An extra set of eyes and ears: peer collaboration within a Bachelor of Education (Honours) research project

By

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Thesis presented in fulfilment of the requirements for the degree of Master of Education in Curriculum Studies

At

Stellenbosch University

Supervised by: Professor M. Robinson

Date of submission:

December 2021

DECLARATION

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Date: December 2021

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ABSTRACT

As part of the Bachelor of Education Honours (BEdHons) degree, students in the Faculty of Education at Stellenbosch University are introduced to their first formal research project with a supervisor assigned to them. This can be a daunting situation for a student to start a process with an experienced supervisor familiar with the world of research. Adding to this is the fact that many supervisors struggle to allocate sufficient time to research supervision as they also need to focus on curriculum development, teaching, and their own research.

Peer collaboration, where students in the same class support one another, is often forgotten within research pedagogy, despite it being well-recognised in higher education and education generally. Literature supports the idea of peer collaboration as broadening the research experience towards a more horizontal pedagogy. This moves away from a vertical pedagogy between one supervisor and one student towards a network of supervisors, students, peers and other experts all playing a part in the research process.

This study used a case study research design to explore how BEdHons students experienced peer collaboration as part of their research project. The goal was to establish the benefits (if any) and challenges (if any) of being part of a peer collaboration process while completing one's research project.

The study found that peer collaboration led to significant academic and emotional/social benefits for students. These included expansion of knowledge for the research project, help with fears, providing a listening ear, dampening the feeling of loneliness and motivating each other to finish their research projects. A social benefit that stood out was the vital role friendship played throughout the peer collaboration process.

Academic and emotional/social challenges included fears of plagiarism and managing one's time to incorporate peer collaboration, concerns about disrupting one's peer and having no physical contact during a period of a health pandemic.

The findings contribute to the argument for a more horizontal research pedagogy of which peer collaboration can be a part. The study recommends that, although peer collaboration cannot replace the role of the supervisor, it can enhance the learning environment of research pedagogy.

OPSOMMING

Binne die Baccalaureus Opvoedkunde Honneursgraad (BEdHons) word studente van die Universiteit Stellenbosch se Opvoedkundefakulteit vir die eerste keer aan formele navorsing, gepaard met ’n studieleier, blootgestel. Om saam met ’n studieleier wat bekend is tot die wêreld van navorsing te werk, kan moontlik ’n angswekkende ervaring wees. Om hierby aan te sluit het studieleiers nie altyd voldoende tyd op hande om leiding aan studente te gee nie as gevolg van verantwoordelikhede soos kurrikulumontwikkeling, onderrig en hul eie navorsing.

Samewerking met ’n eweknie, waar studente in dieselfde jaar hulle navorsing voltooi en mekaar ondersteun, word gereeld agterweë gelaat binne navorsingspedagogie. Dit ten spyte van die bekendheid binne hoër onderwys en onderwys in die algemeen. Literatuur ondersteun die idee van samewerking met ’n eweknie wat dit ten doel het om die navorsingservaring na ’n meer horisontale navorsingspedagogie te bring. Daar is dus ’n wegbeweging van ’n vertikale pedagogie van een studieleier en een student na ’n netwerk van studieleiers, studente, eweknieë en ander spesialiste wat dan almal ‘n rol speel in die navorsingsproses.

Die studie het gebruik gemaak van ’n gevallestudie navorsingsontwerp waar gekyk is na hoe BEdHons-studente samewerking met ’n eweknie ervaar as deel van hulle navorsingsprojek. Die doel was om die voordele (indien enige) en die uitdagings (indien enige) wat deel is van ’n samewerkingsproses, vas te stel terwyl studente hul individuele navorsingsprojekte voltooi.

Die studie het bevind dat samewerking met ’n eweknie groot akademiese en emosionele/sosiale voordele vir studente inhou. Dit sluit in die uitbreiding van kennis binne die navorsingsprojek, hulp om vrese te oorkom, iemand wat kan luister, ondersteuning om gevoelens van eensaamheid af te weer en wedersydse motivering om die navorsingsprojek te voltooi. ’n Sosiale voordeel wat uitgestaan het binne die bevindinge, is die belangrike rol wat vriendskap gespeel het binne die samewerkingsproses.

Akademiese en emosionele/sosiale uitdagings sluit in die vrees van plagiaat pleeg en goeie tydsbestuur om saam met ’n medestudent te werk. Verder was daar bekommernisse dat ’n medestudent gepla mag word en die verlies aan fisiese interaksie as gevolg van die pandemie het aan die lig gekom.

Die bevindinge dra by tot ’n argument vir ’n meer horisontale navorsingspedagogie waarvan samewerking met ’n eweknie deel is. Die studie beveel aan dat, alhoewel samewerking met ’n eweknie nie die studieleier-student-verhouding kan vervang nie, dit wel die navorsingservaring binne die navorsingspedagogie kan bevorder.

ACKNOWLEDGEMENTS

I want to start by thanking the person who contributed the most towards this dissertation: Professor Maureen Robinson. Her critical eye gave me the confidence to work diligently on this dissertation. Her passion for academic work was contagious, giving me much-needed motivation. She would go further than the extra mile when providing feedback on work and was very accommodating with timelines. I will greatly miss our discussions. Her support during a very challenging degree, both on an academic as well as a personal level, will always be highly appreciated and remembered.

I would also like to thank Professor Christa van der Walt for her support during this degree. The workshops she organises for the postgraduate students were extremely helpful and motivating. Her kind words encouraged me to move forward in my studies. Furthermore, a big thank you to her for allowing me to present my study to Language education students and for help with sending out the surveys.

Similarly, I would like to thank Dr René Terhoven for motivating the Curriculum Change module students to partake in this study and for helping to send out surveys.

Other academic staff that provided me with guidance and motivation included Professor Liezel Frick, who provided me with advice on my proposal and multiple resources that were very helpful. Also, a thank you to Dr Nathanson for brainstorming ideas for my MEd with me during my Honours and always for her inspirational conversations. A thank you to Professor Le Grange for his assistance regarding questions on methodology.

To my peer Michael Vorster, a thank you for all the academic and emotional support provided during my MEd. His feedback on my work, especially during the proposal process, was extremely valuable, especially in always giving me honest feedback and, in doing so, improving my final dissertation.

On the administrative side, I would like to thank Mrs Sally le Roux for her willingness always to help and even for her motivations during difficult times. Also, Ms Lorraine van As who provided a lot of assistance during the initial phases of the MEd application process but also for her willingness to always help – in the kindest way. To Mrs Sarie Wilbers, a thank you for extended discussions and training at the library and help afterward via email. COVID-19 showed us the value of the library.

With regards to the illustrations of the data, I would like to thank Martin Booth for sharing his incredible talent and, in doing so, making the visual presentation of the data possible.

Personally, I would like to thank my parents for their love and support during the process. Special thanks to my dad who helped with and provided feedback during the initial phases of this study. Similarly, to my husband, Kartik Naidoo, a big thank you for all the support. He was always willing to listen and help with academic arguments but played a significant role (apart from Professor Robinson) in the final editing process of this dissertation.

To my lovely neighbours, Jenny and Trevor, a big thank you for their help in reading through the final dissertation.

On the spiritual side, I would like to thank Reverend Frik Smith and Bea Potgieter for taking care of my soul and always supporting me during my MEd degree.

Lastly, health-wise, I would like to thank the following staff of D'Almeida clinic for their support: Sisters McBean, Domingo, and Gelderbloem. Also, Ms. Chetty and Ms. Amsterdam. Their positive attitude and friendliness inspired me to continue with my dissertation.

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LIST OF ABBREVIATIONS

BEdHons - Bachelor of Education Honours

MEd - Master's of Education

PASS – Peer assisted study sessions

PIRLS - The Progress in International Reading Literacy Study

SNS - Social network sites

ZPD – Zone of proximal development

CHAPTER 1

BACKGROUND AND RATIONALE

1.1. Background

The idea that inspired this research started with some reflections after the completion of my research project in 2019 as part of the Bachelor of Education Honours (BEdHons) degree in the specialisation of Language Education at Stellenbosch University. My BEdHons research project, based on a completely different topic, focused on how a Freirean perspective, combined with a World Englishes perspective, can bring about better 'conscientização[1]' to the teaching practices of South African English Language teachers. This research project was both an academic, as well as a personal journey for me.

My BEdHons research project was aligned with my personal emancipatory worldview, and I wanted to continue to work within this paradigm for my Master's of Education (MEd) research. I firmly believe that for research to be worthwhile, it needs to bring about change to myself and/or to society at large.

As part of my MEd, the initial idea was to use a participatory action research approach to establish peer collaboration within the BEdHons research project. I made use of peer collaboration during my BEdHons research project and found it most beneficial, so much so that I wanted to make it officially part of future BEdHons research projects for all students. This is in line with McNiff and Whitehead's work (that I was also introduced to during my BEdHons degree) that ideas come from practice (McNiff & Whitehead, 2009: 4). Collaborating with my peer, we learned that we could use each other's knowledge and experiences to better our individual research projects. Salaber (2014: 116) puts it well when saying one person's knowledge is a valuable resource for the other person they are working with.

However, I realised that having this view without first establishing whether or not other students will experience the same benefits of using peer collaboration was a weak starting point. Another reason why my personal experience of peer collaboration did not have a strong foundation to start with, was that we only collaborated informally with no clear

[1] Freire (2015: 35) states that 'conscientização' is "learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality".

purpose and for a short amount of time, and more towards the end of our degree out of necessity.

During the proposal process, I further realised, with the help of feedback from various academics, that my research question fitted better in an interpretivist paradigm, as it was focused on exploring the perspectives of others. Even though this was a difficult paradigm shift I had to make, I realised that this was part of my new academic journey I had to embark on. This shift was enabled with the help of Aslam Fataar, who provides a reflective account of how he worked with doctoral students in developing their proposals, and explained how he moved from his "own emancipatory interests in order to validate the authentic experiences of people" and adopted the interpretivist paradigm that benefited him and his research (Fataar, 2012: 17). Therefore, for me to take on a more scholarly approach, it was important to acknowledge the experiences I had during my BEdHons degree as a good starting point but then to further build on it and to explore how others might experience peer collaboration. For this reason, I had to adopt the best paradigm to fit the purpose of the research question.

1.2. Purpose of the study and research questions

The purpose of this study was to explore the experiences of BEdHons students at Stellenbosch University as they engaged in a peer collaboration process while undertaking their research project.

The research question I wanted to answer was: How do BEdHons students experience peer collaboration in their research project?

The following were the sub-research questions:

- What aspects of peer collaboration, if any, do BEdHons students find beneficial in carrying out their research project?
- What aspects of peer collaboration, if any, do students find challenging in carrying out their research project?

The underlying focus of these questions was on both the emotional and academic benefits and challenges that students might encounter during a formal peer collaboration process.

The research question aligns well with the title of this MEd dissertation, namely 'an extra set of eyes and ears'. The metaphorical use of this is significant due to its reference to having an extra person as part of one's research journey. The eyes refer to the academic

aspects of the peer collaboration process, while the ears refer to the emotional. Both these aspects emerged from the findings of this research study.

1.3. Purpose and structure of the research project in the BEdHons degree at Stellenbosch University

The purpose of the research project module in the BEdHons program at Stellenbosch University is to train students to write a thesis in the form of an extensive report (Van der Walt, 2019: 3). It can thus be seen as the starting point for building the knowledge and skills required for postgraduate research, for example, the ability to communicate research findings (Kiley, Moyes & Clayton, 2009: 20). The latter seems to be the general sentiment of the different specialisations in the BEdHons degree for Education at Stellenbosch University, but also in most universities in South Africa.

The mode of teaching and learning in the programme is to allocate each BEdHons student with a supervisor. The supervisor's duties include helping the student with any questions regarding the specific topic, assistance with referencing styles and the formatting of the research report (Van der Walt, 2019: 3).

Stellenbosch University offers five different specialisations in the BEdHons programme, and the format of the research project differs slightly across these different specialisations. In each specialisation, students need to accumulate a total of 120 credits in total to successfully meet all the requirements to obtain a BEdHons degree.

For this study, the students involved came from two specialisations, namely Curriculum Inquiry and Language Education. Within the specialisation of Curriculum Inquiry, students choosing the Curriculum Change elective module were approached. As illustrated in Figure A below, the research project accounts for 30 credits in the Language Education specialisation and 35 credits in Curriculum Inquiry, making it one of the modules with the largest number of credits. Reasons for this can be linked to Honours being a general entry point to further postgraduate studies (Kaunda & Low, 1998: 130; Kiley *et al.*, 2009: 18; Swanepoel & Moll, 2004: 291). It is therefore not surprising that the BEdHons research project accounts for a high number of credits.

The remainder of the BEdHons degree encompasses both elective modules specific to the specialisation and two compulsory modules, Knowing, Acting and Being and Educational Research. The Educational Research module contributes to the research project in that it explores the different paradigms and worldviews in education. It further introduces

students to different research designs. The various components of the BEdHons degree are illustrated in Figure A below.

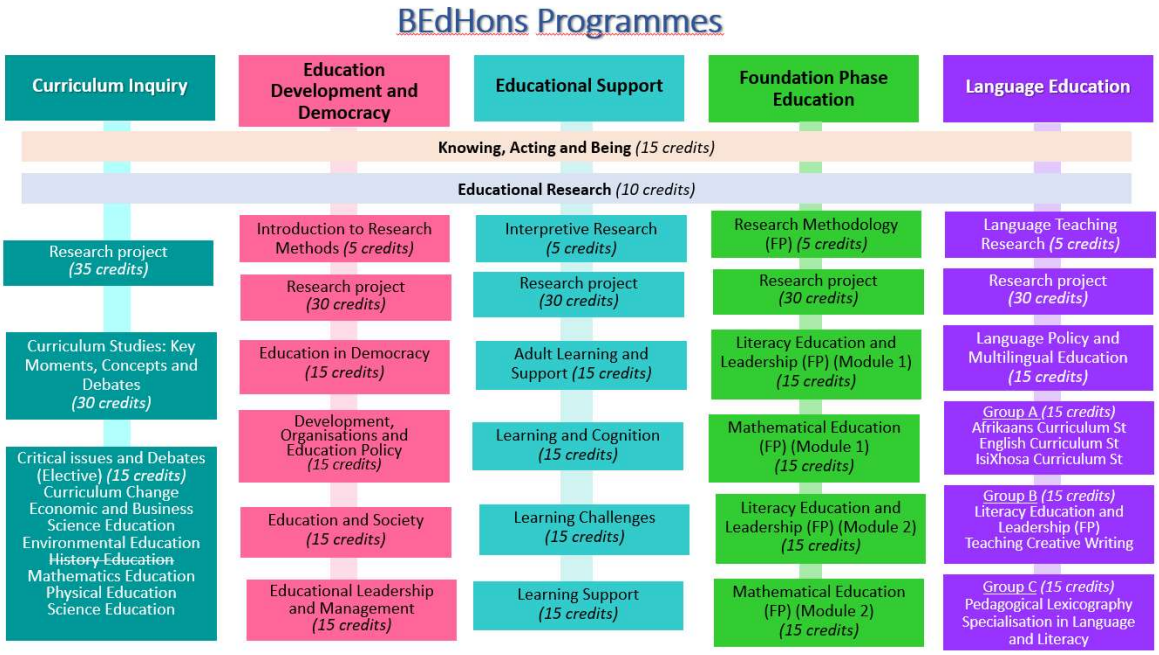


Figure A: Faculty of Education BEdHons programmes, SU, (*BEdHons Programmes*, 2020)

1.4. Theoretical framework

During the above-mentioned BEdHons specialisations, there was no formal peer collaboration process between Honours students, with the research project being a process between the supervisor and the student only. Boud and Lee (2005: 502–503) argue that the individual supervisor-student relationship needs to change. Their argument is based on the continuing realisation that research is an educational endeavour that requires a good pedagogical basis. In their view, this pedagogical base is better served by moving from a vertical pedagogy, a conservative model with little engagement with peers and other experts, to a more horizontal pedagogy creating networks of learning "building a more complex and thoughtful learning ecology" (Boud & Lee, 2005: 502–503). This view embraces the need for a more horizontal pedagogy in which peer collaboration can play an important role.

To enhance the idea of a more horizontal pedagogy, I have drawn on Vygotsky's sociocultural theory and, more specifically, on one of the theoretical concepts, namely the zone of proximal development (ZPD). The ZPD refers to a process where the student (he always refers to the child) works together with a peer to solve a problem until the student

reaches a point where he/she can solve it independently (Van der Veer, 2007: 82). As the child goes through this process, it leads to maturation, where the child moves from potential development to actual development (Vygotsky, 1978: 86). For Vygotsky, actual development refers to mental functions already well established where a problem can be solved independently (Vygotsky, 1978: 85), meaning the student can do the activity or solve the problem on their own.

Similarly, it is possible by collaborating with a peer, to help each other with complex problems arising during the research project. This can lead to the process of actual development and peers maturing as researchers during this process.

Even though Vygotsky sees collaboration as help gained from a more intellectual peer or adult (Vygotsky, 1978: 86), the idea can still be used between peers of equal intellect. I would argue that the BEdHons research project can be categorised within the ZPD as it is the first step towards becoming an independent researcher, making it a very challenging problem that can be solved with the help of a peer.

Multiple perspectives have since developed from Vygotsky's work, including the social constructivist approach (Palincsar, 1998: 371). Even though this study will not specifically draw on the work of social constructivism, some examples in the literature will be helpful and used in this study.

Lastly, using the theoretical concept of the ZPD links well with the idea of a more horizontal pedagogy and allows for the opportunity to gather in-depth knowledge of students' experiences using peer collaboration as it is a social learning situation.

1.5. Research design and methodology

This study followed a case study research design. Using this research design implies that one looks at something that happened but that it "belongs to a larger category of occurrences: it is *a case of* something" (Rule & John, 2011: 4). This case study belongs to the category of learning and teaching in higher education, but also research pedagogy.

A case study is further defined as "a systematic and in-depth investigation of a *particular instance in its context* in order to generate knowledge" (Rule & John, 2011: 4), meaning that "you would use the case study method because you wanted to understand a real-life phenomenon in depth" (Yin, 2009: 18). The case that was looked at was the experiences of BEdHons students making use of peer collaboration during their research project.

Deciding to use a case study design wasn't taken lightly. Both Rule and John (2011) and Yin (2009) warn that using a case study design can be very challenging compared to other research designs and should not be seen as an easy option. Rule and John (2011: 16) further explain how at times, a researcher would want to study a specific case because of his own experience in such a case. As already mentioned in the background, I wanted to explore this specific phenomenon of peer collaboration because of my personal experience during my BEdHons research project.

The primary motivation of using a case study research design consisted of three reasons, namely (a) the depth, as already alluded to, a case study looks at one phenomenon in depth preventing superficial observations; (b) the flexibility, in a case study, one can make use of a variety of methods for both the data collection process and data analysis; and (c) management, a case study has a clear focus on the unit of analysis to get specific information making it more manageable (Rule & John, 2011: 7–8). The three motivations align with the research question of this study as in-depth data were collected, using a variety of methods but still keeping the study manageable.

Sample

The boundaries of this case were the BEdHons students, busy with their research project, at Stellenbosch University. More specifically, participants who were enrolled in the research project of the Curriculum Change elective module in the BEdHons Curriculum Inquiry specialisation were invited to partake in this study. In 2020 eight students were registered for this module. Students of the speciality of Language Education were also approached in line with the initially intended sample of six to eight students.

The actual sample consisted out of two students from the speciality of Language Education. This worked out well as the main idea was for peer groups to consist out of two members. Both students were second-year students busy with their research project module during the final semester of the BEdHons degree.

The sample was complemented by a survey sent to participants who did not wish to participate in the formal peer collaboration process. The survey was sent out by the two specialisations' supervisors sending it to a total of 15 students, of which five responded.

The sampling method used was a purposive sampling method as all students approached were busy with their research projects module with the goal to complete it in their final semester.

Data collection and analysis

The main research question for this study motivated for the use of an interpretivist paradigm, as there was a clear focus on students' experiences. This was in line with the methods used for data collection, which Durrheim (2006: 40) argues to be vital for research to be coherent. Qualitative data were collected to understand students' experiences of peer collaboration while engaged in the research project for the BEdHons degree. Modes of data collection formed part of a four-part process. This process included an initial group discussion, a focus group discussion, a WhatsApp group and an individual final interview. The modes of data collection were later adapted to include a survey for participants who did not participate in the formal peer collaboration process.

As part of the data analysis process, data were transcribed and well organised beforehand to help with the systematic procedures to follow. Both a deductive and inductive analysis was followed to derive meaning from the data. Creating meaningful clusters helped with forming categories of key thoughts (Hsieh & Shannon, 2005: 1279) or themes. Eventually, themes were colour coded and used during the final process of writing up the findings. Multiple analytic techniques were used, namely, global analysis, where all data are looked at together (Rule & John, 2011), time-series analysis, looking at data over a time period from start to finish, and explanation building where a case gets analysed as it is built up (Yin, 2009). The main thoughts or themes were reported to answer the research question.

Also, picture-drawing (Bassey, 1999) allowed one to look at the data from a different angle allowing for new insights to emerge.

1.6. Ethical considerations

Multiple ethical considerations were taken into account for this study. This included looking at working within the requirements of Stellenbosch University when completing a degree with a research component. In this study, I worked with students at Stellenbosch University and therefore needed ethical clearance, as well as institutional permission from Stellenbosch University. Both were obtained.

Furthermore, it was essential to firstly negotiate access with participants and supervisors. This happened during the first group discussion with help from my supervisor. Secondly, I needed to promise confidentiality to ensure that all data gathered during the research process and information stayed confidential. Thirdly, students needed assurance that their participation in my research project would not be taken into consideration in the

assessment of their research project. Fourthly, participants participating in the survey were provided with information about the study and had the choice on whether or not to participate. Lastly, I needed to inform students that they could, at any stage, withdraw from the research.

Other aspects such as protecting human dignity, privacy, anonymity, power dynamics and ethics regarding data analysis were taken into consideration.

All data were stored on my personal computer that was password protected and on Microsoft OneDrive and Microsoft Teams as a backup, which was also password protected.

1.7. Quality of research

The quality of this study was enhanced by two aspects, namely, validity and reliability.

Firstly, two types of validity were necessary for this study, namely, internal and external validity. Internal validity ensures one looks at a phenomenon accurately with consistency (Cohen, Manion & Morrison, 2018: 252), while external validity ensures that information about the research is transparent enough to see whether findings could be generalizable (Cohen *et al.*, 2018: 255).

As part of validity, the matter of credibility was also addressed. To ensure credibility of the research, I needed to make sure that the conclusions of my data matched with reality as experienced by participants that I am reporting on (Mabuza, Govender, Ogunbanjo, *et al.*, 2014: 32). This was done through member checking with participants to ensure my impressions of data were free of misinterpretations (Van den Berk-Clark, 2019: 231). Participants had access to the recordings on Microsoft Teams and could inform me if there was anything they disagreed with. The final individual interview transcripts were also sent to the two participants that participated in the formal peer collaboration process.

Secondly, reliability can be seen as “an umbrella term for dependability, consistency and replicability” (Cohen *et al.*, 2018: 268). Reliability was considered in two ways in this study. To ensure reliability, the researcher needs to plan every data collection procedure and analysis before data collection can start (Ebneyamini & Sadeghi Moghadam, 2018: 4). The planning of procedures happened during the proposal process, with further considerations made during the ethical clearance process.

The other aspect was whether or not the same case study can be done if a similar procedure was followed (Yin, 2009). If a similar study is to be conducted using the same

procedure, the aim is for similarities to occur but one will never get exactly the same results as the context will be different. Even if done at the same university with the same academic framework, the time and students who participated in this study will always be unique and therefore not completely replicable.

1.8. Significance of this study

This study provides rich data that corresponds and confirms current literature available on the subject of peer collaboration. Additionally, it provides new inputs that offers new insights into the practice of peer collaboration at university level as students complete their research projects. This study further provides valuable information that might inform research policies in higher education and insights on how peer collaboration can be implemented as part of the research project module for BEdHons specifically.

This study further confirms that the idea of a more horizontal pedagogy can benefit not only peers working together but also help with the burden placed on the supervisor. The benefits of implementing a horizontal pedagogy, along with following a Vygotskian approach in higher education, showed how students could work together to enhance their research projects and will hopefully motivate students to continue with furthering their postgraduate studies as the first step (BEdHons research project) was manageable.

This being said, the study also contributed to highlighting challenges faced by students when engaging in the peer collaboration process. It however provided solutions to these challenges, for example to provide training for peer collaboration. The study also showed how some of the challenges found in the literature were not experienced by participants in this study.

1.9. Referencing and minor technical details

In a dissertation, it is rare for the referencing style and other technical details to be discussed. It is, however, an essential part of the dissertation and therefore needs some attention.

For this study, the Author-date, better known as the Harvard referencing style, was used. Even though arguments using a page number only for direct quotations exists, this dissertation also provides page numbers for paraphrasing. This is motivated by various authors (Van Dyk & Coetzee, 2010: 6; De Jager & Steele, 2016: 3) as it shows thoroughness and credibility towards one's research (Hofstee, 2006: 252). It is for this reason that page numbers will be included for direct quotations as well as paraphrasing.

Furthermore, direct quotations from the literature will be placed in the text within quotation marks. To emphasise or encapsulate certain key words or phrases I will make use of single quotation marks. In Chapter 4 and 5, direct quotes from the data will be in italics and blocked out if it is more than 30 words.

1.10. Outline of the study

This chapter served as an introduction to this study. It also provided important background information regarding the study. This background information, along with the purpose, placed the study into its context. Information about the structure of the BEdHons program also assisted in this regard.

Chapter Two will focus on the literature review and the theoretical framework of the study. It will also include discussions on both how Honours degrees are viewed in the literature and the supervisor-student relationship, as this all forms part of the foundations of research pedagogy. A large amount of emphasis will be placed on the benefits and challenges of peer collaboration.

In Chapter Three, I will discuss the research methodology, providing the reader with a clear map of how research in this study was conducted.

For Chapter Four, the main focus will be the presentation of the data. This will be followed by Chapter Five, where I will discuss the findings of this study.

The final chapter, Chapter Six, provides a conclusion to the study. This includes an overview of the study, recommendations for future research, limitations of this study, as well as a personal reflection regarding the process of completing this dissertation.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1. Introduction

Peer collaboration in education has been written about for more than three decades. In an attempt to change basic assumptions within the teaching and learning domain, Abercrombie (1981: 41) recognised the potentialities of peer interaction breaking away from habituated teaching methods. Similar discussions on innovating the doctoral education also took place in the 1990s. Pearson, for example, concludes her article by stating that one of the questions that needs to be asked is: “How does the programme…ensure students engage with practising researchers and are in conversation with a community of peers/experts/others?” (Pearson, 1999: 282). From the 1990s, there has also been an increase in research being done using peer collaboration, with a rapid incline in the last ten years. This has been reported in studies investigating peer-to-peer teaching where students are seen as partners in teaching in higher education (Stigmar, 2016), research done in second language writing classrooms (Bhowmik, Hilman & Roy, 2019), within the partnering of two preservice teachers to enhance collaboration (Ammentorp & Madden, 2014), and in the field of Computer-Supported Collaborative Learning (Pragnell, Roselli & Rossano, 2006).

In later years, more research has been produced in the domain of peer collaboration, both in higher education but also primary and secondary education. Most of the research has been based in the United States of America, followed by Australia and countries in the East (for example, Taiwan, Malaysia, Iran and Saudi Arabia). In the South African context, peer collaboration/collaboration has been a popular area of investigation among researchers in writing centres, with the focus on academic writing (Clarence, 2011; Dowse & Van Rensburg, 2011, 2015; Skead & Twalo, 2011). Research in academic writing, involves using a peer tutor but also peer collaboration among fellow students. Furthermore, literature exploring the benefits and challenges of peer collaboration in group settings involving Honours students (Swart, 2016) has been presented in the literature.

This study focuses on peer collaboration in higher education and, more specifically, within BEdHons research pedagogy. It is, however, important to acknowledge that peer

collaboration has been used in primary and secondary education as well, and examples of such will also be discussed in this chapter.

I will start this chapter by outlining the theoretical framework that informs this study, using Vygotsky's sociocultural theory with a specific focus on the theoretical concept of the zone of proximal development (ZPD). This will be followed by an outline of the concept of research for an Honours degree and the different purposes thereof and how it relates to the traditional student-supervisor relationship often used in research. In addition, it is essential to understand the concepts of 'peer' and 'collaboration' as they are viewed in a variety of ways in the literature.

Taking the above into consideration, this study is based on the premise that peer collaboration, using a more horizontal research pedagogy, where the research process is complemented by making use of peers and other experts (Boud & Lee, 2005), has the potential to strengthen both critical research skills and emotional bonds between students. Consequently, it has the potential to advance the academic quality of the BEdHons research project.

At the same time, it has been found that not all students will find peer collaboration helpful, and some will even find it challenging. Another area of interest is whether or not peer collaboration is beneficial to the performance or academic quality of the research project or if it is merely an emotional tool to be used to support students to complete their degree. I will therefore also look at literature that does not support the idea of peer collaboration (including lack of academic or emotional benefits) and research that has shown its challenges and limitations.

2.2. Drawing on Vygotsky to look at peer collaboration

Vygotsky's sociocultural theory developed as a result of the limitations of similar learning theories, like Piaget's Stage Theory, on childhood development in his time (Weiten, 2007: 436). Due to the limitation relating to insufficient attention to social and cultural influences on learning and development, Vygotsky placed interaction as a central part of his theory (Louw & Louw, 2007: 164) with a clear shift from learning as an individual quest to an apprenticeship-like approach (Weiten, 2007: 437) where a student works under the guidance of a peer or someone more experienced.

During the time of Vygotsky's research, he found that the educational testing system mainly focussed on how individuals solve problems on their own without any assistance

from someone else, creating a mechanical-like system (Vygotsky, 1978: 88). It could be argued that research pedagogy in higher education often works within the same limitation. This occurs when the student (individual) is expected to explore their research question/problem on their own with some guidance from the supervisor. This aligns with what Boud and Lee (2005: 502–503) refers to as a discourse of vertical pedagogy where the supervisor is the only source of knowledge (apart from external resources) in the research process pedagogy.

In contrast to this individually-oriented approach, a more social and collaborative approach might benefit learning. Vygotsky argues that humans need social interaction with other people to learn and that learning can be seen as a cultural process (Vygotsky, 1978: 88–90). He further argues that children develop "most of their culture's cognitive skills and problem-solving strategies through collaborative dialogues" with a peer (Weiten, 2007: 437). This means where two students talk to each other about a problem or when learning a new skill, development occurs due to this interaction. As Vygotsky points out, distinguishing children from apes[2] is that children use talking to someone (one type of tool or stimuli) to help create solutions and plan actions to see what one needs to do next (Vygotsky, 1978: 26). The emphasis that the social aspects of communication have an effect on development echoes the premise of this study, namely that peer collaboration can be beneficial in addressing the challenges of postgraduate studies.

Moving towards the theoretical concepts that developed from this theory are the ZPD, and later, scaffolding. The reason why scaffolding is not a useful concept in this study is due to its main focus of adjusting learning as learning takes place. Scaffolding refers to adjusting the level of assistance that a child needs, where less and less help is given as the child becomes more competent at the task at hand (Weiten, 2007: 437). The key aspect of scaffolding is to provide help, but not to provide more than what is necessary (Louw & Louw, 2007: 165). For this study, there were no formal processes to monitor or to encourage formal strategies of scaffolding as a learning process. Peers could help each other without needing to see if their peer became more competent. Even though competence may have grown throughout the peer collaboration process, this was not the focus of this study.

The zone of proximal development

In research involving collaboration, Vygotsky's zone of proximal development (ZPD) plays

[2] Also known as phylogenetic development, to see how humans are different from animals (Palincsar, 1998: 354).

an important role. Vygotsky explains ZPD as a process where the student (he always refers to the child) goes beyond the problems that he or she can solve independently towards more difficult problems leading to the process of maturing (Vygotsky, 1978: 86). This process happens by giving the student an activity where he/she needs help to do the activity and with this help can then move towards a stage of actual development where he/she can complete the project independently in the future (Van der Veer, 2007: 82). Vygotsky explains this process eloquently by using the analogy of a fruit tree where the ZPD is seen as the flower or blossom, the embryonic stage of development that can potentially develop and mature into a fruit on the tree, making actual mental development retrospective and the ZPD prospective (Vygotsky, 1978: 86–87). It is clear that Vygotsky places a greater emphasis on the potential of intellectual growth rather than intellectual capabilities that one has achieved in a specific timeframe (Louw & Louw, 2007: 164).

Many researchers have rightly defined the ZPD as what a student can achieve with a more skilled peer or adult (Louw & Louw, 2007; Weiten, 2007). It is, however, through the process of working through some of the more popular translations of Vygotsky's work[3], that one can arrive at different interpretations. As already alluded to, Vygotsky defines the ZPD as the space that exists between actual development and the level of potential development where a child is presented with a problem and then solves the problem "under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978: 86). "Capable peers" are not defined by their age but rather by means of their mental development. This, therefore, allows for an overview of the developmental growth as it takes place, "allowing not only for what already has been achieved developmentally but also for what is in the course of maturing" (Vygotsky, 1978: 87). Coutinho and Bottentuit Junior (2007: 1787) discuss this interpretation and define it as collective learning where everyday actions and new forms of social action act as a space where new development can occur. This allows for a space where two peers, both working on their individual research projects, can help each other in the process of growth and development.

As Vygotsky explains in his concluding remarks, learning should not be seen as development in itself but "learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers" (Vygotsky, 1978: 90). Vygotsky therefore recognises the

[3] Referring to the book 'Mind in Society' (1978)

importance of how learning collaboratively can be beneficial in multiple ways, including collaboration within a specific environment with a peer, whether informally or formally.

The above argument using the ZPD as a basis for peer collaboration has received criticism from Gredler (2012). Her argument rests on the basis that there were problems with the translation done in the book 'Mind in Society' and that the main focus of Vygotsky's work was more on developmental assessment (Gredler, 2012: 115–116). Although her argument is important, newer translations of Vygotsky's work have indicated that the ZPD "provided a route to a more effective pedagogy, rooted in observation and enacted through communication and relationship" (Barrs, 2017: 356), making it "a more informed pedagogy, a science of teaching" (Barrs, 2017: 346) of which the ultimate goal could be better learning by students.

Regardless of the critique of how the ZPD is explained in 'Mind in Society', it is unwise to deny that it made a profound impact on educational and collaborative learning research. For the main goal of theory should be to guide one (Yin, 2009: 36) and because it is a guide it creates the opportunity for new ideas to arise. Impedovo, Ligorio and McLay (2018: 756) state it well when they say that the work of Vygotsky inspired the content of their study. In a similar way Vygotsky further inspired the idea to explore students' experiences of peer collaboration in this research study.

One final point regarding the discussion of theoretical complications of the ZPD is the translation of the word "obuchenie". In 'Mind and Society', this word was translated as 'learning' which had a profound impact on research using Vygotsky's work (Barrs, 2017: 350). It is, however, translated in the Mitchell translation into 'teaching or education', shifting the focus more towards a relationship between teacher and student (Barrs, 2017: 351). Even though one might think this emphasis results in problems for this study, it instead enhances it. This is because peers, doing their BEdHons research project, are already adults and are in most cases already in the teaching profession. Therefore, they can teach each other in an educational setting as peers, maintaining the idea of "obuchenie", which incorporates both teaching and education.

Implications for our understanding of collaboration in education

Even though Vygotsky's work mainly centred around the development of children, it is also useful for peer-to-peer teaching in higher education (Stigmar, 2016), as well as in education in general.

Vygotsky's theory works well in practice by having a more skilled peer. Using Vygotsky's ZPD with a more intellectual (skilled) peer was shown by Tudge (1992) in his study with children aged five to nine, solving a mathematical problem, that there were more benefits with learners who had a more competent peer. Adding to this, in a similar study involving an academic skills Rover program, Copeman and Keightley (2014) used Vygotsky's concept of ZPD as traditionally understood; using more skilled peers (Rovers) to assist other students in different programs to improve their academic skills. Similar to using Rovers, tutors have also been used in academic writing centres, and especially with postgraduate students (Clarence, 2011; Dowse & Van Rensburg, 2011). These examples all form part of the interpretation of Vygotsky's work of using a more skilled peer to assist and promote academic growth.

However, having a more skilled peer is not a prerequisite for the implementation of the ZPD. In Asghar's (2010), she argues that using a strategy of reciprocal peer coaching where students, who are on the same academic level, coach each other, creates a space where both students can benefit from the peer's help. Adding to this Andersen and Watkins (2018) explain the value that peer mentorships can bring as a strategy in nursing education. They go further explaining how peer mentorships are different from the traditional idea where a mentor is usually a bit more experienced and where the ZPD is created by intersubjectivity or having common ground between peers. For them the big distinction "lies within the mentee and mentor being equals with complementary knowledge, rather than the traditional unequal expert–novice knowledge" (Andersen & Watkins, 2018: 218).

Adding to the above-mentioned, the ZPD can be expanded even further into the social realm. This is well illustrated in Impedovo *et al*. (2018), where they implemented the idea of 'friend of ZPD' role. The 'friend of ZPD' role was used as a means to create dialogic exchanges between peers during coursework in ePortfolios, resulting in higher grades but also helping with the transition phase from university into a professional workspace. Similarly, having a peer for one's research project, peers can take on the 'friend of ZPD' role in the process of successfully completing their postgraduate programme.

From the work of Vygotsky, the concept of social constructivism developed. Even though social constructivism is its own theory, and will thus not be developed within this dissertation, it does complement the theoretical concept of the ZPD. Swart (2016: 9) argues that using social constructivism provides an opportunity to see how students give meaning to their individual experiences at a post-graduate level. These meanings can, in

collaborative learning, bring about understanding as students explain different topics to each other (Osman, Duffy, Chang, *et al.*, 2011: 547). Summarising the latter in a conceptual paper on student feedback literacy Carless and Boud (2018: 2) describe how social constructivist approaches "focus on the interdependence of social and individual processes in co-construction of knowledge", and its importance for peer feedback to occur.

2.3. The concept of research for an Honours degree and the relationship between the supervisor and the student

In this section, literature regarding the institutional context will be discussed. This includes how the concept of Honours research is viewed across the world and the role of the supervisor in postgraduate research. There will further be a considerable focus on the supervisor-student relationship.

Understanding the Honours degree

The concept of 'Honours' varies around the world, from being an award of merit if a student achieves high academic results in their undergraduate degree (in countries like England, Ireland and Malaysia) to being a formal postgraduate degree (in South Africa and some universities in New Zealand and Australia) (Manathunga, Kiley, Boud, *et al.*, 2012: 140–141). In general, regardless of it being an award of merit or a formal degree, Honours seem to be a general entry point to further postgraduate studies (Kaunda & Low, 1998: 130; Kiley *et al.*, 2009: 18; Swanepoel & Moll, 2004: 291), making it an important stepping stone for students wanting to further their education or career.

An Honours degree is further seen as a transitional phase where a student moves from being a "knowledge acquirer to [a] knowledge creator" (Manathunga *et al.*, 2012: 141, 144). Simply put, it is where students start to learn how to create new knowledge (Kaunda & Low, 1998: 130) and can therefore be seen as a foundation for creating a dynamic research culture (Zeegers & Barron, 2009: 567). Consequently, it is sensible to ensure that research pedagogy, including BEdHons research, is structured to develop the best practice to promote research for future students.

The supervisor-student relationship

The traditional (or, as discussed earlier, 'vertical') supervisor-student relationship is commonly used by South African universities. During completion of their BEdHons degree's research project, a supervisor (and at times a co-supervisor) is either sourced by the student or allocated to the student. This system is a longstanding and well-established tradition.

It should however be mentioned that the workload of lecturers has increased over the years (Ruscheniko, 2001: 64), with also a higher demand on universities to increase research output (Boud & Lee, 2005: 501). This includes ambitions like the National Development Plan and the National Research Foundation report (of 2011) to increase research output to 6000 PhDs per annum between the years 2020 to 2030, without necessarily an increase in academic staff to facilitate the increase leading to expert academic staff being overburdened with too many postgraduate students at one time (Schutte, Wright, Langdon, *et al.*, 2013: 2). It can further lead to inexperienced lecturers or junior staff supervising Honours students for their research project (Kaunda & Low, 1998: 132). Such factors might have an impact on BEdHons students as their research projects are small in comparison to MEd and PhD research projects. Hence supervisors might, even at a subconscious level, not give the attention needed to BEdHons students in completing their research projects.

Different positions have been put forward by local academics regarding the supervisory process. An argument for building a relationship of friendship between supervisor and student to help promote democratic justice (Waghid, 2012: 38) is one of the arguments for how to improve the learning environment for the process of research. This is however counter-argued by Bak (2012: 83) stating that “the unbounded notion of friendship can lead to a problematic over-personalised relationship in which the necessary element of professionalism is undermined”. Furthermore Hugo (2012: 60) reminds us of the underlying academic rules and processes (a type of academic culture) that cannot be ignored.

Although lecturer-reflection, as discussed by these authors, is a good starting point, it is still one-dimensional, meaning it is still only viewed as a research pedagogy that is between supervisor and student. It is here where an argument for a more horizontal pedagogy, that includes peer collaboration, can possibly benefit the research process.

2.4. Peer collaboration

Even though the concept of ‘peer collaboration’ seems to be obvious, the concept is used in different ways and different contexts. It is therefore important to look at the different ways in which the term is used within the literature.

A peer and peer learning

Even though the word peer is a somewhat common-sense term in education, it can be described as “someone of the same social standing… [with] the same status with whom

one interacts" (Falchikov, 2001: 1). When talking about peers, it can also be distinguished into two parts, namely a 'near-peer', someone with a little more education (training) than a fellow student like a tutor, and a 'co-peer' where both peers are on the same academic level working together in a group (Falchikov, 2001: 1). Both these terms share a common denominator: they focus on working with or collaborating with someone else.

Examples of where both near-peers and co-peers were used conjointly are also found in the literature. Writing centres made use of tutors or facilitators but also allowed for peers to interact with each other within the writing groups (Dowse & Van Rensburg, 2011; Skead & Twalo, 2011). Similarly, in peer assisted study sessions (PASS), there were PASS leaders collaborating with research trainees, and research trainees that were collaborating among each other (Cusick, Camer, Stamenkovic, *et al.*, 2015).

Furthermore, to understand the word 'peer' in an educational setting it is important to draw from the theory of peeragogy (also referred to as paragogy). Peeragogy refers to the best practices you can use for peer learning, but it also looks at peer-to-peer learning where the challenges with creating peer groups are looked at with the goal that peers can support each other (Arenas, 2012). Peeragogy is therefore based on using peer collaboration as a best practice with a clear purpose and not just as something to do because it is a popular teaching method.

The concept of peer learning is similar in that it is a learning activity that goes two ways where "networks of learning relationships, among students and significant others" exist (Boud & Lee, 2005: 503). In simple terms, it is when "students learn with and from each other" to develop cognitive or intellectual skills and better knowledge or understanding (Falchikov, 2001: 3). This gives students a space where they can 'talk', meaning they can enter into dialogue with each other rather than only with their supervisor which is seen as an authority figure (Dowse & Van Rensburg, 2015: 1). Peer learning is thus both a learning relationship that is formal, and an informal relationship that allows for social interaction.

Collaborative learning

Collaborative learning is one of the building blocks on which peer collaboration is built. It follows a learner-centred rather than a teacher-centred approach where knowledge is socially constructed with a peer or through other forms of cooperation (Coutinho & Bottentuit Junior, 2007: 1787; Kimber, 1996: 3).

It is however important to take note of the differentiation that has been made between collaborative learning and co-operative learning. Co-operative learning is more focussed

on working in small groups where each individual in a group gets a specific task (a small part) that they need to take accountability for (Kimber, 1996: 4). The end goal is to put all these small parts together to complete the task. On the other hand, collaborative learning is where one focuses on "encouraging [students] to articulate their perspectives and to resolve differences in understanding" (Osman *et al.*, 2011: 547). In practice an example of this can be found in discussion-based teaching, where peers are motivated to learn from each other and in doing so "foster [an] academic community by valuing all voices" (Smith, 2017: 2). It is therefore more about sharing ideas and understanding together.

Drawing on collaborative work done between academic staff at university level, Lewis, Ross and Holden (2012) highlight the distinction between 'Collaboration' with a capital 'C' and 'collaboration' with a small 'c'. They state that 'Collaboration' is where researchers work together on a specific and concrete research project to be published together, whereas 'collaboration' is where academics share ideas with one another, provide feedback on academic drafts and work (Lewis *et al.*, 2012: 696). This distinction is important for this study as the main focus for peer collaboration in this study is 'collaboration' (with a small 'c') where students shared ideas on their respective research projects and academic work.

The different types of collaboration in a tertiary setting

Dytham's (2019) analyses of collaboration and collaborative spaces at postgraduate level identified four types of collaboration, namely, "Group/Project Work, Networking Collaboration (formal and informal), Social Collaboration, and Community/Belonging Collaboration". Her work provides valuable information on a deeper level with regards to the different dimensions of collaboration and will therefore be summarised below.

Firstly Group/Project Work refers to working together on an assignment or task where there is a specific end goal and is more perceived as group work, rather than collaboration, that is more related to activities in undergraduate studies (Dytham, 2019: 450). This relates to the description of co-operative learning where each individual contributes to the group by doing a section of the task.

Secondly, Networking Collaboration refers to making connections with people without having predetermined outcomes or goals, but that can lead to the creation of new knowledge or ideas for the future (Dytham, 2019: 451). Dytham further divides Networking Collaboration into 'Formal networking collaboration' and 'Informal networking collaboration'.

Formal networking collaboration takes place at planned events, for example, seminars or academic workshops where students interested in a specific topic can meet and, during the course of the event, interact socially with each other in a space where it is easier to 'chat' about their research (Dytham, 2019: 451–452).

On the other hand, Informal networking collaboration is not planned, but at the same time, it is not collaboration that happens randomly between people that have no common interest (Dytham, 2019: 452). An example of Informal networking collaboration can be BEdHons students that are all busy with a specific module and start a discussion about a certain topic during a contact session.

Thirdly, Social Collaboration, one of the forms of collaboration that is easily overlooked, is where students have social interactions where they discuss stresses and troubles of both their personal lives and their studies, providing social support to each other (Dytham, 2019: 453). Social Collaboration can also include discussions, between peers, on feedback from supervisors and difficulty with technical problems with research format or grammar.

Fourthly, Community and Belonging Collaboration resonate strongly with Social Collaboration, however, it is a deeper form of collaboration where students feel at home and part of a community, leading to a higher quality of work and mental health that is very important for the research process (Dytham, 2019: 454).

For the purpose of this study, Group/project Work is not the focus of attention. Informal networking collaboration is important for students to meet each other and form bonds to later consider peer collaboration. Social Collaboration and Community and Belonging Collaboration are both important components to consider for this study as it focusses on the main areas of peer collaboration holistically incorporating both the emotional and academic support that peer collaboration might provide.

2.5. How peer collaboration can benefit critical research skills

Part of the premise of this study is that peer collaboration can be beneficial for the development of critical research skills. Critical research skills incorporate how students get more involved in the learning process with a majority of examples of other research studies being in the domain of e-learning and technology. Another benefit indicated in the literature is how peer collaboration improves critical thinking and problem-solving. Critical

thinking can also be linked to how students can provide critical feedback to each other on their academic work which formed an important part of this study.

The use of technology and e-learning for better engagement in the learning process and more involvement using peer collaboration/collaboration

A large body of literature shows how peer collaboration/collaboration is used in e-learning, online programs and using different technologies. In a study using wiki online collaboration, students showed more involvement in coursework and had a better engagement in the learning process (Coutinho & Bottentuit Junior, 2007).

More modern methods like blogging and using social network sites (SNS) have shown to bring about more engagement with the learning process. Using blogging in a modern language curriculum has shown to extend collaboration and so benefit the learning process through dynamic dialogue and personal growth (Gregorio & Beaton, 2019). Benefits of this kind were also noted in an English foreign language class where students more easily took ownership of their writing with a better understanding of the standard in academic writing (Roy, 2016). Using SNS, like Facebook, LinkedIn and ResearchGate, helped with better levels of collaboration and fostering English vocabulary and academic vocabulary for students in a course for learning English for academic purposes (Dashtestani, 2018). The above literature shows how the combination of modern technologies in combination with collaboration can benefit academic skills that are important for research.

Using new technologies for the first time in an educational setting can pose challenges as new technologies can be daunting at first. In a study with forestry students on how tablets can be utilised in the learning process, it was found that peer-to-peer support helped a significant amount to ease the process of adapting to modern technology (Paskevicius & Knaack, 2018).

Zhang and Peck (2003) in their study on an undergraduate statistics course, highlight the importance of participating in structured and moderated online peer collaboration. They showed that due to this structured and moderated peer collaboration, better reasoning skills and better attitudes to using collaboration in the future developed, meaning that using collaboration in modern technology needs to be well managed.

Another question to keep in mind when going through the literature is, whether or not it is collaboration or the use of e-learning tools and technologies that are enhancing the learning process. Looking at the above literature it seems to be a clear combination of both

modern technologies and collaboration that brings about better learning. Willis, Davis and Chaplin (2013) confirm this view in their study on sociocultural affordances of online peer engagement as they found that students became knowledge creators that started to teach one another in the learning process.

The use of mother tongue

In a study investigating collaboration in an academic writing centre, one of the findings showed that collaboration created the opportunity for students to use their mother tongue during the learning process through conversations with peers, making the entry point into the academic world a smoother process (Dowse & Van Rensburg, 2015). A possible reason for this is that students can give each other feedback using language that they resonate with and using words that they both understand (Adachi, Hong-Meng Tai & Dawson, 2018: 299).

Critical thinking, lifelong learning and problem solving

Collaborative learning has been shown to promote critical thinking, not only benefiting the immediate learning process but also for lifelong learning and future employment opportunities. This happens as a result of students questioning each other, discussing problems and learning from each other's knowledge in the process (Salaber, 2014: 121–122). This is also evident in peers reviewing each other's work as was shown in a study done with third-year undergraduate students where skills learned in a collaborative environment were shown to be helpful in the future with lifelong learning and the ability to reflect on their own and others' work (Mulder, Baik, Naylor, *et al.*, 2014). Jones, Torezani and Luca (2012: 57) emphasise the previous point well, stating that a peer learning culture helps to create professional networks and skills that can lead to better employment opportunities in the future.

It is however important to mention that Abrams (2005) research findings, where students needed to critique each other's research utilizing asynchronous Computer-mediated communication, showed that it is difficult to measure critical thinking skills in a short period of time (one semester). The same study did however indicate that there still were good reflective skills where students could see new perspectives.

Critical thinking further involves the ability to solve problems. Looking at an example in a different section of education, namely a teacher preparation programme (teacher practicals), pairing students up so they go together to one school created a partnership between peer students, teaching them, among other things, good problem-solving skills to

become better teachers with the ability to solve problems with work colleagues or parents of learners (Ammentorp & Madden, 2014).

Returning to higher education, a peer collaboration with undergraduate students struggling with English academic writing in a writing process, Aliyu (2020) found that peers supported each other in various ways using a problem-based learning approach. The support included examples of sharing of tasks and responsibilities, clarifying to each other unclear concepts and establishing consensus among each other.

Summarising this point in their conceptual paper on effective peer interactions, Merrill and Gilbert (2008) argue that problem-centred learning gets enhanced by well-structured peer collaboration as a learning strategy. They further established four stages of collaboration using a problem-based strategy in teaching, namely (a) the 'peer-sharing' stage where peers are activated to learn, by recalling previous knowledge, (b) the 'peer-discussion' and 'peer demonstration' stage where peers observe and discuss problems with the intention to find similar problems to solve, (c) the 'peer-collaboration' stage where peers work together on newly acquired knowledge, and lastly (d) the 'peer-critique' stage where peers can defend, discuss and reflect on the new knowledge or skills they have learned (Merrill & Gilbert, 2008: 204–205). The four stages referred to above provide a valuable insight into the complexities of a peer collaboration process. As already alluded to in the introduction of this section the 'peer-critique' stage, which is similar to critical feedback, played an important part in this study and needs to be further elaborated on.

Critical feedback, trust and training as part of the peer collaboration process

The concept of critical feedback has been explored by Carless and Boud (2018) in their conceptual paper on how to improve students to become more feedback literate. Feedback literate students know what to do with feedback they receive and can apply information to improve the quality of their work (Carless & Boud, 2018: 1–2), making this an important factor to consider for peer collaboration.

For peers to receive and be open to critical feedback requires them to maintain emotional equilibrium with each other and also not to be defensive about the feedback they receive (Carless & Boud, 2018: 5). Students need to make evaluative judgements regarding each other's work but also of their own work and peer feedback provides an opportunity for them to share judgements with one another (Carless & Boud, 2018: 3, 5). Furthermore, critical feedback creates the opportunity for feedback literate students to develop a space where continuing dialogue can take place between peers as they provide suggestions to

each other on their work (Carless & Boud, 2018: 5). This links well with the ZPD, where students mature as they work together in gaining actual knowledge by critically collaborating regarding their research projects.

With this in mind, collaboration is at its foundation about trusting your peers and being accountable for the feedback you provide (Barlow, Rogers & Coleman, 2004: 175). The matter of trust is important because, without it, critical thinking about your peer's work and providing critical feedback to your peer might be challenging. Both Carless and Boud (2018: 6) and Barlow *et al.* (2004: 177) argue for training for peer feedback and other skills for effective peer collaboration beforehand. In fact, Smith (2017: 2) states that discussions between Honours peers without training can cause harm rather than benefit them. From this one can deduce that it is important to trust one's peer, but part of establishing this trust is to ensure that one knows how peer collaboration works.

Training goes hand in hand with critical feedback as learning how to provide feedback is an important part of the peer collaboration process. This includes feedback on how to manage time, organise interactions and how to productively talk to one's peer. The matter of training regarding peer collaboration skills and feedback has been argued for by various academics (Natland, Weissinger, Graaf, *et al.*, 2016; Roy, 2016). These skills can include time management skills for working with a peer, how to organise your meetings and making sure participants understand the key elements of peer collaboration with the purpose to establish better trust (Barlow *et al.*, 2004: 177). These skills will help in creating a non-judgemental academic environment for peers to help each other. In their findings on how PhD and DEd students can become more confident writers, Larcombe, McCosker and O'Loughlin (2007) argue for the importance of students receiving non-judgemental feedback in writing circles. To summarise the above point, it is vital to incorporate the training of collaborative skills with trust and communication skills to ensure a safe environment.

Technical skills and quality assurance

Peer learning helps with learning about technical skills (like how to use the library, electronic sources, and how to reference correctly) (Dowse & Van Rensburg, 2015: 6) and with improving research quality on postgraduate programmes (Pearson, 1999: 279). Swart (2016) in her study on group-based research with post-honours students in psychology taking part in a systematic review methodology process, used peer collaboration to check whether they were on the right track through processes of peer-reviewing, thus helping with quality assurance. Staying in the field of psychology, Dunn and Toedter (1991), doing

a collaborative Honours project, also showed that both the scope and the quality of students' research experience improved.

Drawing from research done in collaborative writing development, at a South African university, Clarence (2011: 106) comments on the process of collaboration as a social practice. She explains how through conversation with a peer or tutor, errors in writing and misunderstandings can be highlighted thus improving the quality of writing of the student. This is confirmed by Skead and Twalo (2011: 125) that working with peer facilitators helps with student reflection and self-evaluation.

Similarly, Duke (2018: 135) states that engaging in a small group helps group members to see their own research anew through the lens of other group members and the involvement in the group creates a space (especially students studying part-time) to focus only on their research and forget about their other responsibilities in life. This space can further be used to assist group members struggling with a specific area of their research (Swart, 2016: 95) and in so doing improve self-confidence and sense of competence in the learning process (Barlow *et al.*, 2004: 182). It is therefore fair to say that peer collaboration could create the space and opportunity to focus on one's research. This 'time-out' space can in return improve the academic quality of one's research.

2.6. How peer collaboration can improve emotional and social bonds between students

Another component of the premise of this study is that peer collaboration provides emotional and social bonds between students. These bonds can have an impact on the academic performance of students but also make the process of doing research more bearable.

Combating a feeling of loneliness and isolation

Feelings of loneliness can arise for students due to the unfamiliarity of doing formal research for the first time in their Honours degree. Some students report that the feeling of loneliness is associated with isolation and that having a good relationship with fellow students can provide emotional support by combating feelings of isolation (Boud & Lee, 2005: 506). Attending peer assisted study sessions (PASS) has also been reported to be motivated by students' feeling of isolation and their need to meet other people (Cusick *et al.*, 2015: 28). Similarly, in a distance learning course, incorporating peer collaboration especially helped with breaking the feeling of isolation (Xenos, Avouris, Stavrinoudis, *et al.*, 2009).

In a reflective study done with PhD students, it was found that the feeling of loneliness can be combated by creating writing communities, where small groups of students work together to motivate and support each other in finalising their research projects (Duke, 2018: 134). This might also be one of the reasons why writing centres are a popular collaborative method in South Africa. Dytham (2019: 454) supports this finding when she argues that greater collaboration in the research process is one way to mitigate these feelings of loneliness and isolation. This is further emphasised by a study done with social worker field instructors that supervised students where the use of peer collaboration between supervisors also helped with the feeling of isolation that they experienced (Barlow *et al.*, 2004: 183). This shows that the academic world as a whole can be somewhat lonely and isolated with an individual-centred approach that systematically trickles down to the sphere of research pedagogy.

A sense of belonging and normalization

Within their study on collaboration in online learning, Peacock and Cowan (2019) argued for a sense of belonging that can create a feeling of connectedness. They linked this sense of belonging to Abraham Maslow's hierarchy of needs where a sense of belonging is more important than gaining knowledge and understanding and therefore emphasised the importance of respect from peers and tutors before students can concentrate on their studies (Peacock & Cowan, 2019: 68). It is however not only in the basic aspects of human needs that a sense of belonging plays an important role but, as the Willis *et al*. (2013) study showed, it also enhances motivation, while Kamens (2000/2012) research in student-teacher support showed that students shared the stress of tasks and developed better confidence.

A sense of belonging is also well illustrated by Blimling (2015) who looked at how students learn within a college residency hall. He highlighted how students' peer relationships helped with learning informal knowledge, for example campus culture, helping them to fit in more easily, showing how a peer environment helped with adjusting to college life (Blimling, 2015: xv, 52).

Linking to a sense of belonging is a sense of normalization – when one belongs to a group, the tasks one does in a group feels normal. Swart (2016) adds that Honours students found that group work can create a sense of normalization. She explains how participants had a feeling of "we are all in this together" and how participants emotionally appreciated group work as they felt it provided a "safe and comfortable space" (Swart, 2016: 94, 99).

Camaraderie, friendships and social bonds

Horns (1997: 32) made use of the phrase “buddy up” when she talked about first-year college students and how having a buddy could help with emotional voids created by a new environment at college. Swart (2016: 97) goes further by describing how group members working closely together created genuine friendships and if the group functioned very well a feeling of camaraderie was created. Ammentorp and Madden (2014: 142) confirm this feeling of camaraderie that developed between teachers placed together for their practicals.

Working with peers has shown that friendship plays an important role establishing good collaborative practices. Academic staff having conversations can create a sense of critical friendships among each other (Mackenzie & Meyers, 2012: 1). Peers can also teach each other important social skills like friendships and leadership (Blimling, 2015: 31). In fact Blimling goes as far as stating that “[f]riendships are the bases of all peer groups” (Blimling, 2015: 202).

2.7. The challenges of peer collaboration

It is important to note that not all students feel comfortable with collaboration (Salaber, 2014: 116) and that peer collaboration doesn’t always lead to an improvement in academic quality. Two other challenges noted in the literature were how some students experienced stress and anxiety working in a group, and also a sense of insecurity of getting feedback from a peer. I will discuss these aspects here.

No real improvement in academic quality

In a study exploring the effects of gender and collaboration on college students, Golback and Sinagra’s (2000) findings indicated that peer collaboration did not lead to a greater understanding of the learning content compared to students that were working alone. Dinsmore, Alexander and Loughlin (2008) showed similar findings after senior engineering students underwent a collaborative project-based design course where their descriptive knowledge improved but not their procedural knowledge. This means that their knowledge about a domain improved but not their knowledge on how things are generally done in a specific engineering domain. This study concluded by making an important point that a peer collaborative environment doesn’t automatically lead to a better learning environment.

This point is further being emphasised by Jesnek (2011) who, in her conceptual paper, broadly looked at the benefits of peer collaboration, and more specifically peer editing. Her research discusses the concept of peer editing since the 1960s and highlights that

discrepancies can exist between how collaboration might work in theory but not in practice. She concludes by warning that believing peer editing will guarantee better college writers at college level is an illusion. This example demonstrates the importance of empirical research of concepts that are already well established and well researched in educational research.

Stress and anxiety

Swart's (2016: 104–105) study showed that lack of cooperation can lead to more stress during a degree due to the strict requirements of doing a systematic review especially considering the review protocols. Adding to this, not all students work with the same diligence and work ethic causing at times feelings of frustration and anxiety (Swart, 2016: 100). Lack of cooperation, stress and frustrations are essential factors to consider during a process of peer collaboration due to the already stressful nature of research. Without acknowledging it, further tensions might develop during a collaborative process.

Studies have also reported tension between group members (Lazar, 1995) and that there were indications of inequality in proficiency and different backgrounds that created communication issues with partners (Bhowmik *et al.*, 2019). Kimber (1996: 10) goes as far as to argue that introverted students get frightened and threatened by a collaborative learning environment. Doing a research project is already a stressful process and having a peer that does not cooperate can add on stress instead of helping.

Fears relating to feedback on academic work and competitiveness

In my study students were expected to look at each other's work and provide feedback. Mulder *et al.'s* (2014) study, which looked at a formative peer review process with undergraduate students, stated that students experienced anxiety about peer-reviewing each other's work as they were afraid peers might place them on the wrong path due to their lack of experience in the academic field. This goes along with the widespread idea that students can give each other inaccurate and unreliable feedback because of their lack of experience and knowledge of academia (Adachi *et al.*, 2018: 296). It is further shown that students are fearful of getting the tone right with both positive and negative feedback (being too nice and not critical enough) and feeling insecure about providing feedback to someone who is on the same level as them (Adachi *et al.*, 2018: 301; Mulder *et al.*, 2014: 662).

Counter to this is the fear that by helping a peer, the peer can do better academically than themselves or that a peer might plagiarise their work (Adachi *et al.*, 2018: 302). In a study

done in an online collaborative learning environment, undergraduate students at a university in Taiwan, indicated strong negative feelings towards peer collaboration because of competitiveness among students (Zhang, Peng & Hung, 2009). In the same study, similar fears of helping their peers might lead to them outperforming them and fears of students copying each other's work also emerged. Zhu, Valcke and Schellens (2010) might offer some insight into these fears in their cross-cultural study of teachers' perspectives with regards to online collaboration. They point out the strong emphasis placed on competition between students and that it is an integral part of the Chinese educational environment (Zhu *et al.*, 2010: 153–154). Hence this context played a big role in determining the feelings of competition between students and might not be a factor at other universities.

2.8. Conclusion

In this chapter I have outlined important literature that needed to be considered for this study. I also discussed some of the key concepts that were important to understand.

The theoretical framework of Vygotsky's work provided a unique lens for this study in that it focussed on learning and constructing knowledge in a collaborative manner. The theoretical concept of the zone of proximal development provided a foundation for this study looking at the process of growth and development collaborating with a peer.

Understanding both the institutional context and how the supervisor-student relationship operates within this context gave greater clarity as to where this study fits in with regards to a more horizontal research pedagogy. Similarly, looking at how concepts such as 'peer' and 'collaboration' are used in the literature, provided the reader with clarity.

Literature that supports the premise of this study, as well as a discussion on how peer collaboration can be beneficial to the research process were presented. This included both a discussion on how peer collaboration can benefit critical research skills and emotional and social bonds.

Challenges and limitations of peer collaboration were also presented to show how some students might find collaboration challenging. This is further in line with the exploratory nature of this study that looked at both the benefits and challenges of peer collaboration.

In the next chapter I will look at the methodology that was used to conduct this study. I will further explain the different methods used to collect data and how data were analysed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines a map of how I conducted the study. The research design has been described “as a bridge between the research question and the implementation of the research” process (Durrheim, 2006: 34). In simple terms, the research design can be seen as a plan of what and how one wants to observe the phenomenon to be researched. This is different from everyday observations in that it is planned research, making it a systematic observation that is guided by the research question and design (Durrheim, 2006: 34).

The research design in this study was that of a single case study. A case study can be defined as an investigation that seeks in-depth and systematic information about a specific situation within its context (Rule & John, 2011: 4). It is where a researcher has “the desire to understand complex social phenomena” (Yin, 2009: 4).

To further understand the case one is investigating, Rule and John (2011: 13) ask the question: “What is my case *a case of?*” and look at whether it is a case of “an event, a person, a process or an institution”. Understanding what the case is a case of is essential for later conclusions. Questions such as: “Who or what do you want to draw conclusions about? And what type of conclusions do you want to draw about your object of analysis?” (Durrheim, 2006: 40) need to be considered. In this study, I drew conclusions about BEdHons students at Stellenbosch University, and I wanted to explore how they experienced peer collaboration as they conducted their own research projects.

Yin (2009: 30) argues that the unit of analysis and the case are defined as one and the same in a case study. Durrheim (2006: 41) identifies four types of “units of analysis that are common in the social sciences: individuals, groups, organisations and social artefacts”. Even though one might argue this study was about a programme (BEdHons research project) at an institution, the case I investigated, or the unit of analysis, was two persons (peers) collaborating during their individual research projects. The data for the case were expanded by including a survey that explored general feelings about peer collaboration from other students that were in the process of completing their research projects.

The chapter is structured according to four basic components of a research design, as proposed by Durrheim (2006: 37), namely the purpose, the paradigm, the context, and the techniques used in this study. This is supplemented with specific elements that are important when using a case study as this was the specific design of this study.

3.2. The purpose

As already alluded to above, it is not only the research design that helps to guide the study but also the research question. Yin (2009: 10) argues that the development of one's research question is one of the most critical aspects of one's study as this will have an impact on other components of one's research, including the methods used.

The research question for this study was: How do BEdHons students experience peer collaboration in their research project? The question is in line with Yin's idea of a how or why question in case study research where the researcher asks a question about a contemporary unpredictable event (Yin, 2009: 13).

Supporting the above question were the following sub-research questions:

- What aspects of peer collaboration, if any, do BEdHons students find beneficial in carrying out their research project?
- What aspects of peer collaboration, if any, do students find challenging in carrying out their research project?

Three other components that align with the purpose of the research design are the process, the product and the genre of this study.

The process

For the purpose of the research to be successful, a process needs to be followed to ensure that the end result is achieved. For a case study, a "method (particular ways of doing things) and rigour (a thorough and disciplined approach)" are needed to ensure the research goes according to plan (Rule & John, 2011: 5).

For this study, many processes were followed to establish a good case study. Firstly, the internal processes of Stellenbosch University included a proposal that was submitted to the research committee to see whether or not the study was feasible, followed by a process of ethical clearance and also institutional approval. Secondly, BEdHons students were invited to participate in my research at their presentations of their own research projects. After my presentation, a period was allowed (a few days but within a week of the first presentation) for students to decide whether or not they wished to participate in this

study. Thirdly, more information was provided to interested students. Fourthly, data collection meetings were established and arranged with students (both students that participated in the formal peer collaboration process were full-time teachers, so it was essential to negotiate times for the discussions and interviews). Lastly, the process of the study was further adapted due to the COVID-19 pandemic by adding a survey for students who did not participate in the study.

The product

The end result of doing a case study is usually in a visual or written format to show the outcomes of the investigation (Rule & John, 2011: 5). The end product of this study is the completion of this dissertation for the purpose of a MEd degree.

The genre

The product takes on certain features, for example, the way the text is structured, the language used and if it is written for a specific audience in mind (Rule & John, 2011: 5). This dissertation was written in formal academic language as it is intended for an academic audience. In addition, it is structured as an academic document with chapters and references explaining each part of the research process.

3.3. The paradigm

The paradigm used in one's research provides a broader framework for the purpose of the study as it looks at "the nature of reality that can be known" (Durrheim, 2006: 40). In educational research, a paradigm shows the 'world view', which can be explained as shared beliefs or schools of thought that will influence how the researcher will interpret the data (Kivunja & Kuyini, 2017: 26). Therefore, research needs to be coherent in that the research question and methods used should fit within the paradigm one has chosen (Durrheim, 2006: 40).

The main research question for this research motivated for the use of an interpretivist paradigm, as there is a clear focus on the experiences of students. The interpretivist paradigm looks at understanding the subjective experience of human beings where knowledge is gained through both a meaning-making process looking at the data as a personal cognitive process and through interactions with participants (Kivunja & Kuyini, 2017: 33). It is thus a process of gathering experiences from people with the purpose of becoming "more experienced ourselves" (Wright-St Clair, 2019: 219).

The paradigm for this study aligns well with the research question and the objectives of this study. Methods that were used focussed on providing information about students' experiences regarding a process of peer collaboration, looking at both the benefits and challenges students faced.

The paradigm was also supplemented with a robust theoretical framework focusing on Vygotsky's theoretical concept of the zone of proximal development (as discussed in Chapters 1 and 2). Some topics in research require rich exploration of theory beforehand as it acts as a blueprint and helps one to understand what is being studied (Yin, 2009: 35–36).

3.4. The context

Looking at the context of a study is vital because case studies can become superficial without the richness and depth of dimensions that context provides (Rule & John, 2011: 49). The context looks at the specific conditions regarding the events and situations around the case, making the context like a tapestry with the case woven in (Rule & John, 2011: 39). Using an interpretivist paradigm, it is believed that social interactions influence the context and that this is how meanings emerge in the research (Durrheim, 2006: 56).

Rule and John (2011: 44–46) use the notions of the institutional and discursive context to show how a study is situated and shaped by its context. According to them, the institutional context includes any formal establishment that promotes a specific cause or program, while the discursive context refers to the social language used inside the institution and how these forces shape the study in a particular way or direction. For example, the institutional context can include the university, including the degree/program and its functions, while the social language can be seen as specific words/phrases used inside a module.

Figure B illustrates the institutional and discursive context of this study. The study is centred in the middle because both the discursive and institutional context influence it. The institutional context shows the type of student who participated in the study, namely students who were busy with their BEdHons degree, Stellenbosch University, and a specific specialisation. Going deeper into the discursive context, the institution uses specific academic discourses in their learning programs and decides on the type of information that is important for students to know. Students were also faced with challenges using technology as all learning took place online due to the COVID-19

pandemic. The study is therefore centred and surrounded by the institutional and discursive context.

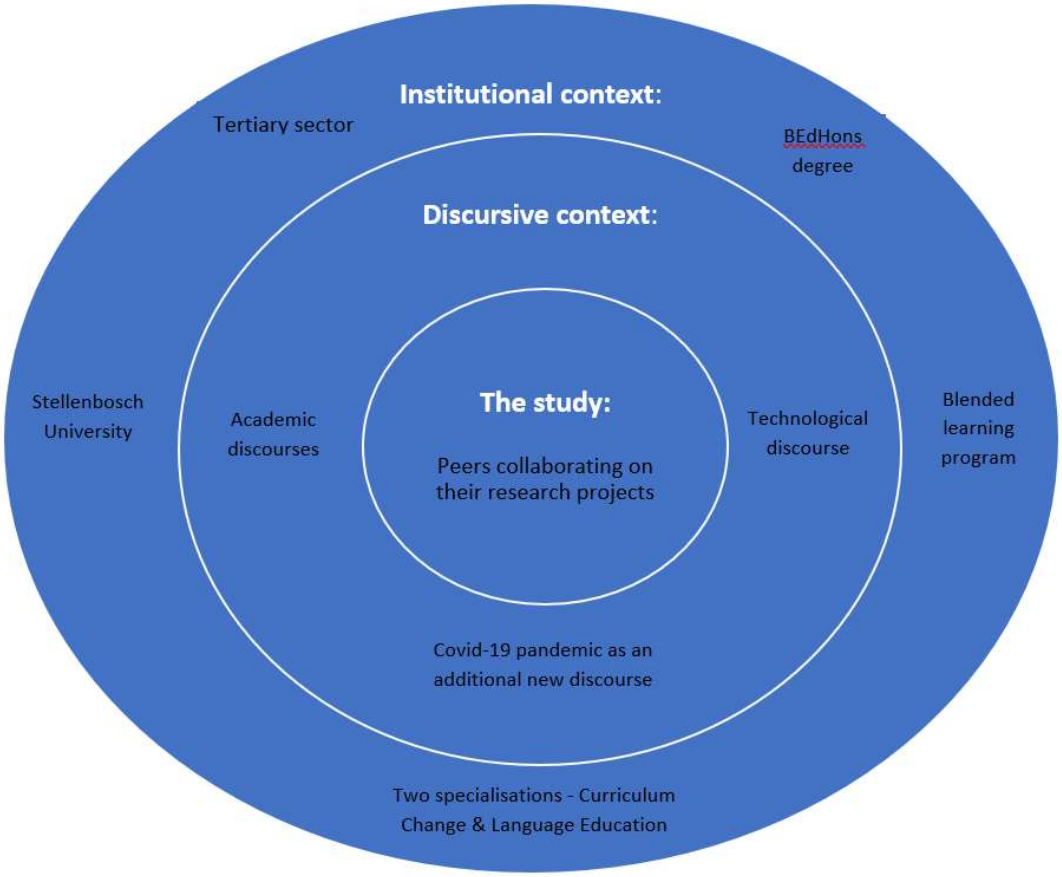


Figure B: The context of this study as adapted from Rule and John (2011)

3.5. The techniques

The research design needs to include an explanation of the techniques used, namely sampling, data collection and data analysis (Durrheim, 2006: 48–49).

3.5.1. Sample

Within a case study research design, it is essential to indicate the boundaries clearly from the start (Ray, Taylor & Preston, 2019: 235), as one of the main focusses of a case study is investigate a phenomenon within its context (Yin, 2009: 18). These boundaries will help to determine the sample of the research. The sample is further influenced by the unit of analysis (Durrheim, 2006: 49), which, for this study, were peers collaborating while doing their individual research projects.

The boundaries of this case were the BEdHons students at Stellenbosch University. Within this, participants who were enrolled in the research project of the Curriculum Change elective in the BEdHons Curriculum Inquiry specialisation were invited to participate in this study. In 2020 eight students were registered for this module. The intention was that if less than six students elected to participate, the students registered for the research project in the elective Language Education would also be approached. The intention was that the sample would be between six and eight students.

However, the actual sample of participants that participated consisted of two students completing their research project under the specialisation Language Education. These two students formed a peer group, and data collected from this peer group included the initial group discussion, the focus group discussion, the final individual interviews and the WhatsApp group data. Both students were doing their studies part-time and were in their second year of their studies. Both students' home language was Afrikaans, and they associated with the 'coloured' race grouping. In this peer group, one student was male, aged 28, and the other was female, aged 24.

The sample for the survey data included eight students from Curriculum Change (of which six were female and two male) and seven students from Language Education (the genders of these students were not recorded). These were all students that have completed their research project in 2020. Therefore, the total number of surveys sent out was 15, and out of these, five students completed the survey answering all the questions.

Taking the above into consideration, the type of sampling used in this study is called purposive sampling. This sampling method focuses on sampling with specific needs that need to be met and sampling with a specific purpose in mind (Cohen *et al.*, 2018: 218–219). For example, in this study, students in both specialisation of Curriculum Change and Language Education were targeted and needed to be busy with their BEdHons research project with the purpose of completing their degree. Falling under the branch of purposive sampling, revelatory case sampling was used, asking individuals that are part of a particular group to "reveal heretofore unknown insights" (Cohen *et al.*, 2018: 220).

3.5.2. Data collection

Qualitative data were collected for this study as this would provide insight into students' experiences of peer collaboration while engaged in their research project for the BEdHons degree. Qualitative data are collected via written or spoken language to investigate a specific situation with openness and depth, making the process naturalistic, holistic and

inductive (Durrheim, 2006: 47). Furthermore, qualitative data collection is mainly used when doing case study research (Rule & John, 2011: 75). This could be due to its multi-layered qualities and the focus on the understanding that fits in well with the social and educational research context (Cohen *et al.*, 2018: 288).

In this study, data were collected from two participants collaborating as peers and a survey completed by a total of five students. The research process consisted of four components, namely, an initial group discussion, WhatsApp group, a halfway point focus group discussion, and an individual interview to conclude the research process. The four components were in line with a case study design where multiple data sources are used (Ebneyamini & Sadeghi Moghadam, 2018: 2) but are also not unknown and even motivated for in qualitative research (Cohen *et al.*, 2018: 303).

Initial group discussion

The first discussion was intended to be a follow-up meeting between all students that had decided to participate in the peer collaboration process of this study. Even though only two participants were part of the peer collaboration process, the advantages of having a group discussion were still possible. Group interviews not only bring people with a variety of opinions together but also establish a relationship between two participants to see where agreements and disagreements are, where they complement each other and for participants to cross-check each other in real-time (Cohen *et al.*, 2018: 527).

Semi-structured questions were drawn up before the time (see Appendix A) to establish reasons for why students wished to participate in this study and what their expectations were, if any, for joining this study. I also explored if students had any preconceived ideas about peer collaboration during this discussion.

The discussion was conducted in Afrikaans and lasted about 20 minutes. Data were recorded on a secure Microsoft Teams platform and transcribed.

WhatsApp groups

Peers were asked to create a WhatsApp group and to indicate if they would be comfortable adding me as a non-participant observer. Both peers agreed, and a group was formed. These groups acted as a platform for students to communicate with each other about the research project, timelines, feedback on discussions with their supervisors and for them to provide each other with emotional support.

This data collection process is known as mobile ethnography as communication occurs through mobile devices to look at perceptions (like feelings, beliefs and behaviours) and practices within a working context (Bjørner & Schrøder, 2019: 59). This is a helpful method of collecting data as it is unobtrusive, and one can look at "how humans do things in context" (Bjørner & Schrøder, 2019: 59).

It needs to be mentioned that in the field of ethnographic research, there is a significant focus on gathering societal and cultural data through the collection of field data (Cohen *et al.*, 2018: 292–293). However, this study focused more on a micro-ethnographic attempt to discover the help students provide to each other daily or weekly regarding their individual research projects.

During the peer collaboration process, the WhatsApp group was only used in the initial phase of the peer collaboration process, whereafter peers indicated that they preferred to contact each other via WhatsApp calls. Even though there was limited use of the WhatsApp group, it still provided a space that had a significant impact on one of the peer's research projects, as will be demonstrated later in Chapter 4.

Data were securely exported from the WhatsApp group to my university e-mail for analysis.

Focus group discussion

Towards the end of September 2020 (halfway point), a joint meeting with participants was arranged to reflect on the process of peer collaboration thus far and whether peers were on track with their research (see Appendix B). This is in line with the format of a focus group interview where participants discuss a specific topic(s) provided by the researcher and where the participants interact with one another during the discussion (Cohen *et al.*, 2018: 532). It also allows for the participants' agenda, more often than the researcher's agenda, to be dominant, with the researcher merely guiding the discussion at times (Cohen *et al.*, 2018: 532).

Other points of the discussion included how students viewed peer collaboration as a process of learning in the BEdHons degree and what other forms of communication they used to communicate and support each other (apart from the WhatsApp group).

This discussion took place in Afrikaans and lasted about 20 minutes. Data were recorded on a secure Microsoft Teams platform and transcribed.

Interview at the end of the peer collaboration process

The data collection process was completed using semi-structured individual interviews with each peer (see Appendix C). Semi-structured interviews give the opportunity "for deep, rich exploration of each participant's experiences" (Wright-St Clair, 2019: 222). The reason for individual interviews was to create an intimate environment where the participant could share their own experience and feelings without being worried about what their peer might think.

Questions "to tell the story of their experience of whatever the research is about" (Ebneyamini & Sadeghi Moghadam, 2018: 6) were used as a starting point to the interview process to establish openness, whereafter specific experiences of peer collaboration were explored. Furthermore, the interview questions focussed on whether the participant experienced any benefits and or challenges with the peer collaboration process. There was also a focus on feelings that arose during the peer collaboration process, including looking at a sense of belonging, support, both emotionally and academically, and whether or not negative emotions appeared like stress and anxiety while working with a peer. Lastly, I explored participants' thoughts on whether or not to include peer collaboration as part of the BEdHons research project in the future.

Interviews were conducted in Afrikaans and lasted about 20 minutes each. Data were recorded on a secure Microsoft Teams platform and transcribed.

The survey

Due to the small number of participants who could participate in the peer collaboration process, an additional survey was added to collected insights of students who did not wish to participate in this study but still completed the BEdHons research project in 2020 (see Appendix D).

In educational research, surveys can be used as qualitative data. Le Grange (2000: 192–193) argues that even though questionnaires are traditionally considered to be quantitative research with closed questions gathering factual data, they can also simply be considered as an interview that is in a written format with open-ended questions. Similarly, in this study, open-ended questions were used in a survey to gather students' opinions regarding peer collaboration.

The survey consisted of five questions, including asking if participants understood what the survey is about and if they wished to continue to answer a few questions. The survey's focus was to explore whether peers collaborated with each other informally (outside this

research study) and, if they collaborated, how they supported each other. Furthermore, I wanted to explore if students preferred to complete their research projects independently and the reasons for doing so. Lastly, I looked at whether or not students thought working with a peer for the research project could be helpful and whether or not peer collaboration should be part of the research project module's formal requirements.

The survey was designed using Microsoft Forms. The supervisors of both specialisations, Language Education and Curriculum Inquiry, were asked to forward the survey to students who had completed their research projects in 2020. Supervisors of both specialisations made two requests to their groups of students one and a half weeks apart from each other to enhance the number of responses. Answers from the survey were exported from Microsoft Forms to a secure folder on Microsoft OneDrive, and the form was discontinued.

Five students out of 15 responded to the survey. One student indicated in the survey that she had worked informally with a peer during the BEdHons research project outside this study.

3.5.3. Data analysis

Rule and John (2011: 75) describe data analysis as working the data "to find patterns of meaning". The purpose of data analysis is to respond and answer your research question (Durrheim, 2006: 52; Rule & John, 2011: 75). Data analysis needs to be done systematically to ensure that findings are accurate and that one does not miss important themes.

Before the analysis process begins, it is vital to organise the data, including transcribing, translating and labelling and storing data correctly (Rule & John, 2011: 76). For this study, data were translated from Afrikaans to English. I reviewed the data by listening to the audio recording alongside the transcriptions multiple times to see that important nuances and meanings didn't get lost in translation.

After preparing and organising the data, the next step I followed was to code the data. Meaningful clusters were created by reading and rereading through all the data to derive codes, with codes forming categories of key thoughts (Hsieh & Shannon, 2005: 1279) or themes. Reading and rereading helps to ensure that you pick up any gaps in the data and get a clear overall understanding of the case (Rule & John, 2011: 80). This was done using colour coding and comments in a Microsoft Word document.

By immersing oneself in the data, the aim is “for categories to flow from the data” and to allow for new insights to come forth (Hsieh & Shannon, 2005: 1279). However, Rule & John (2011: 77) argue that good qualitative data considers both a deductive analysis, where codes are brought to the data and an inductive analysis where codes emerge from the data itself, thus making the data ‘speak’ for itself. I allowed for codes to be influenced by peer collaboration literature and previous studies but also allowed for new codes to emerge from the data. Following the process of coding, I identified themes using the codes and the categories. Doing content and thematic analysis, one needs to search for patterns in the codes like similarities and differences, as this will help to interpret the data (Rule & John, 2011: 78).

After themes were established, I made use of three analytic techniques working through the data. Firstly, I used a global analysis approach for all components of this study as this research technique aims to get a holistic and integrated overview of all the data together (Rule & John, 2011: 78). This analysis technique suited the study well as the data were limited in sample size but rich in time spent looking at the phenomenon. It also allowed for the incorporation of the survey data as an extra voice within the peer collaboration process.

Secondly, I made use of time-series analysis, and more specifically, chronologies, looking at the data over time in sequence comparing how it was before and after a certain time had passed (Yin, 2009: 148). This was done by looking at the themes and each time starting at the initial group discussion, working through the data to the final interviews and surveys, and seeing when and how a specific theme emerged. This was done for every theme and resulted in reiteration of the data several times. Themes were newly colour coded on the raw data. Subthemes were identified but stayed the same colour as the main theme.

Thirdly, and considering the above, I made use of one of the analytic techniques that complement exploratory case studies, namely, explanation building, where the case study is analysed as one builds a case (Yin, 2009: 141). As the themes became more apparent over time, the case started to build itself automatically.

The final analytic process used, was inspired by the work of Michael Bassey. He argued that educational case studies can be presented in a way that “illuminates educational policy and enhances educational practice” (Bassey, 1999: 57). One way he suggests to do this is through picture-drawing, where an analytical account is given of an educational

program or event to bring together “the exploration and analysis of the case” (Bassey, 1999: 62). It must be said that even though Bassey used this method more as a metaphorical portrayal of educational events (for example using a letter to draw a picture of a specific situation) (Bassey, 1999), the idea of picture-drawing was used in a literal sense in this study. As part of the findings a visual presentation was provided to illuminate the data with the goal to physically ‘show’ how peer collaboration looked like in practice.

3.6. Ethical considerations

The ethical process in research involves the researcher considering what values they are bringing to their research but also how participants should be treated, how their rights will be protected if there are any moral or cultural issues to look at and to minimise any harm that can be done to the participants (Kivunja & Kuyini, 2017: 28). Multiple ethical considerations were taken into account in this study.

Ethical and institutional clearance

In this research project, I worked with students at Stellenbosch University and therefore needed ethical clearance from the university, as well as institutional permission from Stellenbosch University. Both were obtained (see Appendixes E and F).

Informed consent

The purpose of informed consent is to enable participants’ autonomy and self-determination, giving them the freedom to participate in a research study or not (Cohen *et al.*, 2018: 122). Both students signed informed consent documents and were reminded of the informed consent at the beginning of the final interview. This document contained all the information regarding the research and the processes that were followed (see Appendix G). Students were informed that they could at any stage withdraw from the study.

Consent during the online survey

For the survey, information about the study was provided. Students had confirmed that they had read through the information and wished to continue answering questions before the survey questions were opened (see Appendix D for full explanation of software design).

Causing no harm, being considerate and protecting human dignity

Within educational research, it is vital to do no harm to the participants involved. This means that “the research should not damage the participants physically, psychologically,

emotionally, professionally, personally" (Cohen *et al.*, 2018: 127). This study was considered to be a low-risk study with minimal chance of harm being done to participants. This was confirmed by the ethical clearance committee at Stellenbosch University, as already mentioned above. Students received assurance that their participation in this study would not influence the assessment of their research projects in any way.

Privacy and confidentiality

A key aspect to consider, especially in qualitative research, is the invasion of privacy of the participants (Cohen *et al.*, 2018: 128). This consideration was taken into account from the start of this study when I negotiated access with the participants and the supervisors in the two research electives. This happened during an online session where students presented their research, thus not taking up extra time in a separate meeting.

Another aspect regarding the participants' right to privacy is to promise confidentiality (Cohen *et al.*, 2018: 130). I assured students that all data gathered during the research process and information would be confidential. Also, all data were stored on my personal computer that is password protected and also on my university Microsoft OneDrive account that is password-protected, keeping data safe and confidential.

Anonymity

Participants in a study are considered to be "anonymous when the researcher or another person cannot identify the participant from the information provided" (Cohen *et al.*, 2018: 129). In the final report of this study, pseudonyms were used to protect the identity of the participants. Regarding the WhatsApp group, participants' phone numbers were coded on my mobile device and were removed from my phone after data were exported. Lastly, for the survey, all responses were made anonymously, and the request to complete the survey was done with supervisors of different electives.

Power and position

In most research, the researcher holds a position of power as the more knowledgeable person due to their status or organising role (Cohen *et al.*, 2018: 136). In this study, the power relationship was minimised because I met students the year prior to this study during contact sessions, making them feel more comfortable with me as the researcher.

Another way to mitigate the power position of the researcher is to have the ability to be empathetic towards the participants, especially when sharing sensitive or personal information (Cohen *et al.*, 2018: 137). This was established by creating an open

atmosphere during the discussions and interviews, listening attentively to what the participants were saying, and taking a genuine interest in what they were saying.

Ethics in the data analysis process

Ethics regarding data analysis are concerned with the many ways in which data can be misrepresented, for example, not using good data analysis techniques, being selective in the data that one presents, failing to allow the voice of the participants to come through, over-interpreting the data, and judging the data (Cohen *et al.*, 2018: 138). In this study, well-considered and good analytic techniques were used, as mentioned under the data analysis section of this chapter.

Even though it is impossible to free oneself entirely from values and personal bias, researchers can be "vigilant, very self-aware and reflexive in their data analysis" (Cohen *et al.*, 2018: 138). Using good data analytic techniques provided a lot of help with establishing self-awareness and helped with reflections throughout the data analysis process in this study.

3.7. Quality of research

Various aspects of quality assurance are important to ensure that one's research is worthwhile and credible.

Validity

Two types of validity were considered for this study namely internal validity and external validity.

Firstly, for internal validity it is important to describe the phenomenon accurately in the findings of the study (Cohen *et al.*, 2018: 252). This was done by using various analytic techniques for analysing the data but also through constant awareness of not being biased when working with the data. Furthermore, data need to be authentic, meaning that it can provide a fresh understanding of a phenomenon and making sure that when big claims are made, it is supported by evidence (Cohen *et al.*, 2018: 253).

A further step to be taken when dealing with internal validity is the credibility of one's research (Cohen *et al.*, 2018: 253). To ensure credibility of the research, I made sure that the conclusions of my data matched with reality as experienced by participants (Mabuza *et al.*, 2014: 32). This was done through member checking with participants to ensure my impressions of data were free of misinterpretations (Van den Berk-Clark, 2019: 231). Both peers had access to recordings of the initial group discussion and also the focus group

discussion. I also asked them to check if they were satisfied with both of these recordings. Regarding the individual interviews, only the participant involved had access to the interview recording afterwards, and participants were asked individually to check the transcription of the individual interviews.

Secondly, even though external validity is more often used in positivistic research where it is important to strip away the context and install strong variables, it can also be of value in naturalistic (interpretivist) research (Cohen *et al.*, 2018: 254). External validity has to do with the generalizations one makes in one's research. It is therefore important in qualitative research to provide as much information regarding the research process that was followed for others to see how generalizable one's findings are (Cohen *et al.*, 2018: 255). This forms part of the reason for devoting a whole chapter to explain the research methodology of this study.

Reliability

The quality of research can be enhanced by reliability. To ensure reliability, the researcher needs to plan every data collection procedure and analysis before data collection can start (Ebneyamini & Sadeghi Moghadam, 2018: 4). This is done to illuminate and have a clear understanding of the research process. Yin (2009: 45) argues that one must do research as if an accountant is looking over one's shoulder throughout the process. Careful planning went into the sourcing of participants but also into the planning of discussions and interviews with students. This included multiple feedback discussions regarding interview questions from both my academic peer and my supervisor.

Also, a protocol can be used as part of the planning process (Ebneyamini & Sadeghi Moghadam, 2018: 5) which includes criteria for inclusion and exclusion, timelines, what kind of observations would be used and how feedback to participants would be maintained throughout the research process (Ray *et al.*, 2019: 237). This was discussed during the proposal, ethical and institutional permission processes and had to be approved by the different committees at the university level. Furthermore, clear research tools for data collection were drawn up before the time, with timelines, and also boundaries of who would participate in this study.

Relating to the above point, reliability further can be tested by following the same process. Yin (2009: 45), however, does emphasise that it "is on doing the *same* case over again, not on *replicating* the results of one case by doing another case study". In this study, a

definite and clear process was followed, as discussed in various sections of this chapter, making it possible to do a similar case following this process.

3.8. Conclusion

In this chapter, I have outlined the map of how I conducted this study. This included the purpose, the paradigm, the context and techniques used in this study.

Furthermore, this chapter notes the ethical considerations taken into account in this study to ensure that no harm would have been done. Also, the quality of this research was discussed. Cohen *et al.* (2018: 121) summarised this well when they stated “the research design, and indeed the research itself, have an ethical duty to demonstrate quality”. Therefore, the importance of devoting an entire chapter to the methodology was unquestionable as it provides the reader valuable insights into how this study was conducted.

In the next chapter, I will discuss the findings of this study.

CHAPTER 4

PRESENTATION OF THE FINDINGS

4.1. Introduction to the chapter and the findings

In this chapter, I will present the findings of this study. The purpose of the study was to explore the experiences of peer collaboration in the BEdHons research project. The study further explored whether or not students experienced any benefits or challenges during a peer collaboration process.

I will present the findings according to the themes and sub-themes that emerged in the data.

Four basic themes developed from the data:

- The benefits of peer collaboration.
  This included the academic as well as the emotional and social benefits of peer collaboration.
- The challenges of peer collaboration.
  This again included the academic as well as the emotional and social challenges of peer collaboration.
- Personal considerations.
  This included how students experienced growth and development. It further demonstrated the sense of self of the student as a researcher and how it developed over the peer collaboration process. Lastly, under this theme, I will present the interpersonal relationships between peers.
- Academic considerations.
  Under this theme, I will present how peers experienced the supervisor-student relationship during the peer collaboration process. I will also present some recommendations from students on how the BEdHons research project could move towards a more horizontal research pedagogy in the future.

Quotations are accompanied by a reference to indicate the specific date and method of data collection. These included initial and focus group discussions, final interviews, WhatsApp texts and surveys.

Short background to the findings

Overall, the findings suggest that peers experienced the peer collaboration process as positive. As Ingrid summarised it: *it is just 'lekker' to work with someone* (Final interview: Ingrid, 18/11/2020).

The two participants that participated in the formal peer collaboration process of this study (from here on referred to as 'peers') already knew each other as they met during the first year of their BEdHons degree and had collaborated in other subject areas. Even before the start of the process, the initial group discussion (which was the first data collection process of this study), the two peers had already discussed some aspects of their individual research projects with each other and were happy when the opportunity arose for them to be part of this study. Both students completed their research projects successfully, however one of the peers handed in her research project in March 2021 instead of October/November 2020.

All interviews were done successfully and within the timeframe intended. This allowed for a clear vision of the process where progression could be monitored to give an overall insight as to how participants experienced peer collaboration from the start, during the research process, and at the end of the research process.

During the initial group discussion, peers were asked why they were interested in participating in this study. For Ingrid the focus fell on growth: *I feel that I will grow* (Initial group discussion, Ingrid: 30/07/2020), while Uys felt *the information that we are sharing with you is important for the future* and *our contribution might assist in respect of future students* (Initial group discussion, Uys: 30/07/2020).

The survey data complemented the above process. When asking students whether they think that working with a peer for their research project can be helpful three out of five students indicated *yes*, while two indicated that *it could [be helpful]* (Survey: November 2020).

I want to turn the focus to looking in more in detail at the different findings that emerged from the data.

4.2. The benefits of peer collaboration

4.2.1. Academic benefits

The academic benefits included the affirmation of reasoning, meaning that peers wanted help in making sure that their work made sense. Peers further indicated that they needed

each other for better understanding; better understanding was also important to the participants in the survey. Lastly, students emphasised the need for technical support and how they provided it to each other.

Affirmation of reasoning

From the start of the peer collaboration process, both peers indicated that they needed someone to look at their work to see whether their thinking or, differently said, their tasks, made sense. Uys explained this process of making sense of each other's work as follows:

> *…I would like Ingrid to have a look at my research and to see if it makes sense, that she can see what I am trying to say – from the work that I have done so far. That for me is the most important aspect, because if she doesn't understand my idea or research, then more than likely the lecturers might have the same view as she has.* (Initial group discussion, Uys: 30/07/2020)

Not only did Uys' statement show his expectations for the process of peer collaboration but also how understanding between peers is already a good first step to academically improve one's research project. As he further stated in the same interview:

> *…we should not underestimate the value that we can bring, because, I am a student, me and Ingrid are both students, if I read through her work, I need to at least be able to see where she is going.* (Initial group discussion, Uys: 30/07/2020)

Ingrid also indicated that she would like someone to read through her work to *double-check* it but also explained how in the past she would always give her work first to someone else to read.

> *You know, sometimes I feel that I would like to get feedback from one of the other students, that is on the same level as me, who can just double-check my work before I actually submit it.* (Initial group discussion, Ingrid: 30/07/2020)

This shows how Ingrid from her past experience felt the need for a peer to check her academic work, and even more so, for that 'someone' to be at the same level as her.

No further indications of affirmation of reasoning were found in later interviews, however within the survey one participant indicated that she would have *loved* to have *someone to help with interpreting and discussing readings…to see if my line of thinking made sense to another person* (Survey: November 2020).

These quotes emphasise that having a peer to support with sense-making or reasoning seems to be a desire for students and that when they think of peer collaboration this aspect comes to mind.

Better understanding

In the halfway point focus group discussion, Ingrid explained how a better understanding developed during the peer collaboration process when she said: *I really need that support and assistance – it helps creating a better understanding and allows me to view my work from someone else's perspective on the project* (Focus group discussion, Ingrid: 26/09/2020).

Looking at the anonymous survey responses, one of the students that reported to have worked with a peer during his/her research project also indicated that support was provided by his/her peer *by explaining components which I did not understand well* (Survey: November 2020). Another participant in the survey indicated that in retrospect she would have liked to have had a peer assigned to her because *he/she may have a better understanding of some research components* (Survey: November 2020) and that this may have helped him/her.

Technical aspects and academic support

One of the most prominent academic points of discussion in the data were how peers could help each other with the technical aspects of the research project. Peers understood this as proofreading and helping each other with different fonts, styles and margins. When Uys was asked in the initial group discussion whether he thought referencing is included as part of technical aspects he agreed and elaborated:

> *Oh yes. In 2014 I finished my degree and by the time I came back to varsity I had forgotten all those technical aspects of the work required. I found it really helpful to be able to get information from someone else on the who and why and when of certain things (where does the space come and where does the '&' come). I just could not remember all the technical aspects.* (Initial group discussion, Uys: 30/07/2020)

This statement further showed how one peer can benefit from another peer if the one peer is junior and has finished a degree more recently than the other. This was again confirmed by Uys at a later stage: *Remember, I finished my studies in 2014, so she helped me with referencing and other things because she was still at university last year…* (Final interview: Uys, 19/11/2020). At the same time Ingrid, when talking about academic support, also

indicated that she received help from Uys with referencing *[l]ike what he learnt over his years of studying with regards to referencing* (Final interview, Ingrid: 18/11/2020).

In the initial group discussion, in reaction to the question of what expectations peers have of each other, Uys stated that Ingrid *…can also look at technical aspects, is the text correctly aligned, are there any spelling mistakes, structuring of sentences. And then if she can, to make one or two recommendations* (Initial group discussion, Uys: 30/07/2020). To the same question, Ingrid also wanted Uys to *assist when there are any spelling errors* (Initial group discussion, Ingrid: 30/07/2020).

During the focus group discussion Ingrid indicated that they hadn't supported each other yet with the technical aspects of each other's projects but did state that they *…will go through it at the end and look at technical aspects, the layout, the number of words, are your chapters in the right order and so on* (Focus group discussion, Ingrid: 26/09/2020).

However, during August 2020 Ingrid and Uys did have a discussion in the WhatsApp group where technical aspects were discussed:

Ingrid: *Hello at the literature review. Do you again insert a little background info? Similar to the introduction..... because I am scared of continually repeating the same stuff* 🙈

Uys: *Hi, no I didn't. In the introduction, I just state everything that is in my literature review*

Uys: *Looks like you are right. You can do it*

Ingrid: *Okay..... I will rather not say again what I am going to do. I have like subheadings where I will discuss each one. Do you also have subheadings or do you use like "free flow" like you just continuing typing*

Uys: *Nope. I also have subheadings. Also make sure of the structure of headings* 😂

Main headings bold

Subheadings not bold, but italics

Uys: *Headings without full stops, also not all capital letters*

(WhatsApp group: August 2020)

Another clear indication that students did benefit from communication during the process was in the final interview. Ingrid explained how Uys helped with explaining the study of PIRLS (The Progress in International Reading Literacy Study).

> *…he taught me about PIRLS, I didn't know anything about PIRLS, and it really was a big factor in my research, so his knowledge really expanded my research. So it was really very useful on an academic level.* (Final interview, Ingrid: 18/11/2020)

There is evidence that this discussion on PIRLS started in the initial stages of the WhatsApp group:

> *Ingrid:* *Hello Uys I want to find out, at the last meeting where we did our presentations, you said something about PIRLS and that grade 4 and 5 learners are bad at reading .... something like that. I would like to reference that part in my data can you please send me the specific PIRLS*
>
> *Uys:* *Yes PIRLS 2016.*
>
> *I will forward it to you. It is on my computer. But it is easy to get. Just type it into Google*
>
> (WhatsApp Group: August 2020)

On a different point of discussion, Uys did however make an important point when he explained the difference between help with content and technical aspects:

> *As far as content is concerned, she could not really help, so it was more the technical side, style, structure, language use, planning and making my task look better. But as far as content goes she could not really assist because it is not her field of expertise.* (Final interview: Uys, 19/11/2020)

This limitation expressed by Uys should not be viewed negatively as it illustrates the boundaries of how far peers can assist and help each other on an academic level. This awareness of boundaries might serve them better than having too many expectations at the end of the day or helping each other to the extent that they place their peer on the wrong track.

4.2.2. Emotional and social benefits

Peers expressed that the emotional and social benefits outweighed the academic benefits. As Uys emphasised:

> *What was really valuable for me was not the technical issues of the assignments, just the emotional support, to be there for one another. That was something that stood out for me. At the end of the day, you don't really need someone on a technical level, just someone that can listen to you, somebody that understands your "craziness".* (Final interview: Uys, 19/11/2020)

The emotional benefits included helping peers with fears, the ability to talk to someone and someone to listen to them. Another important aspect that emerged in the data is how peer collaboration combated the feeling of loneliness and how friendship played a key role during the peer collaboration process.

Limited evidence for emotional and social support was reported in the WhatsApp groups and nothing in the surveys. Peers that used the WhatsApp group indicated that they preferred phoning each other. A possible reason why survey participants did not report that they had experienced emotional and social support could be because, except for one participant who had communicated informally with someone else, nobody had made use of peer collaboration.

Help with fears

Ingrid explained her need for certainty especially when it comes to sending academic work to the lecturer that everything is in order: *…sometimes I get very scared, I don't feel comfortable just sending work in* (Initial group discussion, Ingrid: 30/07/2020).

Similarly, in the WhatsApp group, Ingrid stated that *I am scared of continually repeating the same stuff*  , where Uys replies to her: *Looks like you are right. You can do it* (WhatsApp group: August 2020). This shows how Uys helped Ingrid by acknowledging her fear of repeating herself and at the same time provided her with some reassurance.

The ability to talk to someone and someone who would listen

From the start, Uys explained at length how he feels emotional support will be a benefit as it will provide someone to talk to about one's progress.

> *I also really like the emotional support to be able to talk to someone about your progress, say to someone "I am not moving forward" and the psychological aspect of the thing. You need that someone to talk to…* (Initial group discussion, Uys: 30/07/2020)

During the focus group discussion, Ingrid gave a practical example of how Uys helped her when she wanted to stop her studies. She told him *ek gaan nou opskop* (I am going to stop

my studies) (Focus group discussion, Ingrid: 26/09/2020), where he replied to her: *we have been busy with this for so long and we are nearly there, why stop now?* (Focus group discussion, Uys: 26/09/2020).

When prompted to explain how this helped her, Ingrid stated how it motivated her to continue with her studies.

Ingrid again referred to the example of her wanting to give up with her studies when asked the question on whether her peer provided academic support, emotional support and/or the quality of her research project improved because of her peer:

> *Well, I think one and three actually go hand-in-hand with academic but emotionally at the same time. From my side the majority of messages to him was like: "No, I'm going to quit, I'm not going to continue and so on" and he said, "no, push through". So definitely emotional.* (Final interview, Ingrid: 18/11/2020)

Here Ingrid is also linking how the emotional support contributed to academic support.

Connecting to the points made so far Uys summarised it well:

> *Remember, most people complain about something, but that is not what it is about – the important thing is that you have got someone that will listen to you, that is what it is about.* (Final interview: Uys, 19/11/2020)

Uys phrased it well when he says: *you really need that kind of release valve* (Focus group discussion, Uys: 26/09/2020), showing how having a peer can give one a space to get negative feelings out of the way and again focus on what is important, in this case, the research project.

Combating the feeling of loneliness

Responding to a question on whether peers experienced a sense of belonging working with a peer, Uys responded: *I would say sense of belonging, knowing that you are not alone – definitely* (Final interview: Uys, 19/11/2020). It is interesting how Uys associates a sense of belonging with not feeling alone. This was important to him from the start as he stated: *You need someone just to know you are not sitting alone here* (Initial group discussion, Uys: 30/07/2020) and further emphasised it during the final interview:

> *It really assisted me in feeling not so alone and recognise that I am not the only one who is struggling with my studies… It is a difficult course – at least you know you are*

> *not alone in this thing, that feeling of loneliness wasn't really there.* (Final interview: Uys, 19/11/2020)

This shows how through the peer collaboration process Uys's need to have someone to know he is not alone throughout this process was met at the end as it seems the feeling of loneliness was dampened. On the other hand, Ingrid felt that a sense of belonging helped her to focus on her role as a student and *to stay a student* as she *completely forgot where [she] belong[ed]* (Final interview, Ingrid: 18/11/2020).

Ingrid did not express any feelings of loneliness, nor did she ever express feeling alone during the process of her research project.

Friendship

This is one of the findings that stood out, from the initial desire expressed by Uys: *I've known Ingrid quite a while and I want to believe that we are friends* (Initial group discussion, Uys: 30/07/2020) to examples of full friendships developing during the peer collaboration process.

During the final interview, peers were asked to explain the peer collaboration process in the format of a story. Both peers' titles of their stories made reference to friendship. Uys's title was *Hulp tussen twee vriende* (Two friends helping each other) (Final interview: Uys, 19/11/2020) and Ingrid's title was *Nuwe Vriende* (New friends) (Final interview, Ingrid: 18/11/2020).

Asking to elaborate on what the story would be, Ingrid looked back from her first year at university, where she met Uys, using the analogy of building a road together and through the process of developing a friendship. She also referred to her other peer that she worked with during the peer collaboration process and therefore the use of the plural.

> *The story would be through the peer collaboration and the way of working together building up from last year with all the different tasks, as we built the road up to now we are not just students who are doing a degree – it has developed to the extent that we have become friends… So from a study and learning environment, it changed into a friendship, we are much closer to each other as a result of the peer collaboration process. I am actually very happy I had the opportunity to meet with them and getting to know them, and that is where the title "New Friends" comes from.* (Final interview, Ingrid: 18/11/2020)

Ingrid explained how the learning environment can create a space for the development of friendship. She referred to the peer collaboration process in a more general sense which could indicate that any form of collaboration in a learning environment can develop into a friendship, almost as part of a natural social development.

Uys's story was much shorter with a bigger emphasis on the challenging process of the BEdHons: *The story will be around how two Honours students joined hands while to, in the end, go through this very difficult and challenging year* but later in the same interview also expressed how *…the emotional support that was really of great value to me* and that *the camaraderie where you tackle things together* (Final interview: Uys, 19/11/2020) was an important factor as it established a sense of togetherness.

4.3. Challenges of peer collaboration

4.3.1. Academic challenges

Trust and concerns of plagiarism

Initially, Ingrid had a concern regarding plagiarism. This was due to a past experience where she worked with a peer and felt that she did most of the work and her peer just copied and pasted her work.

> *To be honest with you, my biggest issue is the possibility of plagiarism. As an example, there was a time where I sent my work to other students-friends to go through my work. This is when we are doing work on the same subject…Then I finished my work and sent it to her to just quickly just to read and give me feedback not knowing that she had not even started her own assignment, then she would just copy and paste the content of my assignment and submit it as her own work. This happened in my 1st and 2nd year. I found that a problem…* (Initial group discussion, Ingrid: 30/07/2020)

She again mentioned a similar point during the focus group discussion when asked if peer collaboration is feasible and helpful towards the learning process: *some people gave only 50% input while somebody else would contribute say 80% of the content* (Focus group discussion, Ingrid: 26/09/2020). Here she was clearly referring to a past experience again. She didn't mention this point again during the final private interview, and since this was one of her prominent concerns, one can assume that if it had been a problem again, she would have expressed it.

Another point that links to plagiarism is whether or not one can trust the peer one is working with. Uys did not mention that he is concerned about plagiarism, but he did raise concerns about trust, stating that: *I don't trust people easily* (Initial group discussion, Uys: 30/07/2020). As an example, Uys explained how he is scared his peer will not have enough time to look at his work and at the end of the day…

> *…she will say no it looks fine but how would I know whether she actually read my assignment and thought about the assignment as a whole and if it makes sense... would she go through the work in the same way I would?* (Initial group discussion, Uys: 30/07/2020)

Again, Uys did not express this to be a challenge later during the focus group discussion or the final interview. This being said, it is an important finding that describes the initial anticipated challenges students might have.

External factors

One of the biggest external factors that emerged in the data was a lack of time, due to work-related responsibilities, to assist the peer or for peer collaboration to function correctly. This was especially during the focus group discussion where both peers were under a lot of stress both at work but also the extra stress of the COVID-19 pandemic. The COVID-19 pandemic brought about extra anxiety regarding the safety at work but also safety of family members. Extra demands were also placed on teachers for having to teach online in some cases.

Early in the focus group discussion, Ingrid mentioned that she and Uys did not have contact at the time: *Uys and I do not have contact with each other at the moment because I am really busy* (Focus group discussion, Ingrid: 26/09/2020). Shortly afterwards Uys stated: *Well the need is there but time is really a problem* and when asked if a space where they could meet might have helped, he replied: *We are trying to make time for the studying in between the work*… (Focus group discussion, Uys: 26/09/2020).

In the final interview, Uys diplomatically stated that

> *Also, because both of us are working full time, so I had to be very patient, and wait for when she will have time to look at my work or to help me* (Final interview: Uys, 19/11/2020)

Time was also the main reason why three participants that completed the survey indicated why they chose not to work with a peer:

(a) It was difficult to align my timeline with someone else.

(b) I did not feel that I had the capacity, specifically in terms of time and workload, to work collaboratively on my project.

(c) *…I did not feel that there was anyone who would have complemented (sic) my schedule…*

(Survey: November 2020)

Another external factor that played a role, especially in the timeframe when the research was conducted, was the COVID-19 pandemic. The challenge of dealing with COVID-19 was expressed from the start of the peer collaboration process: *this Covid pandemic is something that is really taking a lot of our time* (Initial group discussion, Uys: 30/07/2020) and even in one of the final interviews where Ingrid indicated that COVID-19 and her teaching job *were actually the two most important issues [that] impacted [her] studies* (Final interview, Ingrid: 18/11/2020).

4.3.2. Emotional and social challenges

Stress and anxiety

In the final interview peers were asked whether or not they experienced any of the following emotions during the peer collaboration process:

One: Stress as a result of having to work with a peer.

Two: Any kind of anxiety because you had to work with a peer.

Three: Did you experience being scared about him/her intimidating you in any way at all.

Both peers indicated that there was no stress at all and that they didn't experience any of the three emotions. Uys's reason for this was *that neither of us was in a position to kind of 'running the show'* (Final interview: Uys, 19/11/2020), while Ingrid said that *there was no pressure about deadlines to meet or fulfil any other expectations* (Final interview, Ingrid: 18/11/2020).

Ingrid did however experience a challenge with feeling *panicky* at times when Uys was a little bit further with his research than she was.

> *I did sometimes start to feel a bit panicky when he would be like at Chapter 2 and I am still busy with Chapter 1. He is a little bit in front and I am behind*
> (Final interview, Ingrid: 18/11/2020)

Reflecting on the same question she would however also indicate that: *Sometimes it was the other way round and I would be ahead of him and that is how the cycle went* (Final interview, Ingrid: 18/11/2020), showing that this might have been a good stressor, that at times enhanced her productivity.

Feelings of being a disturbance

Uys already mentioned under perceived emotional challenges the concern of disrupting another person. This is also brought up by Ingrid in the focus group meeting after she explained that they were very busy and did not have contact with each other for a while but that they would start at a certain point again. She stated: *I will start bothering him again from the beginning of October when the nervousness starts kicking in again* (Focus group discussion, Ingrid: 26/09/2020). This could just be a manner of speaking for Ingrid, however, it could also refer to a subconscious notion that she is a bother to her peer especially looking at the context where it is mentioned.

Uys pondered on the idea of having a peer whom he did not know prior to his Honours, and had to work with during a peer collaboration process. Uys mentioned twice that he would have had a problem if the peer collaboration process would have been with someone that is *volksvreemd* (a stranger). He elaborated on this by adding that one *…can't be honest with him or her without feeling that you are stepping on their toes* (Initial group discussion, Uys: 30/07/2020) and

> *…if I had to work with iemand wat volksvreemd is (somebody I could not associate with) and never met before, I think there might have been a lot of things coming through – things like you don't want to disturb the person, you don't know each other… I think things can get very awkward*
> (Final interview: Uys, 19/11/2020)

This further links back to Uys statement that he doesn't trust someone easily. The length of this discussion shows what a big challenge this was for Uys.

No physical contact

When asked whether there were any aspects of the peer collaboration process that they found challenging, Uys mentioned that distance was a challenge for him.

> *Well, obviously the fact that we could not meet in person was a bit of a problem because we were not in close proximity to each other… Further, there wasn't much,*

> *just the distance between us…*
> (Final interview: Uys, 19/11/2020)

Uys did not elaborate on this point however he did mention that there weren't many challenges showing that this stood out for him.

No physical contact being a challenge indicated the need for a space where collaboration can take place. We all were and still are, faced with the burden of a global pandemic and this also impacted on how students could interact with one another. This had an influence on the place where peers could meet and assist each other. Many restrictions and lockdown regulations prohibited students from interacting with one another face to face.

Asking students whether the fact that the university was closed had an impact on the peer collaboration, Ingrid agreed that it *definitely* (Focus group discussion, Ingrid: 26/09/2020) had an impact, where Uys was unsure, *I think so* (Focus group discussion, Uys: 26/09/2020). Uys felt that it wasn't so much the space but rather it depended on their individual time schedules.

In the final interview, both peers were prompted on what the ideal space for peer collaboration would be and whether the library might be a good space. Uys stated that the ideal space could be possible: *I think if it would be possible just to be in your normal learning environment – I mean that is where you learn things* and then when asked whether the library might be such a space:

> *Yes, I think so. To be in an educational environment is a lot better than meeting in a restaurant or some informal, social meeting place. There are too many things in an informal place that will distract you* (Final interview: Uys, 19/11/2020)

Ingrid similarly agreed that a specific meeting place would have been useful to be more involved with one's peer: *Yes definitely – that would have been great. Just to be able to meet in person with each other and be more involved with certain parts of each other's assignments* (Final interview, Ingrid: 18/11/2020). Asking during the same interview whether the library might be such a place, she answered *yes*.

It was clear that peers felt the need for a specific space where they could work together, however they never mentioned on their own that the library might be a good space to meet.

From the survey data, one of the participants expressed a similar desire of having face-to-face meetings with a peer. The participant stated: *I think perhaps it would be easier if you*

are in the same city and can actually meet up and work together (Survey: November 2020). The word *actually* stands out in this quote, as it indicates that it is common sense that people want to and need to have face-to-face interactions and benefit more from such meetings.

4.4. Personal considerations

4.4.1. Personal growth and working with a more experienced peer

Learning together, growing together

From the start of the peer collaboration process, both peers showed enthusiasm collaborating with each other. As already mentioned, it might be because the peers knew each other before and were happy to participate in a formal peer collaboration process. Ingrid discussed learning together at length:

> *I'm always keen to get assistance and support from others and hear their ideas – for me, it is part of growing as an individual, so I like, really like the peer or buddy idea/system. One learns how to communicate better, learning how others think and what their perspective is, to get a better picture, on certain issues. It is really awesome to learn with someone else. It gives me a bigger opportunity to develop my knowledge. I look forward to asking for help, and to get support and to get other's opinions…* (Initial group discussion, Ingrid: 30/07/2020)

Uys mentioned how just communicating with his supervisor makes him feel that he is imposing too much on their time *jy voel jy is lastig* (feel like a disturbance),

> *Then if you have your peer at your side, because sometimes we work under so much pressure and you don't see how easy it is – so if you work in partnership with a peer, they can assist you to see if they agree with you or not* (Initial group discussion, Uys: 30/07/2020)

Not only does this show how these peers were looking forward to working together, but also that they already understood some of the benefits of working in a collaborative learning environment. Both seemed to have experience in working together with someone else and were therefore prepared for collaborative learning.

As already mentioned, during the focus group discussion the peers were under a lot of pressure and struggled to make contact with each other. This being said, Ingrid still expressed the need for support and assistance:

> *I think peer groups or a buddy system is a good way to do things – for me it is very important – I really need that support and assistance – it helps creating a better understanding and allows me to view my work from someone else's perspective on the project* (Focus group discussion, Ingrid: 26/09/2020)

This showed how even though the time for collaborative learning was limited, the need for it, and the understanding of its benefits were still there. At the end, when asked whether peer collaboration should be part of the BEdHons research project she stated:

> *Well, doing an Honours is more intensive than just your normal 1st, 2nd and 3rd years of studying. It's like we are more grown-up and responsible, being in competition with somebody else has fallen by the wayside and doesn't make a difference one way or the other – that kind of academic accomplishments are something of the past because you already have a degree, so you are not in competition with anybody anymore* (Final interview, Ingrid: 18/11/2020)

Here Ingrid indicated how maturity develops from undergraduate to postgraduate studies and how one becomes more *grown-up and responsible*. She also showed how being more mature combated the need for competition with one's peers and that collaboration is more important than academic accomplishments.

Ingrid also gave testimony of how working together with Uys expanded her research project: *his knowledge really expanded my research* (Final interview, Ingrid: 18/11/2020). This was referring to how Uys introduced and explained the study of PIRLS to her. She also specifically referred to the peer collaboration process and how she grew by being part of it:

> *…it's like you go into a partnership or you are investing with someone. It helped me to grow, I feel like learning and the more knowledge you get and including learning from other people, the better and quicker you will grow. That definitely happened – I never felt as if I was getting stuck somewhere along the line* (Final interview, Ingrid: 18/11/2020)

Working with a more experienced peer

Interestingly, when Uys was asked how peer collaboration can be more beneficial and whether he has suggestions he stated:

> *I would like to work with an experienced student, let's say somebody doing their Masters, which means they know the world of an Honours student. Preferably not a*

> *Professor or a Doctor, but someone that is your equal, busy with their Honours with you, someone that I can 'click' with.*
> (Final interview: Uys, 19/11/2020)

Uys's suggestion to have a more experienced student might speak to the work-related stress and struggles he had during the term and that he would have liked someone that might have had more answers to his concerns. He however did not see the Professor or Doctor as a possibility for fulfilling this role as he still needed someone that he feels comfortable with, someone that is an equal.

This sentiment was further echoed by one of the participants in the survey that said:

> *I think a mentor (student level, not lecturer/prof) would be even better. A person who knows a little more than me but isn't very important that I feel i have to impress them all the time (sic)* (Survey: November 2020)

Similar to Uys the participant also felt the need for a peer (mentor) who is on an equal level to the participant and that has a bit more experience.

4.4.2. Sense of self as a researcher

The findings in this section are based on the experiences of those students who participated in the formal peer collaboration process from the initial discussions to final interviews, and therefore excludes the survey data.

At the start of the peer collaboration process

At the start of the peer collaboration process, Ingrid showed a lot of confidence. This was because of her familiarity with the university due to her completing her undergraduate studies in the recent past. She explained: *…I know quite a few lecturers which he has not met yet, so I can give him information…* and when prompted if it's like providing 'inside information' she replied, *yes* (Initial group discussion, Ingrid: 30/07/2020).

On the other hand, Uys explained that because he had last studied in 2014, he was concerned about forgetting some of the technical aspects and expressed the need for Ingrid to *look at certain specific technical aspects* (Initial group discussion, Uys: 30/07/2020).

In the middle of the peer collaboration process

During the halfway point focus group discussion, the mood changed as peers experienced stress from external factors, but also stress about their research.

The first question wanted to establish how peers were experiencing their individual research projects up to then and if they were on track.

Asking Ingrid to start, her response was: (*uncomfortable laughter*) *Let's start with Uys… I'm too negative*. She went further explaining her state as a researcher:

> *I never used to be a negative person, but it is as if the Covid impacted on my academic mental state as well… so it really increased my frustration because I could not get access to all the resources [in the library] I needed to use* (Focus group discussion, Ingrid: 26/09/2020)

Similarly, Uys was also feeling that *it is as if we are taking too long to finish the [research] project* and later expressed the hope: *So I really hope I am going to complete this at the end of the year* (Focus group discussion, Uys: 26/09/2020).

At the end of the peer collaboration process

Toward the end of the peer collaboration process, Ingrid indicated that she felt disappointed that she was unable to complete her research project on time for the December 2020 graduation.

> *The only thing is when he handed in his assignment and I had not finished my own, I was disappointed in myself. But without him as a partner I would never have made it this far, then the disappointment would have been in the beginning and [I] would have given up at the start of my studies, and I still have the hope to complete my research* (Final interview, Ingrid: 18/11/2020)

It was however a disappointment with hope attached to it and it is clear that the peer collaboration process was the one thing that still made her feel positive about the ability to complete her research project.

Ingrid further explained how the Honours degree changed her and that having a peer benefited her.

> *I think the way of doing your Honours Degree has changed completely and then having the benefit of have an academic partner is something that I found to be a really like wow it felt good* (Final interview, Ingrid: 18/11/2020)

Uys also commented, *to be in a position where [you can] get and give assistance* (Final interview: Uys, 19/11/2020) showing how he also had the confidence to assist Ingrid throughout the process.

Uys's sense of a being a researcher was well summarised as he explained: *we both just tried to keep our heads above the water and that saved us* (Final interview: Uys, 19/11/2020) again showing how even with having a peer at your side the research process can be difficult at times, but what matters is to find a way to endure and keep up resilience.

4.4.3. Interpersonal relationships between peers

Two interpersonal relationships were found to be of significance, namely gender and the leadership role of the one peer.

Gender was brought up as a challenge during the final interview with Ingrid. Ingrid explained how, in her view, 'girls' complain more than men and also overthink things at times.

> *The only thing that I found a bit difficult to navigate is the fact that he is a male and I am a female. Sometimes females complain a lot so I had to contain myself/hold back… I am sure there were times when he might have thought oh my goodness because sometimes I would lapse into 'girl talk'. Like I would say 'ai jinne tog' (o my), I overreact where he will just calmly, and with a straight answer tell, "no it will be like this". Then I will say "no but can it be like so and so and so…" I overthink. Where my female friend would think like me, we will have the same mindset* (Final interview, Ingrid: 18/11/2020)

She was however well respected by Uys, as he indicated in the initial group discussion that he *would like Ingrid to be in charge of* scheduling timelines where they can look at each other's work. He clearly stated: *I would like Ingrid to take the lead in this* (Initial group discussion, Uys: 30/07/2020).

Ingrid did indeed take the lead in many aspects of the peer collaboration process, for example, she initiated most of the WhatsApp conversations and during the discussions and interview mentioned that she contacted Uys multiple times to keep in touch.

4.5. Academic considerations

4.5.1. Supervisor-student relationship

Feelings of insecurity

Uys felt that he was *lastig* (disrupting – i.e., imposing on the lecturer's time) because he had a lot of questions and too often needed to ask the supervisor these questions. *Then you feel like you are 'boring' because you always asking the same questions* (Initial group discussion, Uys: 30/07/2020).

Similarly, Ingrid also indicated that the supervisor needed to be part of the WhatsApp group so *that she could see the hints I am giving* (Final interview, Ingrid: 18/11/2020). This shows how Ingrid didn't feel comfortable enough to have a direct conversation with her supervisor about her concerns and would have preferred them to be conveyed indirectly via the WhatsApp group.

Ingrid further indicated that it would have been good if peers had the same supervisor as it can create a sense of security.

> *…maybe the same supervisor, might really just make the process faster and create a sense of security because you can share, if one handed… or one is scared to hand something in, then the first and got feedback, he can tell me he said this and this so make sure yours is correct* (Final interview, Ingrid: 18/11/2020)

Being scared of handing in work to the supervisor again demonstrates how Ingrid felt insecure and that she would benefit if she had a peer that can warn her or give her some prior advice beforehand.

Feelings of disconnect

It was especially during the focus group discussion where peers expressed that they felt a disconnect with their supervisors.

Firstly Uys, mentioned how he felt the supervisor takes too long to provide feedback to him: *my professor – I don't know – he keeps returning my assignments with remarks that he could have given before so that I could have corrected it sooner* and referring to feedback on a specific chapter: *I have discussed it with Ingrid, but I really feel he could have told me before – I handed in my assignment in May – now, in September he gives me that feedback* (Focus group discussion, Uys: 26/09/2020).

Ingrid also explained how she cannot get hold of her supervisor and that she is not getting support from her supervisor.

> *I actually have no contact with my supervisor. She is not on campus so when I sent her something via e-mail I just see the system-generated message that the message was delivered… the support from them is just about non-existent* (Focus group discussion, Ingrid: 26/09/2020)

It is however important to keep in mind that peers indicated stress regarding their work and their research during this interview that could have influenced these responses.

Peer collaboration assisting the supervisor

Both peers felt that the peer collaboration process could provide some assistance to the supervisor. This could be done by filling the gap where the supervisor might not be always available and as Uys mentioned: *Ingrid is more accessible or available if I can call it that* (Initial group discussion, Uys: 30/07/2020).

Uys further explained the benefits of first allowing one's peer to read through your work before sending it to the supervisor:

> *…I need to at least be able to see where she is going. If I don't understand her study then we are both in a position where the lecturers who are involved might also not understand our reasoning and the end result of what we are trying to bring across* (Initial group discussion, Uys: 30/07/2020)

On the other hand, Ingrid suggested that she can provide more general information about a specific supervisor: *I can tell him [about] your supervisor… who can show you the ropes* (Initial group discussion, Ingrid: 30/07/2020). This can allow for the peer to feel more familiar or comfortable with his/her supervisor. This same aspect was confirmed by Uys in the final interview: …*if a professor said something to me, I would tell her about the discussion before her prof needs to say the same to her as well* (Final interview: Uys, 19/11/2020).

The need for a supervisor

At the same time as students expressed the benefits of peer collaboration there was clear evidence that there was a need for a supervisor from both students and that the peer collaboration process cannot replace the supervisor.

Asking Uys during the focus group discussion whether Ingrid could have perhaps assisted him with the advice he wanted from the supervisor, he answered: *I think it is his responsibility* (Focus group discussion, Uys: 26/09/2020). Also, when asked whether Ingrid helped to improve the quality of his research, he stated clearly that she helped on the technical side, *but as far as content goes she could not really assist because it is not her field of expertise* (Final interview: Uys, 19/11/2020). This shows how Uys still appreciated and acknowledged the fact that he might need an expert to help him with his research.

Regarding the peer collaboration process, Uys also suggested that the supervisor could play an active role in choosing a peer. *Look I suppose the lecturers can allocate a partner – if it is someone who has already completed their Honours Degree and they can be kind*

of a tutor (Final interview: Uys, 19/11/2020). Linking back to Uys' need for expert advice, he showed that he also trusted the supervisor to provide him with a peer tutor.

However, the need for a supervisor seems to be confounded with the idea of having a peer. It seems like peers' expectations of the supervisor are at times what they should be expecting from a peer. The focus group discussion acts as such an example as the discussion was about the peer collaboration process thus far but was overwhelmed by discussions about the supervisor role. Another example is in the final interview where Ingrid was asked about difficulties or challenges, she experienced during the peer collaboration process. Her answer did not reflect the collaboration between her and Uys but rather including the supervisor: *…I wondered whether our supervisor should not be included in the group…* (Final interview, Ingrid: 18/11/2020).

4.5.2. Future recommendations for the BEdHons research project on the incorporation of peer collaboration

Motivation for peer collaboration being part of the research project and part of the formal requirements for the research module

During the final interview, peers were asked whether peer collaboration should be part of the BEdHons research project in the future. Uys replied: *Yes, I would recommend it, especially if it is correctly administrated, then yes, any time* (Final interview: Uys, 19/11/2020). Ingrid also agreed with this sentiment: *For the Honours research projects, definitely* (Final interview, Ingrid: 18/11/2020).

When Uys was prompted on whether it should be part of the formal requirement for the BEdHons research project he responded:

> *I think it would be a good thing because then you know that it is actually being used and that it is not just something on paper. If you then allocate marks to that then one would obviously use it* (Final interview: Uys, 19/11/2020)

Asking a similar question to participants that completed the survey: In retrospect would you have liked to have a peer assigned to you as part of the research module's formal requirements?, they answered the following:

> *(a) No, i would be too worried that I would let my peer down (sic)*
>
> *(b) yes. he/she may have a better understanding of some research components (sic)*

(c) No, peer collaboration should be a choice because if it is forced it might feel like a chore to those involved

(d) Definitely not. I could not have managed to work with a peer, given the pressure of my individual situation (sic)

(e) I think if it was a requirement, I would have benefitted from it without second-guessing it.

(Survey: November 2020)

Summarising the responses of the surveys, three out of five indicated that they did not want to be assigned to a peer. Interestingly, two participants indicated that they would have liked to have a peer assigned to them.

Asking participants in the survey whether they had any further comments regarding peer collaboration, one of the participants wrote the following suggestion:

> *Maybe peer collaboration could be introduced for the course in general, that might be helpful especially in terms of discussions about readings but it should be a choice and not something forced* (Survey: November 2020)

Again, this places an emphasis on how it should not be forced but used as an additional resource in learning.

Training for collaboration

Ingrid emphasised the point of training that is needed for peer collaboration to function at its best. Her statement further showed how peer collaboration doesn't come naturally but rather that the development of the capacity for peer collaboration needs to be built into the programmes.

> *If you are trained from your first year to fourth year on this aspect – even if peer collaboration can be presented as a subject or a short course if we can go through it – would be nice because not everybody is educated to be part of a group… it is important to know how the group dynamics work like what are the benefits, what we can gain if we could work together because I think peer groups or a buddy system is a good way to do things* (Focus group discussion, Ingrid: 26/09/2020)

Here Ingrid provided a detailed and clear description, not only of the value of training for peer collaboration but also the need for training beforehand.

Working with a stranger

While Ingrid's main focus for peer collaboration for the future was training, Uys raised the concern of working with a person that he does not know: *But what happens if you introduce this program and you have to work with somebody you know nothing about would not work for me* (Initial group discussion, Uys: 30/07/2020).

During the final interview he again discussed in depth the point of how he would have struggled to work with someone he didn't know beforehand:

> *I think there might have been a lot of things coming through – things like you don't want to disturb the person, you don't know each other, but yes, you can't always choose a most suitable peer and when a peer is allocated to work with you it might be more difficult. But, I mean, you should probably 'link', somehow you should find a way that the students can, I don't want to go as far as to say, 'choose their own peers', but we also don't want awkward situations* (Final interview: Uys, 19/11/2020)

Uys clearly considered both options here and even tried to convince himself that he would be able to work with a stranger but it is clear that he was hesitant toward the idea as he believed it might create *awkward situations*. Later in the same interview, he reiterated this point when saying: *I mean, one doesn't want just to go to anybody to complain and moan, asking for help and be a burden*.

Uys's point is best described by one of the participants from the survey data. The participant explained how working with someone you don't know might be a problem, using the analogy of having a blind date.

> *It might be problematic (Like a blind date, now work together for the rest of the year kind of situation) (sic)* (Survey: November 2020)

This being said both Uys and Ingrid stated that the supervisor could choose a peer for them if it came to that. Uys was comfortable with the idea of the supervisor choosing a peer, provided that it is a more experienced peer. *Look I suppose the lecturers can allocate a partner – if it is someone who has already completed their Honours Degree and they can be kind of a tutor* (Final interview: Uys, 19/11/2020). This indicates that from Uys's side there is a higher expectation from the peer if the supervisor allocates one a peer.

On the other hand, Ingrid was more open to the idea of either the supervisor choosing the peer or students themselves as she felt both ways could be beneficial.

> *If the lecturer makes the decision then it is exciting because you get to know other people and you develop new friendships, whereas if you have to make the decision yourself, you will obviously choose somebody that you already know, you will know where the boundaries die moets en die moenies (the dos and don'ts) are in the relationship* (Final interview, Ingrid: 18/11/2020)

Recommending the same supervisor

As already mentioned, Ingrid suggested that the supervisor needed to be the same between peers as she believes it will create a closer bond between peers and supervisor.

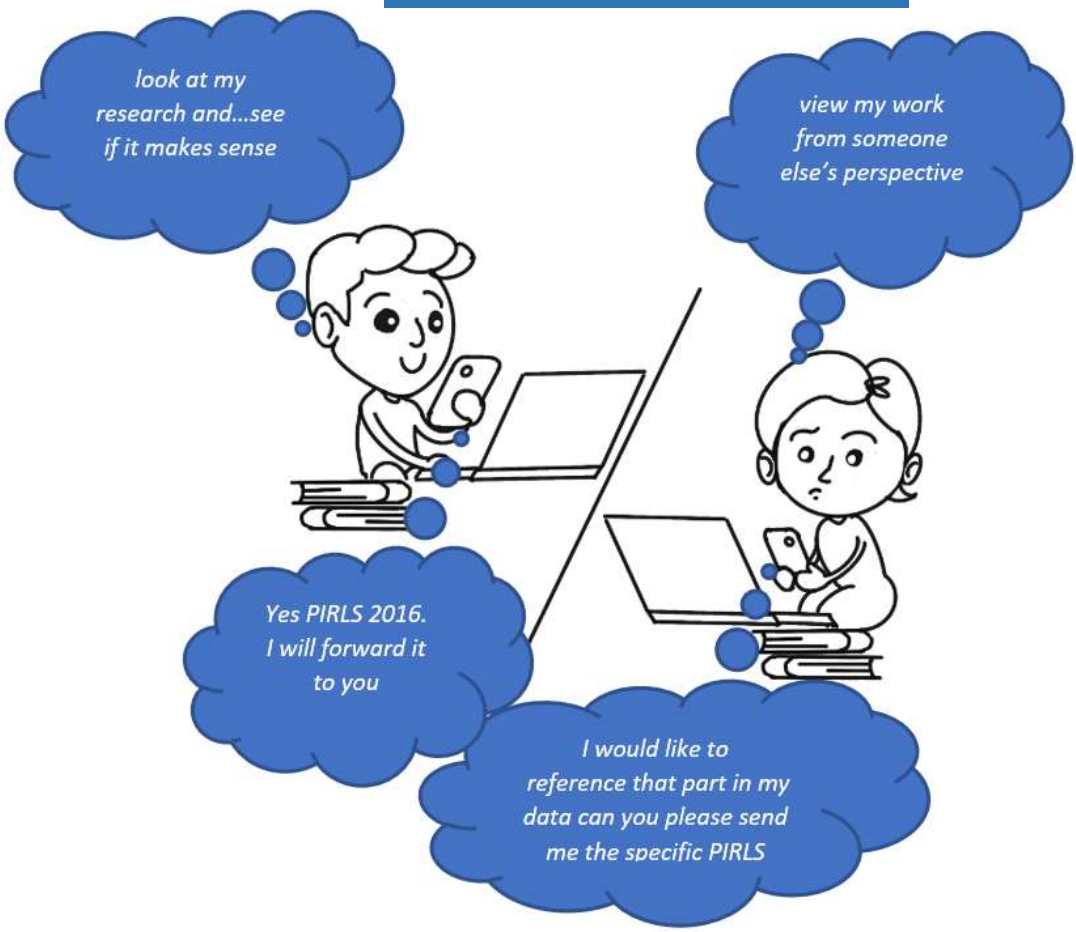
> *I do think it would be a good idea if the peer grouping could also be focused on the group having the same supervisor. Like I told Uys to do this, that, and the next thing because your supervisor would like that. But if we had the same supervisor then I am sure my assignment would also have been completed by now because we work together with one supervisor and we both would know the ins and outs of that supervisor and we would have been in a position to give each other more support* (Final interview, Ingrid: 18/11/2020)

The statement of Ingrid both incorporates the desire for her peer to assist with the inside information she needed about her supervisor from Uys. She further emphasised how it might have given her a better chance of completing her research project on time.

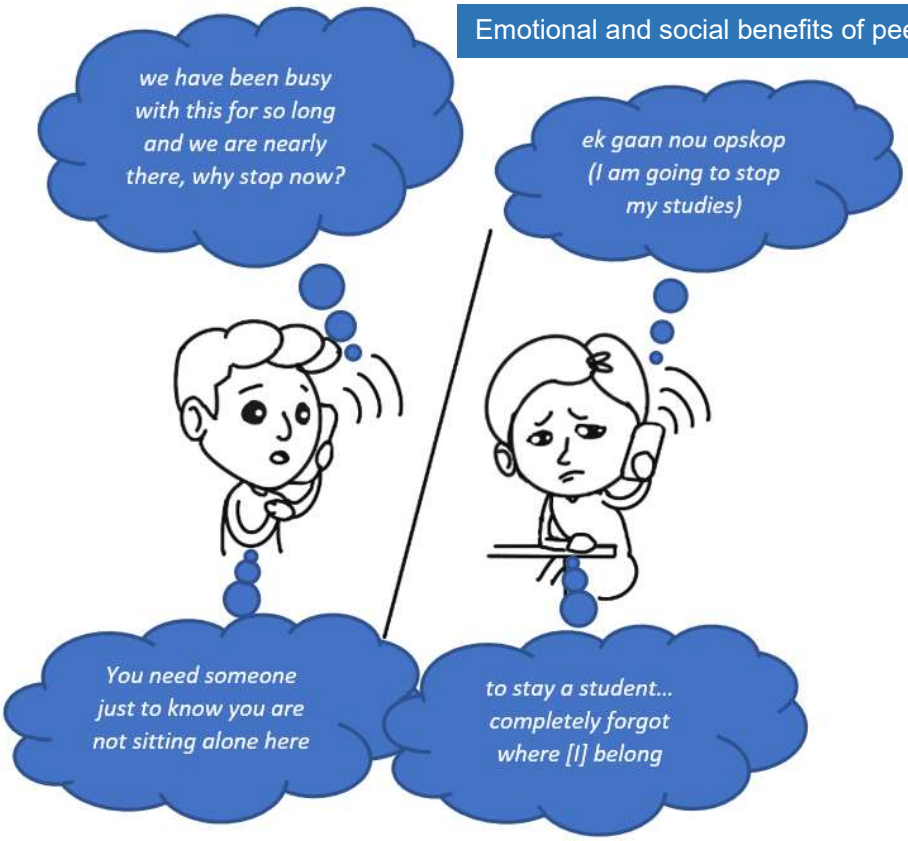
4.6. Visual presentation of data

The visual presentation of the data that has been outlined up to now was inspired by Bassey (1999). His view on picture-drawing as a way to illuminate a case study to bring about new ideas is applicable to this section.

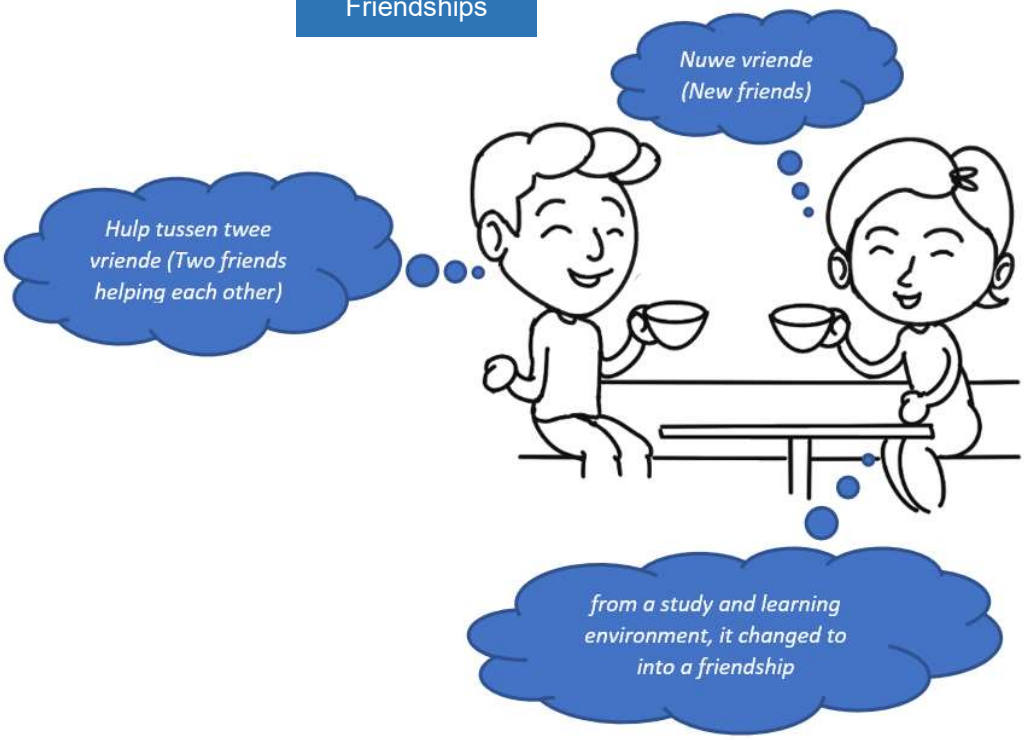
Academic benefits of peer collaboration



Emotional and social benefits of peer collaboration



Friendships



Role of the supervisor

Figure C: Visual presentation of data. Illustrations done by Martin Booth (2021)

4.7. Conclusion

This chapter has presented the findings of this study by looking at the themes that emerged from the data. Overall peers found the peer collaboration process positive. The survey data complemented the formal peer collaboration process in that it provided extra insight as to how peer collaboration was viewed by students doing the BEdHons research project.

The perceived academic benefits, as emerging from the data, showed a desire from peers, to look at each other's work. For them this was important to see whether their reasoning made sense. In line with this, peers also believed that peer collaboration led to better understanding. The most prominent academic benefit presented was how peers helped each other with technical aspects which refers to academic support. There was both a desire for academic support stated in the initial phases of the process with evidence of the support provided. The evidence was reinforced within the WhatsApp group and the final individual interviews.

The emotional and social benefits presented included examples of how peers helped each other with fears. Additionally, it showed the importance of having a peer to talk to and to have someone to listen when one is complaining. This was especially important to Ingrid when she wanted to stop her studies and Uys motivated her to continue. Dampening a

feeling of loneliness was shown to be another aspect that helped with staying committed to one's studies.

On a social level, one of the key findings indicated the essential part friendships can play during the research process. Friendship was considered to be so important to peers that they both referenced it when asked to explain peer collaboration in the format of a story. In fact, both made use of the word 'friend' in their separate titles.

In considering the challenges of peer collaboration, initially anticipated fears of plagiarism and trust received a lot of emphasis. Another academic challenge peers experienced was time, caused by work-related stresses and the COVID-19 pandemic. Survey data confirmed this to be one of the major contributing factors as to why participants didn't want to participate in a peer collaboration process.

There were also emotional and social challenges presented in the data. Interestingly peers indicated that they experienced no stress working collaboratively. However, Ingrid did mention that she experienced anxiety at times when her peer was ahead of her but that at the same time there were times when she was ahead. One of the peers mentioned that having no physical contact with each other was for him an emotional challenge. This showed the need for peers to have a space for collaboration to take place.

Looking at personal considerations, the findings suggested that there was a positive attitude towards peer collaboration as experienced from undergraduate studies. This led to students understanding the benefits of peer collaboration as they could learn from one another. However, one of the peers did hint that having a more skilled peer might be more beneficial but that this peer still needed to be an equal.

Considering the process of peer collaboration that was observed, one can look at the sense of self as a researcher. Ingrid felt confident in the beginning, but this shifted to being negative and disappointed, while the less confident peer, Uys, became more confident. Furthermore, looking at leadership positions as a researcher, it was interesting in that Ingrid had outspoken leadership qualities and Uys was relaxed about it.

With regards to academic considerations, it is clear that the supervisor still holds a key role in the research pedagogy and cannot be replaced by having a peer. The data further gave some deep insight into student's feelings towards the supervisor.

Good future recommendations were provided for peer collaboration for the BEdHons research module. Here the survey data played a vital role in providing extra viewpoints on

the matter. Mention was made of training to assist the peer collaboration process, and that this might help with feeling more comfortable and allowing for more productive peer collaboration to take place.

In the next chapter I will discuss and elaborate on some of the findings demonstrated in this chapter.

CHAPTER 5

DISCUSSION OF FINDINGS

5.1. Introduction

This chapter provides an overview of the benefits and challenges of peer collaboration, as experienced by the students who participated in this research. These findings will be linked to the literature on peer collaboration and research pedagogy as outlined in Chapter 2. Further emphasis will be given to the personal as well as academic considerations regarding the research process. In this way, the study hopes to contribute to research on "information about student experiences, understandings, felt needs, practices and relationships within particular environments, including their peer relationships" (Boud & Lee, 2005: 504). For ease of reading, the chapter follows a similar structure to that of Chapter 4.

5.2. The benefits of peer collaboration

5.2.1. The academic benefits

Peers' perceptions of academic benefits

Even though peers gave few examples of their experiences of academic benefits, they placed greater emphasis on the emotional benefits of peer collaboration. This may have resulted from the peers not differentiating between academic and emotional support. Through peer collaboration students can share ideas and build their confidence (Dowse & Van Rensburg, 2011: 168) demonstrating it is a process where academic and emotional support easily intermingle. Similarly, for peers, academic support was seen as emotional support, as Ingrid mentioned this in the final interview stating how academic and emotional support go hand in hand.

Other research has highlighted an interlinking of perceived academic and emotional benefits. For example, as Dunn and Toedter (1991:179) point out, when things are not going according to plan, students can provide emotional support, but at the same time, when things are better, students appreciate a discussion on an academic paper. In the findings this was demonstrated by peers calling each other for emotional support, while messaging each other on WhatsApp for academic matters.

Critical feedback leading to a better understanding

For peers, the affirmation of their reasoning on the logic, flow and content of the research

project was initially a significant factor. Providing each other with feedback on whether or not their academic work made sense had been experienced by both peers during their undergraduate studies. This finding was reinforced by the survey data, where a participant noted the importance of reading academic work with a peer to see whether the reasoning is correct. Affirmation of reasoning is an integral part of critical feedback as it not only gives reassurance that one is on the right path but also leads to better understanding.

Carless and Boud (2018) have discussed factors that influence student feedback. Two of these factors involve students' ability to appreciate feedback where they understand their own role when providing feedback and to take action on the feedback they received (Carless & Boud, 2018: 2–4). Apart from feedback regarding academic writing, one of the most suitable examples would be where Ingrid asked Uys about PIRLS and she took action, incorporating this knowledge into her research project, and in doing so it benefited her research project.

With this in mind, part of having the ability to receive and provide critical feedback is to know one's limits, as Uys demonstrated when he acknowledged that Ingrid could not help him with the content in his research project. This could once again be linked to trusting one's peer to be accountable but also responsible (Barlow *et al.*, 2004: 175). The importance of accountability and responsibility when providing feedback should therefore not be underestimated.

Academic writing support

In the findings, peers used the words 'technical aspects' when they were giving each other academic writing support. This included checking grammar and spelling mistakes, research structure and referencing. Writing academically is challenging and requires specific skills (Larcombe *et al.*, 2007: 55). Peers echoed this exact point at various stages of the peer collaboration process.

One of the popular solutions for dealing with the problems of academic writing in South Africa has been the implementation of writing centres. Writing centres make use of collaborative learning to help with academic writing (Dowse & Van Rensburg, 2015). Evidence has suggested that peer collaboration improves academic writing (Bhowmik *et al.*, 2019) as it is a 'social act' that helps with the meaning-making process (Clarence, 2011: 102). This aspect of writing being a social act is best demonstrated by Uys when he stated *I need to at least be able to see where she is going* and the need from Ingrid to *double-check* her work before she submits it. Therefore, peer collaboration is not only a

meaning-making process but provides reassurance that the peer is there to look at one's work. This is similar to writing centres where students get the opportunity to write collaboratively and, in doing so, write for a reader (Clarence, 2011: 106). The above literature is helpful in the quest to understand the subconscious benefits of participating in a peer collaboration process where the knowledge of having a peer is in itself already a benefit.

It should be mentioned that it is unclear in the research data whether students made use of the opportunity to proofread each other's work. What is clear is how they helped each other throughout the peer collaboration process with specific aspects of referencing. Dowse and Van Rensburg (2015: 6) also highlight this point in that students provided each other with help regarding referencing and how to use electronic sources from the library. Interestingly, one study has shown that one reason that students prefer doing a professional doctorate (doing one's doctorate as a fulltime student on campus) is due to the peer interaction that takes place, where it is easier for peers to help each other with technical advice (Leonard & Becker, 2009: 80–81). Similarly, it might explain why Ingrid and Uys were willing to be part of a formal peer collaboration process, provided in this study. Peer collaboration provided a space where *two Honours students joined hands* to help each other with, for example, technical aspects.

5.2.2. The emotional and social benefits

A preventative measure for discontinuing studies

Ingrid mentioned how she wanted to discontinue her studies during the research process and how she spoke to her peer about this. According to Ingrid, in all such instances, her peer had the ability to motivate her to continue with her studies. Working collaboratively with a peer creates a space that promotes good psychological health, "allowing students to complete their studies" (Dytham, 2019: 455). This was shown to be true even within the virtual space, as peers could not meet each other in person during this study.

A sense of belonging and loneliness

For Uys the peer collaboration process helped with not feeling alone during the research process. He mentioned how difficult the BEdHons degree was and knowing that there was someone *struggling* with him made the feeling of loneliness disappear. The feeling of loneliness has been reported in multiple studies as a challenge in the research process (Boud & Lee, 2005; Duke, 2018) with other studies showing that peer collaboration helps with the feeling of loneliness and isolation (Barlow *et al.*, 2004; Dytham, 2019). This study

confirms the latter findings in that loneliness is helped, and even mitigated, by a process of peer collaboration.

For Uys, the sense of belonging was associated with a feeling of not being alone and having someone to work with during a challenging course. Peacock and Cowan's (2019) research on a sense of belonging in online peer collaboration is well suited for this study as peers were only allowed to collaborate online with each other due to the COVID-19 pandemic. Their argument was founded on the idea that it is even more important for peers to have a sense of belonging for them to learn, especially in an online environment. Willis, Davis and Chaplin (2013: 40) support this argument and further state how a sense of belonging can enhance motivation. Enhancing motivation was one of the elements of peer collaboration that Ingrid found most helpful.

Additionally, a sense of belonging can be complemented with a sense of normalisation. This sense of normalisation comes about when students share similar anxieties and challenges in a group, and the similarity of these makes them feel more normal (Swart, 2016: 95). This was true of Ingrid as she experienced that her peer helped her to stay connected to being a student and motivated her.

Friendship and camaraderie as a pedagogical tool

Prior to collaborating in this study, peers knew each other from their first year of studies in BEdHons. However, it was not yet a strong friendship as Uys mentioned that he *want[s] to believe* that they are friends. Working in a group helps to create new friendships due to the relaxed atmosphere and because students feel safe (Dowse & Van Rensburg, 2011: 164). Although, having an already established friendship helps with better communication and even performance in peer groups (Swart, 2016: 93). Lizzio and Wilson (2006: 693) mention that even having a prior acquaintanceship can result in more positive outcomes during the collaboration process. This can perhaps be the motivation why both peers emphasised the friendship between them in the final interview by incorporating the word ‘friend’ in the titles of their story of peer collaboration.

It is easier for friends to work together in a group if they develop camaraderie or genuine friendships where they could deal with challenges together (Ammentorp & Madden, 2014; Swart, 2016: 97). This was also clear in the findings of this study, where both peers expressed how they *built the road* together and were able to offer a helping hand to each other as friends.

However, one can argue that the purpose of the BEdHons research project is not to nurture or develop new friendships but to answer a research question systematically. This being said, one might argue that friendships can fall under what Dythan (2019) refers to as social collaboration and community and belonging collaboration that forms an important part of research spaces. She argues that these types of collaboration are easily overlooked but that they can provide less isolated spaces and a feeling of belonging to a community or a feeling of being at home (Dytham, 2019: 453–454). It has also been found that social support can increase one's immune response as it decreases stress levels during final exams (Weiten, 2007: 533).

Another way of thinking about this topic is the potential benefit to society in general for 'critical friendships' to develop through peer collaboration at higher education institutions. This has been shown in peer collaboration research that students continue to frequently communicate after collaborating on a specific project (Xenos *et al.*, 2009: 310). Peers can also take on the 'friend of ZPD' role where peer interactions help with the transitional phase from university to professional life (Impedovo *et al.*, 2018: 759–760). Friendships can thus be both a promotor towards further postgraduate studies as well as help with future interactions in the workplace after a degree. It is therefore clear that there are indeed multiple benefits to promote friendships during the BEdHons research process.

5.3. Challenges of peer collaboration

5.3.1. Academic challenges

Plagiarism and trust

For Ingrid, plagiarism was initially a significant concern due to her past experiences working with peers in a group during her undergraduate studies. Her concerns were not invalid as peer collaboration has been viewed by some as a form of cheating when it comes to formal assessments (Chirumamilla, Sindre & Nguyen-Duc, 2020). On the other hand, Uys was concerned about whether or not he could trust a peer to go through his work with the same commitment as he would. Both these challenges are similar in that one needs to trust one's peer. It has to do with academic integrity, where one is concerned that a peer might plagiarise one's work and other problems such as the competitive nature of students (Adachi *et al.*, 2018: 302).

The peers did not mention any of the above concerns in the final interview. This may be due to the length of the project, as working longer with a peer helps build trust and mutual

respect (Osman *et al.*, 2011: 554). Nevertheless, it is still an important finding that can assist with training students, which will be discussed later in this chapter.

Time management

Concerns regarding time were especially prominent during the focus group discussion. This discussion took place about a month and a half before the final date for submission of the research project and so this could have had an influence on how peers viewed their time.

During the final interview, Uys again talked about how he had to wait for Ingrid to give him feedback on his work. This shows how important time management is, especially when working in a peer group. It is an extra component to think about when working with a peer, as it does take time to engage with each other.

From the survey data, participants' perception of peer collaboration taking up time aligns with what was experienced during the peer collaboration process by peers. One of the responses alludes to how it isn't easy to align timelines between two people, especially if they are working full-time.

It is however essential to consider the alternative view – that there are benefits of time well-spent together. Adachi, Hong-Meng Tai and Dawson (2018: 301) have demonstrated how it is not necessary to save time working with a peer, as there is value that this time spent brings to the academic experience. Peer collaboration can therefore be seen as an active process that takes up some time but brings about value.

The COVID-19 pandemic and its ripple effect on academic work

Both peers indicated that the COVID-19 pandemic played a significant role in their studies as it took up a lot of time from daily life. Similarly, this study was influenced by the pandemic in that I could not meet the participants as was planned at the contact session and also could not do the discussions and interviews in person. The effect of the COVID-19 pandemic should not be underestimated as it impacted education overall significantly. Students were not able to interact in their normal contact sessions and could also not make use of the library as mentioned by peers. Due to this, many important social interactions were lost in a way that was never planned.

The findings showed emphasis on aspects that might have been mitigated if peers could meet up in person. Feelings of being a disturbance and feelings of disconnect might be part of normal academic commitment but was increased by the pandemic.

5.3.2. Emotional and social challenges

Stress – what they did not consider

The overall feeling from peers was that they did not experience any stress working with a peer. Although it appeared that the peers understood stress as something negative, stress can, however, be viewed as a positive element to everyday working life, including working academically. Apart from building up resilience through stress-related work, one can also "develop new skills, re-evaluate priorities, learn new insights, and acquire new strengths. In other words, the adaptation process initiated by stress may lead to personal changes that are changes for the better" (Weiten, 2007: 527). Ingrid indicated that they didn't give each other have deadlines, and as a result, they didn't experience stress between them. Similarly, Uys stated that not one of them was in a position to *run the show*.

The counter-argument to this would be that even though deadlines might have caused stress (Swart, 2016: 88), it would have lessened stress in the sense that it could have created a structure for them. Setting up goals, ensuring everybody knows their role, and developing procedures are all useful in enhancing group functioning (Lizzio & Wilson, 2006: 690–691). Barlow *et al*. (2004: 176) goes as far as to state that peer collaboration needs to be based on "an intense relationship built upon mutual goals". If peers put these boundaries in place, it might have led to a greater sense of security between them, encouraging them to improve their work and hand it in on time.

Anxiety

Since Honours degrees are usually where students learn to do formal research (Kaunda & Low, 1998: 130) and doing it for the first time, this can lead to increased levels of anxiety (Swart, 2016: 57). The discussion above of the positive effects of stress should not diminish Ingrid's experience of feeling *panicky* when Uys was a bit further along with his research than she was. Anxiety relating to students being at different stages of the task or assignment has been reported on in the literature. Swart (2016: 100–101) reported that anxiety and frustrations might occur if all peers are not working on the same timeframe. However, Ingrid did mention that there were indeed some times when she was the one that was further along. When probed as to whether this could be seen as a motivating factor, she did confirm this to be the case.

Online versus in contact collaboration

From the data presented, Uys found that not being able to meet in person was a challenge. Building relationships in education is an essential part of working with a peer,

and communicating only online can make it difficult for this relationship to develop properly (Adachi *et al.*, 2018: 302).

For the collaboration to take place, a space is needed to collaborate in. This was done virtually as peers could not meet in person. Peers therefore found themselves in an e-learning environment where everything was done online. It was however different from formal and structured e-learning environments as this wasn't planned due to the sudden impact of the COVID-19 pandemic. Indications for the need for e-learning environments to be well managed and structured for a successful outcome has been presented in a undergraduate statistic course (Zhang & Peck, 2003).

A further consideration that is brought up by online collaboration is the feeling of being a disturbance as mentioned by Uys. This again relates to the online space where relationships cannot develop properly, thus creating uncertainty. For example, students might struggle to read normal cues signalling approval or acceptance leading to miscommunication.

5.4. Personal consideration

5.4.1. Personal growth and the need for a more experienced peer

Growing through a process of learning collaboratively

Peers had a good understanding and experience of the benefits of working with a peer. Even more so, they realised the potential growth that can occur collaborating with a peer. Vygotsky saw this as the main difference between humans and animals: "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (Vygotsky, 1978: 88). Therefore, one can argue that it is natural for human beings to want to grow together through a process of collaborative learning.

It seems that Ingrid did a lot of introspection and that it came naturally to her to look at where she was and where she was going during her studies. Her reflection indicated a pattern of maturing throughout her study career, including the value of learning from other people, including the value it brings to the learning process.

Peers further had a sense of how collaborating with a peer can expand their knowledge. Expanding one's knowledge is viewed as an essential measure in Honours research as it helps with the process of knowledge production and originality in research (Manathunga *et al.*, 2012: 147). Ingrid mentioned how viewing someone else's perspective can be a

valuable learning experience, while Uys mentioned how things that seem complex at first become easy when discussing with a peer. Vygotsky views this as a zone of proximal development where having a more capable peer can help solve problems (Vygotsky, 1978: 86).

Peers showed that their levels of capabilities differed regarding different subject matter and that having areas where one peer was more capable than another benefitted the peer collaboration process. For example, they could assist each other, such as when Ingrid helped Uys with referencing because there wasn't any gap between her undergraduate and postgraduate studies or when Uys showed maturity in assisting Ingrid when she wanted to discontinue her studies. They therefore made use of complementary knowledge or capabilities, mentoring each other within different areas of the research project (Andersen & Watkins, 2018: 218). Moreover they took on the 'friend of the ZPD' role where they "cultivate[d] rich and productive peer interactions" among each other (Impedovo *et al.*, 2018: 755). This links back again to the peers studying at different times in their lives and how their different experiences complemented each other in this study.

The need for a more experienced peer

From the data, it seemed like Uys might have benefited from a more skilled peer, as he mentioned this to be a good idea for the future. This would be in line with the original sentiment of Vygotsky's theory, where one works with a more skilled or more experienced peer (Louw & Louw, 2007: 164).

An excellent example of such a program is where academic Rovers were used to assist students with their academic skills. The only problem with such a program is that a specific Rover is not assigned to a particular individual as it is run at a walk-in centre or via workshops (Copeman & Keightley, 2014). Nevertheless, students who participated in this program improved their academic scores (Copeman & Keightley, 2014). However, it is important for the more skilled peer to not be a professor or PhD level as mentioned by Uys. One of the participants of the survey data also echoed this sentiment when he/she indicated a preference for a peer on a *student level* and not a lecturer or professor.

Power relationships between students and their supervisor might be a further reason why peers and the participants in the survey made specific mention of the rank of qualification when it comes to the assistance they want from a more skilled peer. This will be touched on later in this chapter.

5.4.2. Sense of self as a researcher

Looking at the sense of self as a researcher over the peer collaboration process was essential to get an overview of the development that took place. The process looked at how peers' experiences of being a researcher changed from the initial group discussion to the final interview.

Ingrid was confident during the initial stages of the research project, while Uys was more reserved and worried that he might have forgotten essential aspects of doing research (like referencing).

However, there was a change during the halfway point discussion where Ingrid expressed great negativity towards her research project and questioned her academic abilities. Uys also felt very frustrated and worried about completing his research project by the end of the year. This sentiment reminds us not to assume that all peer collaborative environments will automatically be a better learning environment (Dinsmore *et al.*, 2008: 390). Interestingly, it seemed like this focus group discussion, where the researcher took a step back, and allowed the participants to lead the discussion, acted as a *release valve* for peers to communicate about their struggles.

Ingrid further had a complete turnaround during the final interview, where she went from being the confident peer to being disappointed that she could not hand in her research project at the same time as Uys. However, she did mention that without the peer collaboration process, she would have discontinued her studies in the early stages of her research. Also, peer collaboration provided her with hope to submit her research project at the second opportunity, which she eventually did.

Uys also showed a complete turnaround as a researcher as he was less confident in the initial stages of the peer collaboration process but became more confident at the end. This is best demonstrated by his insight into how he benefited from both helping his peer and receiving help from his peer.

5.5. Interpersonal relationships between peers

Gender and leadership

It was unclear whether Ingrid was doubting herself or whether she viewed women as more complaining and overthinking in general. This is with specific reference to her comment that females make use of *girls' talk* where *[s]ometimes females complain a lot* about study-related issues. She further indicated that she felt more comfortable with a female friend as, according to her, they think more alike. From research on gender differences and peer

collaboration, it has been shown that men and women collaborate in different ways in relation to how they talk and explain concepts to each other (Golbeck & Sinagra, 2000: 32). Nevertheless, it is interesting how according to Ingrid, Uys could provide her with a calm and clear answer when she was *overreacting*. Here Uys demonstrated leadership qualities in the peer relationships, while Ingrid took leadership throughout the peer collaboration process in keeping the collaboration process 'alive'. This was done with Uys' encouragement, as he did not mind that Ingrid took a leading role in the peer collaboration process.

5.6. The supervisor-student relationship

An unclear relationship between supervisor and student

From the data, there seems to be a barrier in feeling comfortable talking openly to the supervisor. Feeling uncomfortable talking to the supervisor is found to be a challenge even at PhD level (Leonard & Becker, 2009: 80). Peers included challenges such as sharing frustrations, scared to hand in work, or anxiety when asking the supervisor questions about one's research project. This challenge can be linked to the way "[s]tudents usually receive feedback" from lecturers at university where assignments are marked with red ink (Skead & Twalo, 2011: 124). Skead and Twalo add that this way of providing feedback is not constructive as there is little engagement.

Peers further indicated that they felt a disconnect with the supervisor as feedback lagged and they could not access the supervisor even via email. Trends in postgraduate research involving high dropout rates and low uptake of further postgraduate studies have been associated with the quality of supervision (Kaunda & Low, 1998: 131). However, the context plays a vital role in understanding why peers might have felt such a disconnect. The COVID-19 pandemic with lockdown restrictions that led to a scenario where no face-to-face contact could occur, combined with the isolation it brought along, is brought up in this discussion which might have amplified the feeling of disconnect experienced by the peers.

One of the solutions provided by Ingrid was that both peers could benefit from having the same supervisor as it can create a better sense of security. Maintaining this vertical instruction from teachers (supervisor) ensures that knowledge construction does not lower (Coutinho & Bottentuit Junior, 2007: 1790). Considering this, having a three-way bond, the two peers with the supervisor, where feedback can be shared between peers can be beneficial to all parties. As was shown in peer collaboration in ePortfolio work where the

"asymmetrical relationship between tutors or teacher and students" has the opportunity to change to a more inclusive relationship (Impedovo *et al.*, 2018: 756). This is rooted in the idea that incorporates the ZPD as "a more informed pedagogy, a science of teaching" (Barrs, 2017: 346) of which peer collaboration could be of assistance. This further might lessen the supervisor's workload as one peer can carry the message over to the other peer when peers support each other.

This study's findings further demonstrated that there is a clear need for the supervisor. Peers regularly referred to the supervisor and explained the important responsibilities and duties they must fulfil. Martinsuo and Turkulainen (2011: 116) found that multiple factors jointly contribute to progress in research. Examples hereof, according to them, were the contributions of peer and supervisor support.

Peer collaboration assisting the supervisor, not replacing the supervisor

During the peer collaboration process, it was clear that the supervisor's role is still very prominent and important and cannot be replaced by having a peer to work with. Peer collaboration has been shown to help peers to speak more easily with each other leading to better interactions with the supervisor and, in doing so, "disperse and horizontalise pedagogical power and authority" (Boud & Lee, 2005: 513). This more horizontal power dynamic can benefit both the student and the supervisor in creating a more productive learning environment.

Even though peers reported that they were more readily available to each other and could assist with affirmation of reasoning, there are certain aspects that remain part of the supervisor's responsibilities, as confirmed by Uys. These aspects included getting specific advice on the research project and reliance on expert knowledge that is part of the supervisor's field of expertise. Natland, Weissinger, Graaf, *et al*. (2016: 50) see this as part of the supervisors' role in creating a supportive learning environment that develops the students' research skills and lowers anxiety about the research process.

It has been found that taking part in PhD thesis writing circles could not replace help from the supervisor in reading drafts and providing feedback (Larcombe *et al.*, 2007: 62). Supporting this view, the suggestion has been made to make the supervisor part of the peer process for academic writing (Dowse & Van Rensburg, 2011: 171). This is in line with Ingrid's idea to have the same supervisor for peers in the same group.

Viewing the supervisor as a peer

It was interesting that the peers indirectly referred to their supervisor in the discussions

and interview as a peer. It seemed at times the peers' expectations of their supervisor was that of being a peer rather than a supervisor. In contrast to this, students have explicitly distinguished what a peer can and cannot be and have made it clear that the supervisor cannot be thought of as a peer (Boud & Lee, 2005: 508).

Academics have discussed such a point where the supervisor becomes more of a friend than an all-knowing power figure where together they create an educational space for democratic justice (Waghid, 2012: 51). Bak (2012: 83), however, fears that the idea of a friendship can lead to an over-personalised unprofessional relationship.

A further consideration that should be taken into account is that having an experienced supervisor can also be very daunting for the student. Considering their vast experience and high regard in the academic community, it is unwise to deny the power dynamic where the supervisor has more power/knowledge than the student. The French philosopher Foucault discusses this power dimension, referring to it as 'normalisation judgement' and explains how in modern society, the fear of judgement can influence people's behaviour (Gutting, 2005: 84). Fataar (2012: 18) confirms that "the learning relationship involves complex relations of power". Therefore, the power dimension can clash with the student's expectations, resulting in conflict and disappointment at the end of the day as was shown in the findings.

5.7. Recommendations for the BEdHons research project toward a more horizontal research pedagogy

Boud and Lee's (2005) article on the changes in research pedagogy, where a richer environment for research students is motivated for, had a significant impact on this research study. They suggest that having a rich environment is only the start of changing research pedagogy. What is needed is a new discourse for students and supervisors to embrace changing research pedagogy. At the heart of this change for them lies peer learning, also known as peer collaboration.

Incorporating peer collaboration as a horizontal research pedagogy

Peers favoured incorporating peer collaboration as part of the formal requirements of the BEdHons research project. This is in line with other suggestions to use extra support, like workshops, as part of the curriculum at universities (Dowse & Van Rensburg, 2015: 8).

Getting a broader perspective from the survey data, only two out of the five participants indicated that peer collaboration should be part of the formal peer collaboration process.

Participants who were not in favour of peer collaboration as part of formal requirements did so because of time constraints and the fear of letting a peer down. Also, if it were to be forced onto students, it might be more of a chore than something helpful. The two participants who indicated that they would have liked peer collaboration to be part of the formal requirements felt that it might have helped with better understanding of readings. One of the participants noted how she was second-guessing peer collaboration while if it had been part of the formal requirements, she might have benefited from the process automatically.

The survey data showed how deeply entrenched students are in the notion of a vertical pedagogical discourse. As already mentioned in this study, the vertical discourse focus falls on an individual supervisor-student relationship (Boud & Lee, 2005: 503). This is evident in the fears from participants: letting a peer down and believing it will involve more time. This shows how participants are comfortable with the vertical supervisor-student relationship.

One of the suggestions given by peers and participants in the survey is for the supervisor to choose a more experienced peer, a tutor. Again, here the supervisor's role is shown to be essential and trusted as there is the perception that if the supervisor chooses a peer like a tutor, the quality of the peer collaboration will be good. Ingrid went as far as to state that the supervisor can select any peer for her, showing how having the supervisor involved in the establishment and being involved with the peer collaboration process to be of utmost importance. Furthermore, this can shift the focus away from research as only termed 'research' and allows for incorporating 'teaching' as part of the research process (Boud & Lee, 2005: 510). In doing so, the retranslation of the word "obuchenie" as 'teaching' and 'education' can be used to move the focus to the relationship between the teacher (supervisor) and the student (Barrs, 2017: 350). This relationship can therefore be one of trust and openness to provide extra help and at the same time to recommend extra help, which peers and other experts could form part of.

Teaching and training students the key aspects of peer collaboration

Teaching and training can disturb the traditional way of working in a research project (the individual supervisor-student relationship). Training in research is more than just about the research process, but recognises the personal journey involved and helps to build identities (Cusick *et al.*, 2015: 19).

Ingrid indicated that training in peer collaboration needs to be provided from first to fourth year, meaning extensive training will be welcomed. She further suggested that without education on working in a group or with a peer, students might not know the benefits and what they can gain from working inside a group. Multiple studies have suggested the importance of training in collaboration beforehand (Adachi *et al.*, 2018; Copeman & Keightley, 2014; Roy, 2016; Smith, 2017). One of the reasons why training is mentioned a lot in the literature is that not all participants are familiar with peer collaboration, making them less comfortable with peer collaboration (Bhowmik *et al.*, 2019: 11). Others have also felt that one needs more specific skills to collaborate 'correctly' (Natland *et al.*, 2016: 50).

Training can further help with addressing challenges that students face when establishing a peer group in the beginning. For example, working with a stranger might be troublesome in the beginning if there is no proper training. This training should include dealing with what Uys refers to as *awkward situations*.

It is important to consider the person one is going to pair up with during the training session. One of the participants in the survey data elaborated on this point, warning against just working with a random peer as a *blind date*. Using the wording of a 'blind date' is significant as it refers to a situation where you are committed for a certain amount of time. It can be someone that you like which may lead to a positive outcome. However, when you do not like the person or if the situation become problematic, it is more of a punishment than a benefit. Successful collaboration depends on choosing one's own partner to work with as one is more likely to have the same vision and already have respect for the partner (Barlow *et al.*, 2004: 180). Therefore, it is a risk working with someone one does not know and provides more motivation to making the process of choosing a peer part of the training session. This being said, as Ingrid has mentioned, it can also be an opportunity to create new bonds and develop new friendships.

5.8. Conclusion

In this chapter, I have discussed the findings of this research study. The findings contribute to the argument for a more horizontal research pedagogy and add valuable suggestions as to how peer collaboration can benefit research pedagogy.

Peers' perceptions on academic benefits showed how they held academic and emotional support as one concept inside their mind. Peers showed that they were aware of the limits of the help and support they can provide, but still leant on each other for academic writing support, specifically regarding referencing.

Emotional and social benefits showed how peer collaboration helped peers not to stop their studies due to the stress associated with research. It further helped with a sense of belonging, diminishing the feeling of loneliness, where peers felt that they were working together towards an end goal. Despite them having separate research projects, they still had the same academic goal: to complete their research project to obtain their degrees. The friendship that developed between Ingrid and Uys was significant and should not be underestimated as to the value it can bring to postgraduate research education. Building friendships or working with a friend can also be linked to a sense of belonging, dampening the feeling of loneliness and improving psychological wellbeing.

Academic challenges of peer collaboration include trusting one's peer during the process of peer collaboration. Trust is an essential part of the peer collaboration process as students share academic work with each other. Time was also a major concern for both peers as they had a lot of work-related stresses. Time being problematic during peer collaboration was confirmed by the survey data as one of the reasons why participants didn't want to take part in a formal peer collaboration process. Another challenge that received a lot of attention throughout the findings was the difficulties brought on by the COVID-19 pandemic. This study is uniquely situated in the pandemic and will always form a major part of the context of the data of this study.

At the same time emotional and social challenges also emerged. It was expected that it would be stressful to work with a peer at times as indicated in the literature. However, peers did not experience any form of stress working together. This is however different from the anxiety that Ingrid experienced when her peer was a bit ahead in the research project. It should be said that both peers felt that if they could meet up in person, it would have enhanced the emotional support that peers would have provided to each other.

Personal growth was noted during the peer collaboration process and links with Vygotsky's views on development that occurs socially. In the case where a more skilled peer, like a tutor, was considered, peers still emphasised that the peer should be their equal.

In the same way interpersonal relationships have changed over time and conveyed interesting ideas regarding differences in gender and leadership within a peer group. While Ingrid indicated that she felt more confident working with a female peer, she still saw the benefits of working with Uys. Furthermore, both peers showed good leadership qualities during the peer collaboration process showing how this process allowed for them to bring forth these qualities.

The supervisor-student relationship provided a valuable insight into the use of a more horizontal research pedagogy. The relationship also highlights the fears that students have regarding the supervisor. One of the solutions provided by peers was to have the same supervisor to create a better sense of security. Notwithstanding the emphasis that was placed on the vital role of the supervisor and that the supervisor cannot be replaced by a peer collaboration process on its own.

From the findings it is clear that peers support a more horizontal research pedagogy. This is despite the fact that the majority of participants in the survey seemed to stick to the familiar vertical research pedagogy between supervisor and student. Providing training to students and teaching them the basics of peer collaboration might help to promote peer collaboration during research. Discussing challenges mentioned in this study should be an essential part of peer collaboration training.

The next chapter provides an overall conclusion to the study.

CHAPTER 6

CONCLUSION

6.1. Introduction

This study began by asking the question: How do BEdHons students experience peer collaboration in their research project? Using a case study research design, and a variety of research tools, I explored students' experiences of the benefits and challenges of working together on their BEdHons research project. The study drew on Vygotsky's notion of the zone of proximal development as its key theoretical concept, as this concept promotes the value of social learning. Based on the findings of the study, I argue that peer collaboration has the potential to offer both academic and social benefits to postgraduate students.

In this final chapter, I provide an overall discussion of the study. This includes linking the initial aims of the study to the findings.

I further look at the limitations of the study and give suggestions for future research. This includes recommendations for how peer collaboration and how a horizontal research pedagogy can be supported in postgraduate research.

6.2. Peer collaboration and curriculum development/innovation: moving to a more horizontal research pedagogy

A university is a place of education and needs to continuously innovate its teaching and learning environment. Part of this innovation is to see how peer learning can be incorporated into the research environment (Boud & Lee, 2005: 515). This study has shown that one of the aspects of such innovation can be implementing peer collaboration.

Although the focus was on BEdHons students' experiences during their research project, other disciplines in the higher education sphere can draw on this study's conclusions. The findings in this study demonstrated that incorporating peer collaboration in different modules during undergraduate studies can help with familiarising peer collaboration among students to then be used in postgraduate research.

In this study, innovation using peer collaboration was best illustrated in the visual presentation of the data. It showed how the role of the supervisor is still vital in the research process and cannot be diminished. This includes ideas of the supervisor playing

an active role in the peer collaboration process, such as being part of the WhatsApp group. It further showed that training is important for the implementation of peer collaboration as there are challenges to the process. These challenges need to be addressed at the start for peer collaboration to be successful. Part of this argument is to ensure that peer collaboration should be promoted in the curriculum and policies of the university as this will make it a respected pedagogical tool to be used in higher education.

Some academic benefits were demonstrated in the findings especially regarding help with technical aspects. Although academic achievement is important, the findings suggested that emotional and social support were the most valued aspects needed to complete the research project successfully. The overall experiences of students were positive towards the process of peer collaboration. One of the peers best describes the peer collaboration process as *the value that we bring* (as peers) and how this should not be underestimated.

6.3. Limitations of this study

The study was limited by two factors, namely the small sample size and the COVID-19 pandemic.

The boundaries of this case study were the BEdHons students at Stellenbosch University planning to complete their research project in 2020, making it a small number of available participants to participate from the start. The hope was that all eight registered students of the Curriculum Change module would be willing to participate in the study. Unfortunately, none of the students in this group chose to participate. The study however did make provision that if less than six of the eight students of the Curriculum Change module chose to participate then the students busy with the research project from the speciality of Language Education would be approached. Only two students from this speciality were interested and participated in this study's whole peer collaboration process. Notwithstanding, the small sample did not minimise the depth and richness of data that was collected. Also, the survey data provided valuable insight on why students could not or were uncomfortable to participate in this study.

The COVID-19 pandemic created significant challenges for this study. Due to lockdown restrictions, the initial plan of meeting students in person during the July 2020 contact session had to be cancelled. This resulted in me not being able to get acquainted with students on a face-to-face level, and similarly, students could not meet each other and create personal relationships with each other. Therefore, students were virtual artefacts to each other. The two students who participated were also unable to meet each other in

person throughout the study due to the lockdown period and so could not commence in face-to-face peer discussions. However, looking at this from another perspective, it did provide a unique insight into the context of peer collaboration done virtually.

6.4. Suggestions for future research

A suggestion for future research includes measuring the academic benefits of peer collaboration. It would be interesting to see whether the more horizontal research pedagogy aligned with peer collaboration may lead to better academic achievements for BEdHons students in their research projects.

Research specifically looking at the role of the supervisor when implementing a more horizontal research pedagogy that includes peer collaboration could be considered. This suggestion is specifically aimed at the experiences or perspectives supervisors might have when adopting such a collaborative supervisory role.

Thirdly, this study used mobile ethnography using a WhatsApp chat group, but peers preferred to use other means of communication, including direct voice calls but not Microsoft Teams or Skype calls. It may be beneficial to know which type of technology platform can enhance the peer collaboration process by enabling seamless and integrated communication.

6.5. Personal reflection

One can never underestimate the value of learning that takes place in a postgraduate degree, both academically and personally. Evidence of this is found in the research question as it was an interesting question for research pedagogy and was of great interest to me.

Working in a different paradigm than initially I intended brought about new understandings and a clearer view of how peer collaboration could function in a research module. Even though a participatory research project would have been of value, taking the exploratory approach of first looking at other perspectives brought about insights I would have never thought of.

6.6. Conclusion

In this chapter, I have highlighted the key aspects of this study including suggestions on how to incorporate peer collaboration as part of the curriculum and policies of the university. I also discussed the importance of considering peer collaboration as part of

research pedagogy. Lastly, I presented some limitations of this study as well as suggestions for future research.

My hope is that this study can contribute to the enhancement of research pedagogy making the research process a more endurable, manageable and fulfilling experience for more students in higher education. I imagine a world, looking specifically at the South African context, where doing collaborative research becomes a prevalent way to build research capacity and to address challenges in educational practice.

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APPENDIX A: INITIAL GROUP DISCUSSION

Semi-structured questions

The initial group discussion was only attended by participants that had signed consent forms to participate in this study.

Participants were asked three questions:

a) Why do you want to participate in the research about peer collaboration?

b) What do you hope to gain from working with a peer on your research project?

c) Do you have any concerns about working with a peer on your research project?

APPENDIX B: FOCUS GROUP DISCUSSION

Semi-structured questions

Focus group interviews were held with the peer group at the end of September (halfway point). The purpose of peer group discussions was to reflect on the process of peer collaboration in the BEdHons research project thus far. Participants could talk freely about any topic with the questions acting as a guide. The following questions were asked to the participants:

a) How have you been experiencing your research project thus far? Are you on track? Do you have any concerns?

b) Do you have any comments thus far about the peer collaboration process between you two?

c) Do you have any comments thus far about using peer collaboration as a process of learning in a BEdHons research project?

d) Other than the WhatsApp group is there any other form of communication you are making use of to talk about your research project, for example Skype, Zoom, or mobile calls? Do you mind sharing with me the content of these conversations? What do you chat about?

APPENDIX C: INTERVIEW AT THE END OF THE PEER COLLABORATION PROCESS

During this phase of the data collection process, I conducted individual semi-structured interviews with the participants that participated in the research project. The following questions were asked to participants:

a) Please share your overall experience of the peer collaboration process. If you want to you can tell it in the form of a story. Let us start by giving this story a title, for example Peer collaboration and me.

b) What aspects of the peer collaboration process, if any, did you find beneficial in carrying out your research project? (If the participant already mentioned these points under point (a) then I will ask them to elaborate if they want to).

c) What aspects of the peer collaboration process, if any, did you find challenging in carrying out the research project? (If the participant already mentioned these points under point (a) then I will ask them to elaborate if they want to).

d) Can you elaborate on any feelings you experienced about the peer collaboration process? How did it make you feel working with a peer on your research project?

e) I am going to mention a few emotions/ feelings. Please discuss any emotions/ feelings you resonate with. I will mention three at a time, whereafter I will give you an opportunity to respond.

Firstly, did you feel or experience any of the following during the peer collaboration process: (1) a sense of belonging, (2) a sense of normalisation – things feel more normalised working with a peer, or (3) a sense of togetherness or comrade – working with a friend?

Secondly, did you feel or experience any of the following during the peer

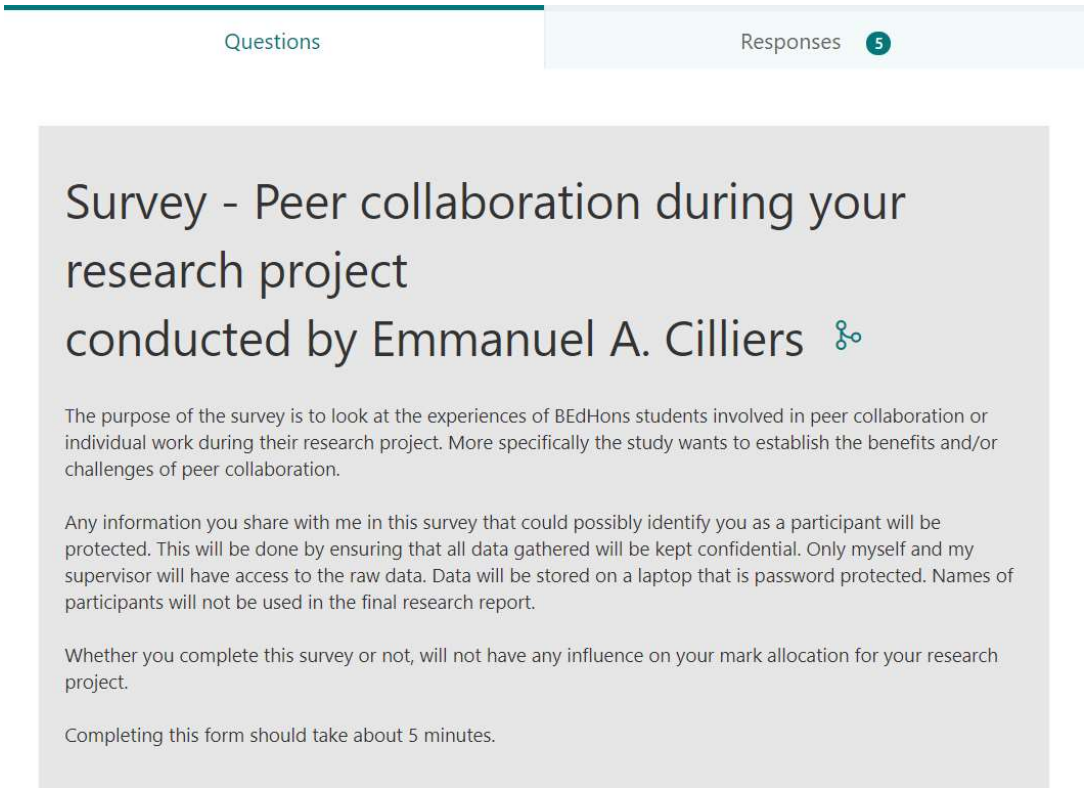
collaboration process: (1) academic support from your peer, (2) emotional support from your peer, or (3) that the quality of your research project was enhanced by your peer in any way.

Thirdly, did you feel or experience any of the following during the peer collaboration process: (1) stress working with your peer, (2) anxiety working with your peer, or (3) frightened or threatened by the peer collaboration process.

f) Do you think that peer collaboration should, or should not, be built into BEdHons research projects in the future? Why do you say this? If you think it should be built in, do have any suggestions as to how this might best happen?

APPENDIX D: THE SURVEY

Specific software design was put in place to ensure that the survey upholds ethical standards. The first step was to provide the participants with a short but precise overview of the study. At question one where students provide consent, they had to click on the *yes* option for the questions to open. For question two, if participants clicked on *yes*, indicating they did make use of peer collaboration, questions three, four, seven and eight opened. If participants click *no*, indicating they did not make use of peer collaboration, questions five, six, seven and eight opened.



Section 1 ...

1. I have read the above information and I understand what this study is about and would like to continue to answer a few short questions. *

- Yes
- No

2. Did you work with a peer during your BEdHons research project?

A peer can include a fellow student studying BEdHons at SU in 2020, or a student who has completed the BEdHons at SU or a friend who is studying or has completed a BEdHons at another university.

- Yes
- No

3. Please elaborate on what type of support your peer provided you with.

Support can include academic, emotional or any other form of help you received from you peer on your research project

Enter your answer

4. Did you experience any challenges working with a peer?

Enter your answer

5. If you chose to not work with a peer, please elaborate on why you preferred to complete your research project on your own.

This can include past experiences of peer collaboration or personal preference

Enter your answer

6. Do you think working with a peer for your research project can be helpful? Kindly motivate your answer.

Enter your answer

7. In retrospect would you have liked to have a peer assigned to you as part of the research module's formal requirements? Kindly motivate your answer.

Enter your answer

8. Do you have any further comments regarding peer collaboration you would like to add?

Enter your answer

Section 2 ...

Please click submit if you are happy with your answers.

Thank you for taking the time to complete this survey. It is much appreciated.

APPENDIX E: ETHICAL CLEARANCE LETTER

UNIVERSITEIT
STELLENBOSCH
UNIVERSITY

NOTICE OF APPROVAL

REC: Social, Behavioural and Education Research (SBER) - Initial Application Form

30 June 2020

Project number: 15301

Project Title: An extra set of eyes and ears: peer collaboration within a Bachelor of Education (Honours) research project

Dear Mr Emmanuel Cilliers

Your REC: Social, Behavioural and Education Research (SBER) - Initial Application Form submitted on 17 May 2020 was reviewed and approved by the REC: Social, Behavioural and Education Research (REC: SBE).

Please note below expiration date of this approved submission:

Ethics approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
30 June 2020	29 June 2023

SUSPENSION OF PHYSICAL CONTACT RESEARCH DURING THE COVID-19 PANDEMIC

Due to the Covid-19 pandemic and resulting lockdown measures, all research activities requiring physical contact or being in undue physical proximity to human participants has been suspended by Stellenbosch University. Please refer to a formal statement issued by the REC: SBE on 20 March for more information on this.

This suspension will remain in force until such time as the social distancing requirements are relaxed by the national authorities to such an extent that in-person data collection from participants will be allowed. This will be confirmed by a new statement from the REC: SBE on the university's dedicated Covid-19 webpage.

Until such time online or virtual data collection activities, individual or group interviews conducted via online meeting or web conferencing tools, such as Skype or Microsoft Teams are strongly encouraged in all SU research environments.

If you are required to amend your research methods due to this suspension, please submit an amendment to the REC: SBE as soon as possible. The instructions on how to submit an amendment to the REC can be found on this webpage: [instructions], or you can contact the REC Helpdesk for instructions on how to submit an amendment: applyethics@sun.ac.za.

GENERAL REC COMMENTS PERTAINING TO THIS PROJECT:

INVESTIGATOR RESPONSIBILITIES

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: SBE, the researcher must notify the REC of these changes.

Please use your SU project number (15301) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

You are required to submit a progress report to the REC: SBE before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary).

Once you have completed your research, you are required to submit a final report to the REC: SBE for review.

Included Documents:

Document Type	File Name	Date	Version
Data collection tool	Final research tools for data collection_Interview_EA Cilliers23326875	14/05/2020	1
Data collection tool	Final Research tools for data collection_Focus Group Discussion_EA Cilliers23326875	14/05/2020	1
Proof of permission	Proof of Institutional permission	15/05/2020	1
Research Protocol/Proposal	Research Proposal for EA Cilliers 23326875	15/05/2020	1
Budget	Budget for MEd EA Cilliers 23326875	15/05/2020	1
Recruitment material	Presentation to students MEd Curriculum studies EA Cilliers 23326875	15/05/2020	1
Informed Consent Form	Informed Consent form EA Cilliers 23326875	15/05/2020	1
Data collection tool	Final research tools for data collection_WhatsApp Group_EA Cilliers23326875	17/05/2020	1

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Social, Behavioral and Education Research

National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.
The Research Ethics Committee: Social, Behavioural and Education Research complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research: Principles Structures and Processes (2nd Ed.) 2015. Annually a number of projects may be selected randomly for an external audit.

Principal Investigator Responsibilities

Protection of Human Research Participants

As soon as Research Ethics Committee approval is confirmed by the REC, the principal investigator (PI) is responsible for the following:

Conducting the Research: The PI is responsible for making sure that the research is conducted according to the REC-approved research protocol. The PI is jointly responsible for the conduct of co-investigators and any research staff involved with this research. The PI must ensure that the research is conducted according to the recognised standards of their research field/discipline and according to the principles and standards of ethical research and responsible research conduct.

Participant Enrolment: The PI may not recruit or enrol participants unless the protocol for recruitment is approved by the REC. Recruitment and data collection activities must cease after the expiration date of REC approval. All recruitment materials must be approved by the REC prior to their use.

Informed Consent: The PI is responsible for obtaining and documenting affirmative informed consent using **only** the REC-approved consent documents/process, and for ensuring that no participants are involved in research prior to obtaining their affirmative informed consent. The PI must give all participants copies of the signed informed consent documents, where required. The PI must keep the originals in a secured, REC-approved location for at least five (5) years after the research is complete.

Continuing Review: The REC must review and approve all REC-approved research proposals at intervals appropriate to the degree of risk but not less than once per year. There is **no grace period.** Prior to the date on which the REC approval of the research expires, **it is the PI's responsibility to submit the progress report in a timely fashion to ensure a lapse in REC approval does not occur.** Once REC approval of your research lapses, all research activities must cease, and contact must be made with the REC immediately.

Amendments and Changes: Any planned changes to any aspect of the research (such as research design, procedures, participant population, informed consent document, instruments, surveys or recruiting material, etc.), must be submitted to the REC for review and approval before implementation. Amendments may not be initiated without first obtaining written REC approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the REC should be immediately informed of this necessity.

Adverse or Unanticipated Events: Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research-related injuries, occurring at this institution or at other performance sites must be reported to the REC within **five (5) days** of discovery of the incident. The PI must also report any instances of serious or continuing problems, or non-compliance with the RECs requirements for protecting human research participants.

Research Record Keeping: The PI must keep the following research-related records, at a minimum, in a secure location for a minimum of five years: the REC approved research proposal and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence and approvals from the REC.

Provision of Counselling or emergency support: When a dedicated counsellor or a psychologist provides support to a participant without prior REC review and approval, to the extent permitted by law, such activities will not be recognised as research nor the data used in support of research. Such cases should be indicated in the progress report or final report.

Final reports: When the research is completed (no further participant enrolment, interactions or interventions), the PI must submit a Final Report to the REC to close the study.

On-Site Evaluations, Inspections, or Audits: If the researcher is notified that the research will be reviewed or audited by the sponsor or any other external agency or any internal group, the PI must inform the REC immediately of the impending audit/evaluation.

APPENDIX F: INSTITUTIONAL PERMISSION FROM STELLENBOSCH UNIVERSITY

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INSTITUTIONAL PERMISSION:

AGREEMENT ON USE OF PERSONAL INFORMATION IN RESEARCH

Name of Researcher: Emmanuel Cilliers

Name of Research Project: An extra set of eyes and ears: peer collaboration within a Bachelor of Education (Honours) research project

Service Desk ID: IRPSD-1776

Date of Issue: 24 June 2020

The researcher has received institutional permission to proceed with this project as stipulated in the institutional permission application and within the conditions set out in this agreement.

APPENDIX G: EXAMPLE OF CONSENT FORM

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
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STELLENBOSCH UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

You are invited to take part in a study conducted by **Emmanuel A. Cilliers**, from the **Department of Curriculum studies** at Stellenbosch University. You were approached as a possible participant because **you are completing your Bachelor of Education (Honours) BEdHons research project during the year 2020**.

1. PURPOSE OF THE STUDY

The purpose of the study is to look at the experiences of BEdHons students involved in peer collaboration during their research project. More specifically the study wants to establish the benefits (if any) and/or challenges of peer collaboration.

2. WHAT WILL BE ASKED OF ME?

You will be asked to participate in two short meetings (one meeting in July and one at the end of August), join a WhatsApp group to discuss matters regarding the experience of peer collaboration in the BEdHons research project, and to participate in a short interview after you submitted your research project at the end of October. All communication will be done online via e-mail, Teams, Zoom, Google hangouts or Skype, whichever is most convenient to you.

3. POSSIBLE RISKS AND DISCOMFORTS

The literature shows that participants may experience a level of discomfort during the peer collaboration process. However, it also shows in the literature that these experiences are usually confined to the beginning phases of peer collaboration and that the overall experiences of students are mostly positive. There will be an opportunity during the first meeting where participants will get information regarding the peer collaboration process and a follow-up meeting where participants will be able to raise their concerns if they have any.

4. POSSIBLE BENEFITS TO PARTICIPANTS AND/OR TO THE SOCIETY

Participants might experience some personal and academic benefit from working together with a peer for their research project. The hope is that the information gathered in this study will be beneficial to educational practices within the honours research project for future students.

5. PAYMENT FOR PARTICIPATION

There will be no compensation towards participants for participating in this study.

6. PROTECTION OF YOUR INFORMATION, CONFIDENTIALITY AND IDENTITY

Any information you share with me during this study and that could possibly identify you as a participant will be protected. This will be done by ensuring that all data gathered will be kept

confidential. Only myself and my supervisor will have access to the raw data. Data will be stored on a laptop that is password protected. Names of participants will not be used in the final research report. I will also not enter your name with your mobile number on my mobile device as all contact details will be codified for the purpose of the WhatsApp group.

Any video/audio-recordings will be destroyed once the study is completed.

If the opportunity arises in the future for publication of results, I will make sure that no information will be traced back to you and your identity will be protected.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you agree to take part in this study, you may withdraw at any time without any consequence. You may also refuse to answer any questions you don't want to answer and still remain in the study. The researcher may withdraw you from this study if you deliberately cause any stress or discomfort to your peer. In the case of a withdrawal the researcher will ask whether or not the data, involving you, he collected up to thus far may be used in the research report or not. If you request that the data may not be used, all data involving you will be destroyed.

8. RESEARCHERS' CONTACT INFORMATION

If you have any questions or concerns about this study, please feel free to contact **Emmanuel (André) Cilliers** at **072 413 5592** or via e-mail **23326875@sun.ac.za**, and/or the supervisor Professor M. Robinson via her e-mail **mrobinson@sun.ac.za**

9. RIGHTS OF RESEARCH PARTICIPANTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

DECLARATION OF CONSENT BY THE PARTICIPANT

As the participant I confirm that:

- I have read the above information and it is written in a language that I am comfortable with.
- I have had a chance to ask questions and all my questions have been answered.
- All issues related to privacy, and the confidentiality and use of the information I provide, have been explained.

By signing below, I _____ *(name of participant)* agree to take part in this research study, as conducted by Emmanuel A. Cilliers.

Please sign this document **electronically** and e-mail to **23326875@sun.ac.za**.

Signature of Participant **Date**

DECLARATION BY THE PRINCIPAL INVESTIGATOR

As the **principal investigator,** I hereby declare that the information contained in this document has been thoroughly explained to the participant. I also declare that the participant has been encouraged (and has been given ample time) to ask any questions. In addition I would like to select the following option:

√	The conversation with the participant was conducted in a language in which the participant is fluent.
√	The conversation with the participant was conducted with the assistance of a translator (who has signed a non-disclosure agreement), and this "Consent Form" is available to the participant in a language in which the participant is fluent.

11 July 2020

Signature of Principal Investigator **Date**