up to that, they’d just be back at square one again.

I: Yeah. OK, so would you be a stats mentor again?

P: oh yeah absolutely, I want to. Yeah, next year.

I: So if the scheme was returned—

P: If the scheme was returned, definitely would like to.

I: what reasons would you have for wanting to?

P: I just enjoy it! I really enjoy it. I enjoy the process of going through it, erm, helping people. I’m quite, I like to help people, when you get that feedback from them, the happiness from them, the “oh, you so much for doing that!” And again, I want to keep my knowledge fresh because I have no stats seminars next year, so I want to make sure that I’m using it and make sure that I’m not going to get rusty at it and then go to my dissertation at the end when I’ve got all my data and then go “oh dear, I don’t actually know how to do this!”

I: Yes. So did you find it quite rewarding?

P: oh it was totally rewarding, yeah. Really rewarding to help people and for them to know that you’ve helped them, and they’re really grateful for it and they can now go and do the project to the best of their ability. I found that so rewarding.

I: Oh that’s brilliant! So what, what suggestions would you have, if the scheme was to run next year again, would there be things that you think need to be improved, or that already worked well?

P: Erm, I think the way it run worked fairly well, just things I’ve said before, being more specific, managing what the mentees expect of you, erm. I, I— apart from that, I’ve no, no suggestions. The admin side, obviously! No, everyone was really supportive, I couldn’t really fault anything else apart from the things I’ve already said.

I: OK, brilliant. OK well that’s, that sounds fantastic. That’s it, there’s nothing else to cover. If there’s nothing else you think could be improved.

P: nope, there’s nothing else.

**Interview 4**

I: So, am I right in thinking you’re a mentor, and not a mentee?

P: yes

I: Good. And you’re in your second year? Or just finished second year and going into third?

P: I’ve just finished my third year— well I’m half way through my third year, actually.

I: OK, so you’re doing it part time, and you have another half to complete?

P: that’s correct, yeah.

I: OK, so how many mentees did you have?

P: not that many, actually. I had four. No, I had two I worked with and I had four enquiries. The enquiries never came back to me, actually.

I: oh really?

P: Mm, it was really strange. So I had an email from er, I brought all this up so I had it ready— I had emails from, \_\_\_\_\_\_\_\_\_, so I guess the students who were interested contacted [her] and she then forwarded, erm, their— what does the message say. They told them about me, erm, and they should email me. When I hadn’t heard anything the next day I emailed them but I never heard back from all four of them which was really, really strange.

I: OK, so you had two that, that did respond?

P: yes

I: Or two that did contact you and then four who didn’t respond?

P: Yeah

I: so did the other two contact you, or did you contact them?

P: they contacted me

I: OK. And they were clear with what they wanted from the mentoring?

P: yeah, yeah. Yeah, just talked through— both were regression actually, just talked through regression

I: OK. Yes. So can you just briefly explain the reasons why you wanted to become a stats mentor?

P: Well I enjoy stats, erm, statistics, for a start. I feel like I’m quite strong in it. And, I guess, it looks good for CV reasons, I had the time to do it, I really enjoy helping people, I know this sounds very tweed but I do get, it’s a good feel good, it’s a great feel good factor when you do help someone. I mean, I was talking about it with a friend and, there’ good moments when you feel you’ve helped somebody achieve something else, so all of those reasons there, really. It wasn’t, the one it wasn’t for was for the money, actually.

I: It wasn’t?

P: No.

I: Not interested, well not influence by that part?

P: [sighs] yeah, it’s just not worth the hassle, claiming for the money anyway.

I: have you not put through a claim?

P: [shakes head]

I: No? OK. So did you have any concerns about becoming a mentor? Prior to the scheme starting.

P: Nope.

I: None at all?

P: well the only thing would have been if someone would have asked me a question and I, I stumbled on it or I didn’t know, but then I would have hit the books straight away and found out, so yeah, uhm, I guess, I guess if you put yourself forward as a mentor and someone can ask you a question and you don’t know the answer to [sic] then I, I was maybe a bit concerned about how that’d look but, erm, in fact with one of the regressions I was struggling, I didn’t know it straight away but we hit the books together and we worked through it together, it worked well, it worked well so no I didn’t really have any concerns about that.

I: OK so just the kind of, not being able to answer something straight away?

P: Yeah. Silly really, but yeah.

I: OK. So why, why was that a concern?

P: I guess that’s my own personal fear, of you know, not being good enough or, you know… yeah that I guess. Looking silly in front of someone when you’ve put yourself forward as a mentor and the “this guy must know everything” and you don’t so, I guess it was just…

I: OK so both students came to you looking for regression, was that the main area that they wanted help with? Was there others?

P: yep

I: was there anything else they wanted help with?

P: No, it was, it was to do with, their, erm, it was with regards to their independent practical project, that module, just analysing the data just making sure they got it, got the values right ecetera to enter the data.

I: So was it, was it running the analysis itself for the regression?

P: yeah. well, erm, yes it was that, making sure the data was inputted, input correctly, and then erm, making sense of the data as well.

I: OK.

P: I did— I never answered— I never did any of the work for them, I made sure that we went through it together so we could come to the same conclusions together, so for instance I, I would be like “what do you think that value there means?” you know, I, I never gave the answer if, if, if that makes sense, I personally didn’t know so I had to go and revise it [laughing]

I: [laughing] OK. Well, yeah. did you feel like that was something that the mentees expected?

P: No. Not from these two, no. Yeah. They were quite—, they—, it was, it was to help, not to do it for them.

I: OK, so they were quite happy with the layout?

P: Yeah, yeah.

I: And what challenges did you face when the students came to you for support?

P: I, well, that and the fact that I couldn’t answer the question straight away. I think within a couple of hours, well within two hours we had sort of sorted it, erm, but at first I did have to go back and get the books open and remind myself, er, exactly what was— it doesn’t— you know, we’ve done it, I spent a lot of time with another friend revising it, and revising regression and learning, and I think just because I hadn’t done it for eight, nine months, as soon as you pick the books back up you, you remember it very quickly again. We were thorough on it the first time round, and you know what it’s like when you don’t do it every day or every week or every month, you start to forget and it’s just, not as quick as you want to work, perhaps.

I: Yeah. So did you feel like by doing the, the mentoring scheme that you were actually helping your own knowledge, and clarify things you weren’t sure on?

P: Yeah, I was absolutely just thinking it, when you asked, going back to your earlier questions about why did you do it, in fact that was one of the reasons to help with my revision too, so kind of a selfish one but I do want to also better myself and, you know I don’t know where my career is going to take me but erm, I’d certainly like to— you know, I would explore tutoring erm, becoming a tutor whether that’s something I would, it’s certainly on the list so it’s all good practice for me as well, yeah.

I: OK well that is my next question! [laughing] so brilliant. How do you feel like being a stats mentor, what kind of impact has that had on your academic career, or what impact do you forsee it having?

P: Well, at, I mean, Roz says it’s going to look good on your CV, I’d like to do a masters afterwards, this is why I’ve kind of split year three, so my dissertation is, it’s given me enough time to produce a really great dissertation, that’ another story though [laughing]. Yeah. everything though you know, I’ve tried to produce really high quality pieces of work so that when I apply for that masters I can perhaps get on a great masters course. I know it’s going to be competitive, I know it’s going to be tough, but all these things hopefully add up.

I: What branch of masters are you looking into?

P: well, [sighs] I guess neuro clinical, neuro stroke slash clinical, this is kind of why I’ve paused my dissertation, I want to do a neuro dissertation but at this level and the equipment, facilities available, it’s tough, I’ve got loads of ideas but I can’t pull them off with the resources that are available to us which are fairly limited. It’s frustrating at the minute, I must admit!

I: I remember it well! It doesn’t change! So has being a stats mentor helped your own understanding of statistics? Obviously you said about going over and revising, do you think it’s helped with, how it’s helped your actual knowledge of the material?

P: erm, I was,too I was fairly comfortable with it anyway, I was pretty good at maths as a child, when I was younger, a lot younger, so I’ve got no problem with, with dealing with number or anything, you know, any kind of mathematical, any kind of math, and erm, the girl I studied with we studied really hard for stats so I felt I was a decent level anyway, I understood everything that we’d been through and we were thorough with it er, so yeah, I, it helped keep it fresh in my mind I think, yep.

I: Ok so helped keep it fresh, was it more of, rather than kind of improving your understanding more solidifying your understanding?

P: yeah, yeah, I think so yeah.

I: OK.

P: We’d covered every bit of homework we’d been set, we’d covred it thoroughly you know, we’d, the girl I’d studied with we didn’t really cut corners and we really wanted to— ah who was it, who am I quoting. I think it was \_\_\_\_\_\_\_, no it was another tutor in here, he said “you need to own stats,” and by that he meant through yourself into it I think. You know who it was it was \_\_\_\_\_\_\_\_\_ unfortunately, he said to me you need to own stats, and I remember him saying that in the first year I think, so we went and we owned it!

I: So clearly it’s working! Were there any negative aspects to being a mentor?

P: [sighs] it’s a— I mean I’m looking at these in front of me, all these emails so, these are the students who didn’t respond and come back and I think that’s, that’s a shame really.

I: Would you have like to have multiple mentees and kind of, cover different areas rather than— because obviously you said that for both you had you covered regression, would it have been, would it ave piqued your interest more if you had lots of different areas on the go?

P: I’m interested anyway but yeah, I, anything that would have been thrown at me I was ready to handle, I mean I had done a bit of erm, I had done a bit of revision to you know make sure on the simpler erm, statistics, erm, yeah I—, it would have been— it would have felt good to have a lot of people coming and saying “look, how do you do this?” I mean, I did make some notes, I don’t know what questions are coming up, I’m trying not to pre-empt things but I do have a couple of suggestions that I thought that may have helped in the future.

I: That’s last! We’ll get there [laughing]

P: [laughing] that’s what I thought.

I: Any other negatives, kind of, of being a mentor this year?

P: No.

I: No? Brilliant.

P: theres not really any negatives that come with it. I think you either want to do it or you don’t. I wouldn’t have put myself forward for it if I didn’t want to do it.

I: yeah.

P: if it had been forced upon me then yeah, possibly. But that’s just not the case.

I: Yeah. would you be a stats mentor again?

P: Absolutely, yeah. I hope to be this year.

I: for the following year?

P: yeah. All the same reasons. I guess, lets, they’re all on an equal erm, they’re all, they’re all equally valid reasons. One, to help me, two, looks good on CV, three, to help the other students, and in fact that one probably comes top, that feel good factor is, is great when you get that buzz from, I don’t know what it is, I don’t know how to convey it. do you know what I mean, when you engage?

I: Do you mean like a sense of satisfaction, when you’ve done something to help someone else?

P: Yes, absolutely.

I: OK. And finally, any suggestions, for the scheme? So if the scheme were to run again in the following year, is there anything that you’d suggest that we could improve on, or anything that perhaps worked particularly well already?

P: I think— so why, why did these students contact the erm, was it the blog or, I’m not sure. It went through to CB, so however they contacted [her] for help, [sighs] it didn’t seem to work, that transfer then to me. Is it because I was male, perhaps? Because they were all female, did that have something to do with it? Is it because I’m older? I’m not— I could never work out why they never got back in touch with me, so I’ve been thinking about it, if, I mean if it, what would be nice if the mentors were induced, introduced personally, but then there’s no single stats class is there, they’re all on different days so that’s awkward getting everyone in on all of those days to introduce, so erm…

I: so perhaps like getting an introduction, even if you wrote like a small bio, to say this is who I am?

P: They’re on the blog.

I: oh they’re already there?

P: yeah they’re on the blogs, I had a look at those again today, they’re still on there, in preparation for this interview, erm, they’re still on there, so I thought, what about erm, time at university at, maybe, I don’t know. After stats class maybe. No, who’s going to want to do another hour after a three hour stats class anyway? I’ve got loads of ideas but they all fall down somewhere. I don’t know what the solution is between asking for help and then saying, “OK here’s the person you need to contact” and then them not contacting, I don’t know, I don’t know how or why that fell down because I never got to speak to anyone.

I: Yeah, I think if, if they’ve requested the help, if they’ve kind of vocalised that they need support it doesn’t make sense that they’ve then dropped it halfway through, so yeah that could be something that we could look at. Anything else?

P: erm, I, I would really like to, I mean I did discuss this with Roz as well about helping out during the, during the erm…

I: during the classes?

P: Yes, during the classes. She said a couple of tutors wouldn’t be happy with that, but then a couple of other tutors would be more than happy with that, and she did look into it but it never really came to fruition really.

I: so that would be something that would be something that you’d be interested in? Going into the classroom?

P: I’d love to, yeah.

I: kind of as a, a hands on assistant kind of position?

P: absolutely, yeah.

I: Why, why would you like to do that?

P: Experience? And I hate to keep saying it but, you know, just that, there’s so many things in life that make you feel bad or negative during our day you know, and this is a good thing, to experience.

I: Yeah. do you think it would be, obviously if you’re thinking about the classroom setting, doing it on a group basis rather than on a one-to-one basis? What kind of impact do you think that would have? Do you think that would be better for you, or even from the mentee point of view?

P: yeah! yeah I mean you work in small groups in the classes anyway don’t you? Yeah. especially if you work well, that would work if you were all in— all asking the same question on the same type of statistics I guess, on the same type of statistics that you were— but yeah I mean I would be up for group work as well, I mean that’s a, well you know the research on working in groups and working on your own, so…

I: Yes. So the two mentees that you had, how often did you meet with them?

P: just twice. Once each. Once each.

I: and how long was it for?

P: yeah, we got— two, two to three hours on both. Yeah, oh no, one was actually about four hours thinking about it. But we had a break in between though. Yeah it was a lot to cover, it was quite an in depth regression and erm, like I said we both wanted to make sure it was 100%.

I: did they stay in contact after the session, with you?

P: No.

I: so they kind of took it as it was a one off meeting?

P: Yeah. Well there was nothing left to cover, it was, it was left open, if you need to come back or anything then that’s fine, do that, the door was— yeah. Yeah, it wasn’t— I don’t think that— the only reason we— I think it was completed and we did what we set out to do, so there was no need to…

I: OK. And there was nothing else they wanted to cover?

P: No.

I: OK. Is there any other suggestions before we wrap up?

P: Were the, were the mentors, erm, what did— did the tutors, did the tutors inform the students that there was help, mentor help, that’s the only other thing I’ve got written down.

I: As in how was it publicised? The scheme?

P: yes, yeah.

I: erm, I think, I think that was possibly quite vague, I know that there was obviously the, there’s something on facebook to kind of publicise it.

P: yeah there’s a facebook page.

I: I don’t know the extent to which it was kind of, vocalised, erm, by staff. Would that be something that you think would help?

P: yeah, definitely! If people don’t know that the service is there then they’re not going to use it! I, I had an idea then and I was listening to you and I forgot. It was a winner as well. How can you forget it that quick? [sighs] yeah. Yeah I do. I think that would be useful if they, if they said the service is there to be used.

I: what channels do you think would be most effective to publicise it through? Would you rather have lecturers verbally saying it? Do you think things like facebook and twitter and NILE perhaps would be sufficient?

P: well it won’t be but— I’ve, I’ve seen students who haven’t logged into their NILE— they’ve got like, 300 messages sat on there. I mean, I get concerned if there’s one, you know, unread. NILE. Yeah and you say facebook, I mean you walk around the campus and everyone is on their phone. They might be on facebook but are they looking at the psychology? No, they’re looking at videos of people falling over and silly cats smiling and other things to that effect! I don’t, I don’t know, I’ve been thinking about it a lot and I don’t know how you, how you— ah! I remember what I was going to say now. From a lot— I think because I’m older, I look at tutors that they’re there to help me, I’m not afraid to go and ask them for help and, my experience of Northampton is that the tutors are just the best. I mean I have othing else to compare it to, but that Teaching Excellence Framework gold standard that they got awarded a little while ago backs up what I thought, the teachers are brilliant. My point is that a lot of students I spoke to, and a lot are younger than me, but they’re — they’ve still got that image of where they were at school and it’s an authority and you shouldn’t go and talk to those tutors. They don’t— I struggled with it I said “but you know that they’re to help you? You need to go and ask them, don’t be afraid,” and some students are genuinely afraid of going and asking a tutor for help, so I think the stats mentor programme could be excellent, I don’t know what went, I don’t know what went wrong.

I: So do you think that getting it through peer support rather than tutor support breaks down the barriers of asking for help a little bit?

P: I think that, well I don’t know for sure but hopefully it would, yes. Yeah, I don’t think that a mentor would be seen as— yeah from a peer, viewed as a peer rather than an authority figure yeah I think it would make a big difference, yeah. I was amazed at how many students were, were nervous about talking to a tutor.

I: Yeah I’m quite surprised by that.

P: No OK I may have took that, the people in my class may be an incorrect sample. I asked a lot of people though! I asked a lot of youngsters and they kept coming up with the same thing “oh I daren’t talk to them.” I said “are you joking, they’re there to help you! Honestly go and try it out!”.

I: yeah. so perhaps it’s easier for them to approach a peer that they know, that is a little bit more, equal?

P: yeah exactly

I: rather than someone they still have the perception of an authority figure maybe.

P: I think that’s coming from school to a university, do you think? I mean have I got this wrong? Should they be viewed as a— I mean look, I pay all the tutors the upmost respect!

I: No, I don’t think they should be but who knows!

P: no, I’m not afraid to talk to them as a, on a one-to-one, as a human being and as a, and as a student you know I need your help can you please help me, you know, that’s all that’s required, but it’s…

I: yeah, and I also think that’s what they’re there for. It would surprise me that people, regardless of whetehr you see them as authoritative or not, that you would see them as so unapproachable when, they’re there to help you get your education so yeah, that’s quite strange.

P: I mean there are a couple of tutors that are, kind of, perhaps I wouldn’t approach, they’re quite stern! But the majority absolutely not. Particulary people, tutors like Roz but you know, she’s just lovely, why would anyone be afraid? But a few people are like “oh I don’t know if I could go and ask!” just ask her because you’ll be fine! [laughing]

I: Yeah, strange! OK any final suggestions?

P: I think I’ve gone through all my notes now, I think it’s all there. Yep.

I: OK, brilliant. Have you got any final questions or anything?

P: Nope. And I’ve already said to Roz that I would love to do it again next year if the opportunity arises.

**Interview 5**

I: So am I right in thinking you’re in your second year?

P: yeah, just finished my second year.

I: just finished your second year and going into your third year?

P: yes, yeah.

I: so can you just tell me the, the reasons you chose to become a stats mentor this year?

P: erm, well, I, quite like stats, weirdly enough, erm and I know that it can be quite tough, I thought as I quite enjoy it anyway and I’m not the worst person at it, it would be helpful to kind of help people to do it who can’t get it quite as well or aren’t confident…

I: OK so, so kind of helping to build up other people’s knowledge?

P: yeah, basically.

I: and did you say something about their confidence as well? Was that kind of, if people aren’t sure about it?

P: yeah

I: ok so was there any, any particular concerns you had before you became a mentor?

P: erm…

I: was there anything you were worried about?

P: not— well, if anything it’s that if I didn’t know anything, so like if they ask a question that I didn’t really know what the answer was, that was…

I: OK so why, why did that concern you?

P: Erm, I don’t know, because like, if I asked someone to help me, I’d like, it to actually be helpful if that makes sense? So if I asked a question that they have no idea then you’re kind of like ok, maybe I’m never going to know!

I: ok so you wanted to be able to answer any questions that they had?

P: yeah pretty much

I: to help with their knowledge?

P: yeah

I: ok. So did you do a one-to-one with a particular mentee?

P: yes

I: ok how many times did you meet with them?

P: erm three times?

I: three times. OK. Over, over what kind of time span? Over a month?

P: just a couple of weeks, because they didn’t sort it properly until, like, May, they failed to arrange…

I: the mentee didn’t sort it?

P: yeah. by the time I’d actually arranged with the mentee to meet with them we didn’t really have a lot of time before the exams, so [inaudible].

I: ok so did you just have the one mentee?

P: yeah

I: ok so what, what was the biggest area of support that they asked you for?

P: erm, they wanted help with everything. Apparently they didn’t have any clue at all about anything [laughing]. I just kind of had to go on a whim and say everything!

I: so everything kind of, in, in terms of all statistical tests, or were you backtracking down the research path?

P: erm, we just covered anything that could have been in the exam.

I: ok so there was more a focus of anything that they could be asked for in the exam?

P: Yeah.

I: ok, so erm, how did you find that?

P: erm, the first— because I didn’t really know, she just said she wanted everything, I kind of had to go, erm, with nothing if that makes sense, so just to grasp what she actually needed to know. So kind of hard in the initial bit of it, not know what you had to prepare…

I: OK.

P: but after we actually came up with some sort of system it was a litt bit easier as I actually had something to work from.

I: ok so was it the structure?

P: yeah, the structure to start with, but that was fine after the initial meeting.

I: ok did you have email contact prior to your initial meeting?

P: yeah we emailed, a bit, because erm, it— yeah. We emailed to start with, and, because she didn’t have any idea what she wanted to know, when she said she didn’t know anything it kind of confused me.

I: ok so the first one, the first session was almost kind of a, erm, figuring out how you were going to structure the sessions?

P: yeah

I: and then did she contact you for the later sessions?

P: erm, yes.

I: or had you planned them ahead?

P: we kind of planned them ahead and then if there was anything that changed then she could email…

I: ok. What challenges did you come up against, when students came to you for support?

P: erm, in what sense?

I: so in erm, sort of obviously the issue of not being able to structure the sessions before, before she actually came to them I guess would have been a challenge, but anything in terms of what you found difficult in the sessions?

P: erm, mainly grasping whether she understood what I’d said, if anything.

I: so making sure you’d explained it properly.

P: yeah

I: ok anything else?

P: erm, I don’t think so.

I: No? OK brilliant.

P: No. Yeah it was quite simple in the long run. If that makes sense. But just the content, initial content.

I: OK. Do you feel, being a stats mentor has had an impact on your academic career? Or what kind of impact do you foresee it having?

P: erm…erm…

I: so do you think it will impact your career later down the line?

P: well yeah, because I possibly may go into teaching, so it’s kind of a step into teaching.

I: ok so how do you think that’s going to have an impact on your potential teaching career? Having done this?

P: well, it will let me know if I can! Because I’m kind of confused with where I am currently, so it will actually let me know if I’m able to do it, in that sense.

I: ok in what way are you confused?

P: sorry?

I: in what way are you confused?

P: as in I don’t really know where I’m going yet, so, that might help.

I: so possibly helping to clarify whether that’s the right career?

P: yes

I: ok. And do you think being a mentor has helped your own understanding of statistics?

P: yes

I: in what way?

P: being able to teach on something, you have to have some sort of level of good understanding of something to, manipulate the way you, portray it if that makes sense? Like people understand things in different ways, and you kind of have to, erm, [inaudible] change how you teach it to suit how people learn, if that makes sense.

I: ok so teaching in different styles?

P: yeah. So like, being able, so then you have to kind of develop an understanding of it to be abelt o do that, so that’s helpful.

I: yeah definitely. Were there— was there anything negative? Any negative aspects of being a stats mentor this year?

P: erm, being— no. in the sense of being. There was a lot of delay on it, in that process of it actually being getting sorted out [sic] but the actual being a mentor is fine, but then I didn’t actually do it that much! So I think if there was a longer period I might have found something, but yeah.

I: ok so because of the time of year and because of the, the time it took to actually engage in it—

P: yeah because it might have been more difficult because it was exam period, so there wasn’t any lectures it was mainly revising, so it might have even got more difficult if it was early in the year because I’d had lectures as well, erm, but because that didn’t happen I didn’t find that.

I: ok. So there was also, erm, a little bit of discussion which is going to be looked into about going into the classroom as an option as part of the scheme, so rather than just working on a one-to-one basis you’re actually going into the classroom environment as well. Would that have been something that you would have liked to have done?

P: erm, not at that moment when I started it, but it might be now, because I was kind of less confident about talking to loads of people if that makes sense.

I: ok so did you find it easier to do a one-to-one?

P: yeah I found it easier to do a one-to-one to, get a feel for it, but I might, if I were to do it again then I might be able to go into a classroom as well.

I: ok so would you be a stats mentor again, if the scheme was running again next year? Would you sign up for it again?

P: I would, yeah.

I: ok what reasons do you have for wanting to do it again?

P: erm, I enjoy helping people, like when I did it— I’ve done it before but not in a professional way if that makes sense. I helped my friend in maths when I was in high school, so I just enjoy doing it.

I: OK. So perhaps you’d be willing to go into a classroom if it were to continue running? So you’d progress into a classroom from a one-to-one setting?

P: erm, yes.

I: Yes?

P: I guess.

I: OK so if the scheme was to run again next year, do you have any suggestions about how it could be improved, or perhaps things that you thought went well?

P: erm, it was, I don’t know. It was just a bit late. I know there were a lot of problems with it, so, if it was— because there was— yeah. It was just a bit late, mainly. I don’t know. If the mentees— because when I was talking to another mentor, we both had the same issues, erm, like, our mentees didn’t want to contact us? So we got an email saying oh this person wants a mentor, and I left it like a week or so, and they didn’t actually email me so I ended up emailing them.

I: OK so did you feel that they should have had, that they should have taken more of an initiative because they were the ones wanting the help? Rather than you kind of doing the chasing?

P: yeah. I feel like they should have— if they really wanted the help, then they should have contacted me, otherwise you don’t actually know if they want the help anymore.

I: ok so they needed to be a little bit more proactive? Kind of have to engage in it a little better?

P: yeah! [laughing]

I: how did you find your mentee engaged generally? So obviously it was more for exam prep, but how do you feel they kind of responded to the session?

P: erm, it was fine, I mean she asked questions and stuff, but they were kind of like— there weren’t many because we didn’t have a lot of time because of their exams, so erm, but no they did like, ask questions and they did read emails because after I sent the initial email it was fine after that, it was just the initial…

I: so you had three sessions in total. How long was each session?

P: erm, roughly an hour and a half?

I: ok so they had four and a half hours ish.

P: Yeah. I don’t know how we managed to cover how much we covered in that period of time.

I: so was her request for help quite general, or were there specific things that she requested you go through with her?

P: Well, what kind of happened was after the first session I said “well what we’ll do is if I go home and look through things, erm, like the old powerpoints from my first year and label like what they were, and I could then send her the list and she could pick out what ones she thinks she needs to go over.

I: ok so you kind of structured, broke down what the exam was going to contain?

P: yeah

I: and then allowed her to choose bits?

P: yeah

I: did she come prepared?

P: come prepared?

I: yeah, so what kind of, did she bring anything with her to the sessions with you?

P: erm, the first time, yeah. I think the second time she did keep asking me for paper [laughing], but she did write notes and stuff, but she didn’t really bring anything else with her.

I: OK so it was more of just taking notes, and learning through discussion? Or revising through discussion?

P: yeah. Yeah.

I: ok. Brilliant.

P: I did like give her tips and stuff about what she could use. Like going through the online tests that we had to do. Because a lot of the questions come from the tests, or a very similar thing so that was a good way to revise.

I: ok so kind of, advice, less about the content and more about how to revise in her own time?

P: yeah, some of it. But there was a lot of content as well.

I: ok. Is there anything else that you think could be improved if it were to run again? So obviously communication with the mentees is something that could be improved. Anything else?

P: no I don’t think so.

I: so it all ran smoothly other than the initial contact? And obviously the delay as well.

P: yeah. But other than that it was chilled. It was fine.

I: ok. Brilliant. Well that’s all the questions then. Do you have anything else you want to say?

P: no.

Appendix 2: Initial Coding

Participants:

P1 Year 2 mentor – 0 mentees

P2 mentee

P3 Year 2 mentor – many mentees

P4 Year 3 mentor – 4 mentees

P5 Year 2 mentor – some mentees

1. ***Mentoring Benefits:***
2. Improving Knowledge, Understanding and Skills

Improving own skills and confidence (p1), teaching others to improve own knowledge (p2) Using knowledge in different ways and building own stats skills (p2), sharing knowledge (p1), sharing knowledge (p2), teaching it helps to explain in different ways (p4), increase own knowledge (p1), had to refresh own knowledge before sessions (p3), pick up concepts again quickly (p3), helped refresh own stats knowledge (p3), revised own knowledge (p4), help own knowledge (p5), need to repeat stats knowledge to learn it (p6), increased own confidence as met new people (p6), found out how others learn and adapt teaching style (p6), keeps skills up to date, refresh, consolidation (p6), learnt how to explain in different ways (p6), consolidates knowledge and skills (p6), improves stats knowledge as using it in a different way (p8), consolidate knowledge (p8), improve understanding (p8), build on knowledge not starting from scratch (p9), cannot teach whole year (p9), refresh own knowledge (p10), Not sure if mentee understood (p3), helped own understanding (p3), need to understand stats to teach it (p4), solidifying own understanding (p4), Helped with own studies and dissertation (p3), helps with own studies and dissertation (p6), helps revise and remember (p6), useful for own dissertation (p10), increases own confidence (p2), peer setting increased confidence (p2), lack of stats confidence (p2), confidence (p2), already confident with stats (p4), confidence (p2), teaching something confident in only, would not want to teach other areas (p8)

1. Mentoring as Intrinsically Rewarding

Enjoys stats (p1), enjoys stats (p1), enjoyed mentoring (p6), enjoyment, positive feedback (p10), enjoy stats and remission (p1), love stats (p1), enjoyed teaching (p7), enjoyment (p7), Would do again (p2), would do again (p4), wants to do again (p5), would love to do again (p8), love it (p8), would do again (p10),

1. Helping others to Achieve and Giving Back

Helping others (p1), helping others (p1), enjoyed helping others (p4), enjoy helping others, feel good, not for the money (p1), wanted to do it (p4), help others (p5), feel good (p5), satisfaction with helping others (p5), feel good (p6), helping others (p10), Duty to help others, right thing to do (p1), rewarding (p10), increase stats confidence in others (p1), Reducing stats anxiety in others (p1), reduce the panicking when come out of class and do not understand (p5), Emotional involvement/ empathy with mentees, feel for them as was once in their place (p4), Nervous mentoring at first (p1), but pick up easily (p1), Verbal revision better than written (p6),

1. Defining Future Career Aspirations

Mentor role helped with future career aspirations (p3), helped to clarify career paths (p3), helped with future careers, good tutoring experience, helped with future aspirations (p3), great experience (p6), Inspired by own staff stats tutor (p4), Impact on mentee (p8), built on previous experience mentoring (p4), Add to cv (p1), looks good on cv (p3), good for cv (p5)

1. ***Mentoring Challenges:***
2. Pressure to be a Statistics Expert

Concerned about not knowing the answer or lack of knowledge (p1), Stats mentors may get it wrong, not everyone knows the answer to everything (p3), concerned asked something they did not know (p1), Concerned if asked something did not know answer to, worked out together, mentor expected to know everything so fear of looking silly (p2), Not a stats expert but happy to support (p1), Doing stats the ‘right’ way (p1), doing it ‘right’ (p2), tended to over-prepare (p2), prepared so ready to be asked anything (p4), prepared as did not know what mentees would ask (p4), mentors often over-prepared and were very prepared when it came to stats (p7), prepared in areas they were not so strong in (p8),

1. Different Mentor-Mentee Expectations

Managing mentee expectations – all mentors are A-grade students (p5), more confidence in their abilities if they are good students (p5), mentee and mentor expectations differed (p3), expectations differed (p3), mentors felt thrown in at the deep end if mentees came unprepared as they had nothing to work with (p4), often mentees requested help last minute (p5), mentee expectations (p5), last minute (p5), mentees cannot do it for you, their expectations differed (p5), mentor expectations were to expend mentees’ knowledge and understanding, not to start from scratch (p5), mentors felt like teachers explaining things for the first time (p6), thought they would be reassuring not starting from scratch (p6), mentee expectations are different, not doing work for them (p9), mentee expectations (p9), Never did work for them, guided them to the correct answer (p2), mentees did not expect them to do the work for them (p3), mentees wanted mentors to do the work for them (p3), Teaching strangers vs. helping friends different (p1), unknown how mentees might act (p2), not knowing what they look like is difficult (p2), strangers unknown could get angry (p2), have prior expectations of friends (p2), managing expectations (p10),

1. Mentees not Knowing What Help they Required

Not specific – mentees wanted help with everything (p2), hard to prepare is cover everything, need structure (p2), need structure to mentee sessions (p5), mentees vague about where support was needed (p3), mentors surprised just how much basic support was required (p3), surprised how much support required (p3), mentees came unprepared (p3), hard if mentee did not know what they wanted to be taught (p4), lack of mentee preparation a challenge, difficult for mentors to prepare (p5), vague about needs for a mentor (p5), difficult to deal with basic knowledge required (p5), need to be more specific about what mentees want (p9), mentors do better job if mentees more specific (p9), understanding one area in depth better than trying to cover everything (p9), better to build on knowledge (p10), identify specific needs (p10), Mentees unprepared (p5)

1. Mentor-Mentee Communication Issues

Mentor/ mentee communication (p1), communication issues (p1), lack of communication (p2), lack of communication (p2), lack of involvement (p3), mentee communication issues (p2), mentee communication issues (p5), mentees had to be chased and did not take initiative (p5), lack of communication from mentees (p1), lack of mentee communication (p4), communication issues may be down to age/ gender of mentor? (p5), communication issues (p5), lack of constant communication (p6), had some follow-up sessions (p2), wanted to provide ongoing support but mentees did not get in contact (p4)

1. ***Implications for future initiatives***
2. Group and Classroom-Based Mentoring Benefits

Mentoring as a group (p1), peer learning and support (p1), agreement (p1), preferring group mentoring over 1-2-1 (p1), intergroup dynamics, now ‘wrong’ if all doing same way (p2), not alone, others feeling same way (p2), group setting – not alone (p2), getting it right together (p2), individual versus group knowledge (p3), individual mentors worked for others, not for them (p3), peer mentoring (p3), peer group less formal (p3), others ask things you do not think of (p3), group mentoring vs individual mentoring (p6), peer support setting may be more useful as some people nervous talking individually to tutors (p8), go from helping one to mentoring a big peer group (p1), meeting new people a personal issue (p2), need a picture so know who meeting (p2), preferred group mentoring to one to one (p6), intergroup dynamics as they explained to others (p6), peer support in group problem solving (p7), team learning akin to in class learning (p7), learnt how others learnt or how to explain things better (p7), Easier to help if one to one (p4), Would like to help in classrooms (p4), would prefer to help in classrooms (p6), classroom mentoring more safe as have teacher support (p2), classrooms more structured and easier to provide mentoring (p4), Peer setting reduced stats anxiety (p2)

1. Additional Endorsement and Staff Support

Staff need to promote it more (p4), promote in lectures (p4), lecturers to promote at a time when needed (p4), endorse scheme for those who need it most (p4), year 2 difficulty – target this for mentors (p4), lecturer endorsement needed (p5), would be good to be introduced face to face with whole year group in a lecture in advance, as well as blog and Facebook (p5), staff need to publicise more (p6), NILE and Facebook promotion may not be effective (p6), some staff more supportive than expected (p2), Lack of support for mentors (p2), lack of support (p2), mentor support (p1), lots of support for mentors (p2),

1. Mentor Availability and Role Clarification

Mentoring needs to be linked to assignments (p1), mentors need to identify needs (p4), Exam prep (p2), study skills (p5), technical queries inc – correcting data, input and analysis (p2), Had time to do it (p1), Removes pressure from staff if too busy to support or have limited time (p3), limited time with exams to mentor (p8), sometimes more time is not practical as unrealistic mentee requests (p9), Mentoring availability (p1), Delays with scheme (p4), issues with scheme (p5), Voluntarily mentored as issues with remission (p2), remission issues (p8), given up chasing remission (p9), Admin (p10), future mentors scheme could be excellent (p7), Some scared to ask for help from tutors so mentors good (p4), many students afraid to ask tutors for help (p6), excellent tutors but not used (p6), many scared to ask tutors for help (p8), should ask tutors for help as that is what they are there for (p8), instead, relate to mentor if younger (p3), relatable support (p4), others do not ask tutors for help, so mentors useful (p6), young see uni tutors more like at school so less likely to ask for help (p6), students afraid of asking for help (p6), Stats Mentors replacing staff? But need reassurance (p1), reassurance (p2),

Appendix 3: Themes

Table 1: Main and Sub-Themes from the Mentor and Mentee Interviews

|  |  |
| --- | --- |
| **Main Theme** | **Sub-Theme** |
| 1. Mentoring Benefits
 | 1. Improving Knowledge, Understanding and Skills
 |
|  | 1. Mentoring as Intrinsically Rewarding
 |
|  | 1. Helping Others to Achieve and Giving Back
 |
|  | 1. Defining Future Career Aspirations
 |
| 1. Mentoring Challenges
 | 1. Pressure to be a Statistics Expert
 |
|  | 1. Managing Mentee Expectations
 |
|  | 1. Mentor-Mentee Communication Issues
 |
| 1. Implications for the Future
 | 1. Group and Classroom-Based Mentoring
 |
|  | 1. Additional Endorsement and Staff Support
 |
|  | 1. Mentor Role Clarification and Availability
 |