This section will report on the learning opportunities related to the development of collaboration in the clinical setting. The following themes are reported on: Multidisciplinary teamwork; role of the clinician, and barriers to collaborative work in the clinical setting.

4.6.2.1. Multidisciplinary teamwork

Collaborating with healthcare professionals is important to multidisciplinary practice and has been linked to improved health outcomes in terms of safety and quality of patient management. Clinical practice 2 module outlines also make reference to the following learning outcome aboration: working in a multidisciplinary team; refe h professionals when necessary; conducting themselves in a n interacting with patients and staff at clinical placements.

A lecturer also expressed the importance of teamwork in interprofessional practice

> *Collaboration is a big aspect of teamwork; you need to be able to collaborate – so if we're talking about teamwork and if we're talking about interprofessional practice, teamwork is very important in that aspect. And the focus around teamwork is quite important as we're developing graduates who we are saying need to meet the needs of society or the population. So no one profession is able to meet all the needs and the outcome is documented to be better if you are able to work in a team.* (Associate Professor, interview)

A third year student also spoke about interprofessional teams collaborating towards patient-centred goals.

> *Couldn't it also be with interdisciplinary team where you have the same patient and you have a goal and you want to see someone else's view, so you can basically see what their opinions are, what your opinion is, and then you can work together on what is the best opinion in moving forward.* (Third year student, FGD)

A keen understanding of the roles of healthcare professionals within a multidisciplinary team is essential for effective collaboration. Interview participants were of a similar opinion:

> *So if they don't have an understanding of what the roles of other healthcare professionals are when they are managing the patient, they will keep that patient to themselves, and then instead of maybe referring and making sure that the patient is being treated holistically – because you still have that physio, 'It's my patient.'* (Senior Lecturer, interview)

> *I think the tolerance within communication; a sense of equalisation in the sense that realising that everybody has an important role to play. So role clarification is another aspect.* (Associate Professor, interview)

If they have information of what other healthcare professionals are doing it will assist them to know how to work with those particular professionals … if they do not have the information of what other healthcare professionals are doing, it will be difficult for them to refer or to collaborate or to work with someone else when they are managing a patient. (Senior Lecturer, interview)

When students were asked about their understanding of the roles of healthcare professionals of the multidisciplinary team, the responses from the fourth year FGD indicated that they were not clear on the roles of other health professionals.

No. I feel like I don't know everything about what exactly a speech therapist does or what exactly an OT does. I vaguely have learned through experience in the last two years. (Fourth year student, FGD)

A definition is not exactly the same thing as describing roles. So I think what would help with that…just a list of examples or something like that of what each health professional does. (Fourth year student, FGD)

On the other hand, the third year FGD participants provided examples of how they understood the role of healthcare professionals. One student alluded to the fact that multidisciplinary teamwork could result in developing transferable skills.

So through learning from others and observing and paying attention and being willing to be a part of a team you're able to pick up that and do what's best for your patient. (Third year student, FGD)

Students are encouraged by their clinical supervisors to attend ward rounds as part of their interprofessional learning.

In the clinical context they have to attend doctor ward rounds or in the ICU setting and they have to closely work with the nursing staff because that's the person that's there with the patient all the time. (Senior Lecturer, interview)

Students in the fourth year FGD found when they attended ward rounds, they did not feel included.

When the doctors do ward rounds and you are there, they speak to themselves and their students – like they don't involve anybody else, they don't even involve the patients. (Fourth year student, FGD)

I know when they did ward rounds in the ICU, we kind of just walked with (them)*, but it felt like we were sneaking in to hear, it feel like we weren't actually invited to be part of it, we were just like there, we weren't part of it.*
(Fourth year student, FGD)

They [doctors] *were running the show, talking, but within themselves about themselves.* (Fourth year student, FGD)

Multidisciplinary teamwork is an important facet of interprofessional collaboration. It requires the understanding of the role and responsibilities of all team members. Multidisciplinary ward rounds are opportunities to develop interprofessional collaborative competencies but the lack of inclusion can be a barrier to learning and development.

4.6.2.2. The effect of multidisciplinary interactions on developing collaboration

The students reported on their multidisciplinary interactions in the clinical settings. As noted above, this is also encouraged as a learning outcome in the Clinical practice 2 module outline. Most interactions that the physiotherapy students were involved with were with nurses, occupational therapists and sometimes the doctors. Interactions have been both positive and negative. One student conveyed that an invitation by a surgeon to observe his patient's surgery was positive in terms of developing empathy. Other students reported that by the doctor asking for their input regarding the patient, they had a feeling of self-worth.

I collaborated with a surgeon in my general block. The patient was an amputee, so it was pre-operation, so I actually got a chance see the operation... in my treatment afterwards I could be more empathetic rather than sympathetic

because I saw how much it was on the patient. So I think collaboration, that's how it helped me. (Third year student, FGD)

…a doctor came to me after an operation…he asked me what I think his [the patient's] functional abilities are or what it the future for his patient. So that was nice for me because I thought about it and the doctor helps to a certain extent and then it's handed over to us. (Third year student, FGD)

…there were times where the doctor actually would ask me what are you doing with this patient, can you sit him up today? – All of that. (Fourth year student, FGD)

Contrary to this, a fellow student felt frustrated by the lack of communication from the surgeon on her block. One student felt obligated to stop her treatment due to doctors ward rounds as they were not engaged on the patient's well-being.

I had the surgeon saying something different and my clinician saying something different, and I was stuck in the middle…I was frustrated…And the surgeon wasn't willing to talk to me, explain to me the x-rays or the fractures or why he's doing what he's doing. He just said, you just do your job. (Third year student, FGD)

And even if you are busy with your patient the doctors will still come and stand around there – and because they're always in a big group you always feel intimidated by them, so you feel obligated to actually just stop the treatment so they can finish their little round before you can continue. (Fourth year student, FGD)

Student responses reflect positive and negative interprofessional experiences. Communication including listening to the opinion of other health professions is an essential component for effective interprofessional collaboration among healthcare workers. Poor communication can lead to confusion and frustration, ultimately effecting patient outcomes.

4.6.2.3. Collaboration between patient and physiotherapist

Engaging and working with the patient was stressed by an interview participant. The relationship between patient and the student should be one of togetherness, not a dictatorship.

I'm thinking of things like patient-centeredness and when we talk about a patient or a client, the approach, we're talking about what's the student's idea of the role of the patient in the management, and it's not a matter of I give you and I'm treating you, but it's a matter of together you and I are, we're kind of on the same, I don't want to say level. (Associate Professor, interview)

The students also felt that it was important to include the patient in the decision making process. Without patient-centeredness, interprofessional teamwork has little rationale. Communicating with patient in terms they could understand and recognising one's own short comings was important for building trust.

> *They'd rather ask the physio because they know that the physio is going to explain it to them in terms that they can actually understand and they can actually be a part of their own health; patients like being or feeling empowered.* (Fourth year student, FGD)

> *It's important to be honest if you don't know something, obviously not to cross that line to tell them something that's not true…And they also instil a lot of trust in you when they hear you know what you're talking about.* (Fourth year student, FGD)

Collaboration with the patient is core to interprofessional relationships and should be dealt with in a trustworthy behaviour alluding to ethically.

4.6.2.4. Role of the clinician

Role modelling is an important teaching method that most students encounter through their medical training. This section reports on how the clinicians at clinical placements are viewed in the context of collaboration.

> *I think that some clinicians at certain placements can actually be quite good. But then I also think that some clinicians at other placements are not that good. So perhaps a placement like [name of clinical placement], I think that that's probably a good example to model the students; but I think that when they are in at a CHC, a community health centre, I don't think there's that much emphasis on collaboration and working with other disciplines.* (Associate Lecturer, interview)

> *The clinicians work in silos when they are in hospitals or in the clinics, they are working separately. So it's difficult to say they would be pushing the collaboration in a setting. The main focus is for them to do their job.* (Senior Lecturer, interview)

> *I think we try and teach them components of interpersonal relations and team work, but multidisciplinary collaboration I think not so much because it doesn't happen as much in the clinical setting.* (Lecturer, interview)

Students reflected on how clinicians influenced their ability to collaborate within a multidisciplinary team. One student in the fourth year focus group had opposing experiences with clinicians. The student's positive experience in her third year encouraged her to take the initiative in her fourth year.

> *In my third year I was encouraged by the clinician at the placement. She told me that if I needed to speak to anyone or any of the health disciplines, then I could pick up the phone and I could always phone them and ask them about my patients. But in my fourth year, especially my first block, they babied us more, so we were told not to do that – so I kind of had to take my own initiative and actually go to the OT and ask her if she's seen this patient, if the patient's measurements is taken for a wheelchair or if the patient's going to get a brace, or whatever.* (Fourth year student, FGD)

> *They made me feel like a professional – like they didn't treat me like a student. And if I didn't do something that they knew I had knowledge of they would speak to me on a professional level instead of a student.* (Fourth year student, FGD)

One student reported that her clinician's lack of confidence to contribute in a ward round discussion impacted her (the student's) ability to contribute as well.

> *But if the clinician is also too scared to say something then you kind of like, oh, what are we going to do now? So if she was more like, no, you're right, as*

physios this is our right to speak; she was also just too scared to say something. (Fourth year student, FGD)

In another student reported, a student mentioned that he would have attended multidisciplinary meetings if his clinician had not described it as 'boring'.

I think if I wasn't told that it was boring I probably would have gone more often. (Fourth year student, FGD)

Some students mentioned they weren't encouraged to provide feedback in MDT meetings as the clinician would do this for them.

I think it's because I was a student, so the physio that was in charge or the clinician, he basically did the talking on my behalf. (Fourth year student, FGD)

The clinician will mostly answer the questions [on clinical ward rounds]. (Fourth year student, FGD)

On being asked if interprofessional interactions were beneficial to their development, students responded that they learnt from exposure to these kinds of interactions.

I think you learn from the various experiences and the more you're actually exposed to, the better it is for you in the long run. (Fourth year student, FGD)

I think that through experience that's the best way for us to learn to collaborate.

(Fourth year student, FGD)

I just think that the earlier you are exposed to collaborative learning the better.

(Third year student, FGD)

Clinicians do role model the behaviours that are necessary for students to develop interprofessional collaboration. Students develop the ability to collaborate through active engagement with other healthcare professional and through observation of professional behaviours. Students agree that clinical placements and interprofessional interactions were beneficial to their development collaborative practice.

4.7. Skills necessary for effective collaboration

The development of skills was commented on by an interview participant and was then subsequently followed up in all interviews. Communication and confidence were strongly identified as being linked to the ability to collaborate.

4.7.1. Communication

It was noted by participants that communication, both verbal and non-verbal (written), was important for teamwork.

> *The skill that they definitely need is good communication skills* [verbal and non-verbal], *there needs to be ethics around teamwork, around working as a clinician, patient ethics. And I think then with that will come the respect for others.* (Associate Professor, interview)

> *Communication, it would be part of collaborating because they need to be able to refer a patient so that is one kind of communication.* (Senior Lecturer, interview)

Communication between lecturers and students was also deemed to be important by third year students to improve understanding of content being taught.

> *…if a lecturer doesn't convey the correct message or doesn't have the right attitude or doesn't have the student's attention, it's not necessarily that the students don't listen or don't focus, they might be too intelligent to convey onto our level.* (Third year student, FGD)

I think many lecturers struggle to convey their experience, their knowledge – they're too clever, they're too smart – they don't know how to put it into layman's terms or simple terms so that we can understand. (Third year student, FGD)

One of the lecturers stated that students should have the confidence to voice their opinions, as well as have confidence in their own knowledge.

I think if the student doesn't have the confidence to just speak their mind or voice their opinions, then it's very difficult for them to collaborate. And I think the confidence not only in the personal context but also in what they know or in what want to do clinically. (Lecturer, interview)

4.7.2. Conflict management

Participants were questioned on how students managed conflict within collaborative interactions. This question arose as a result of the Pedagogical framework. One of the key competencies around collaboration was the ability to prevent, manage and resolve issues that may result in conflict within collaborative interactions. One of the lecturers recognised the importance of conflict management.

I think it's important that it's not just expected they're able to manage conflict ... I think it's an important skill to be able have because they often go to areas

where conflicting ideas arise and they need to know how to deal with it. (Associate Professor, interview)

Another lecturer reported that students tend to avoid conflict, rather expressing their dissatisfaction with others performance through, for example, group or peer assessments.

If you are not part of the team, then you are breaking the spirit of other team members. You won't know that until other people tell you ... They will keep quiet cos they are using the group assessment and that is where they are going to be exposing you if you are not pulling weight in a group. So in terms of conflict, I think they are running away from conflict…they don't like confrontation. (Senior Lecturer, interview)

This was confirmed by a fourth year student who expressed she would rather avoid conflict.

I don't like conflict, so I won't confront a person and tell you really you have to do your work. I would rather take on your work as well because I still want to do well in my assignment. (Fourth year student, FGD)

Explanation and listening were noted as important for addressing conflicting issues by another student.

If there's a conflict of interests on my regard I would explain where we are coming from and what we are saying and they obviously give their part ... I explain my part and if I didn't understand something or if they made a good point that I maybe wasn't sure and I would then go and consult with a more senior physio. (Fourth year student, FGD)

Another student reported that he wasn't comfortable in addressing areas of conflict and felt that a mediator would be better able to assist in resolution around conflict until such time as he was able to do this independently.

Yes, probably what I'm trying to say is that I don't have to do it because firstly I haven't learned it yet or I'm not comfortable or I don't know how do I approach it. (Fourth year student, FGD)

Prevention, management and conflict resolution is necessary collaborative activities and within the healthcare teams where conflicting opinions may arise. Students avoid dealing with conflict as stated by a lecturer with some of the students acknowledging the very same fact. Inadequacy to address conflicting situations was stated as a limitation. For student to develop collaborative abilities, they need to be able share their views even if it does conflict with other opinions and is transferable to clinical practice where quality and safety of patient care in imperative.

4.8. Assessment

Lecturers were asked how they assess students on their ability to collaborate, specifically as it relates to collaborative activities. Lecturers' responses suggest that there is no clear assessment tool.

> *At the moment we don't* [assess collaboration]. *What we are suggesting is for departments to include it as part of the end of block assessment of the students, whether that's been done or how far that is, I'm not a hundred percent sure.* (Associate professor, interview)

> *...I haven't assessed the participation of the students during the case scenarios. I would normally just give them the case scenarios – they will sit down and then they will provide feedback with regard to the questions that I raise, concerning the specific case.* (Associate lecturer, interview)

> *They're not assessed. It was assessed when we had the proper case-based learning, when we had applied done in the case-based learning, ... so you could see who commented, who gave input, their contributions and they will fill in a form to say they contributed so much and this one contributed nothing, but it's very subjective.* (Lecturer, interview)

One method to assess how students collaborated was done by students through peer assessments.

> *Each of the students evaluate each other; they hand in like a peer review form where they rate each other, each member of the group rates the other person on things like their contribution to the research, being generally polite and friendly, the effort put into the project altogether. So I guess that's some sort of a measure of how collaboratively or how well they're able to work collaboratively. But I guess we don't evaluate – as a lecturer I don't evaluate students on their ability to cooperate or collaborate in teams.* (Lecturer, interview)

To add on, a fourth year student felt peer evaluations should be more heavily weighted and should not only be done at the end of group projects. By introducing an initial peer evaluation, it was believed that difficulties in group work could be addressed earlier and results in a homogenous project.

> *I honestly strongly feel peer assessments held more value because it's normally a percentage of the entire mark and when my peer assessment, if you're getting two out of ten, it's not because you must get 10% less, you must get a lot less because you did nothing…. I never see the real repercussion. So if there is something wrong – why? Come and call that group in: what is going on here, let's discuss it.* (Fourth year student, FGD)

4.9. Alignment of the curriculum

Interview participants were asked on how students could be better developed to collaborate. It was noted that the structure of tasks should be better aligned to develop collaboration.

> *I think the way in which we structure the group work, we need to have at the back our minds: I'd actually like to develop it so that's it's a collaborate effort…* (Associate Professor, interview)

> *I think in the classroom if you want to develop collaboration you do need to be probably a little careful about what tasks you're going to give them.* (Associate lecturer, interview)

A fourth year student also stated that collaboration is not emphasised within tasks.

> *They don't emphasise* [collaboration] *and say, hang on, it's less important if you get there, of course you still need to, but it's more important that if you are working together…if there was emphasis on maybe providing a channel if someone's not integrating or giving feedback – say so, because that's now collaboration.* (Fourth year student, FGD)

4.10. Challenges to developing collaboration

Interview participants were questioned on the challenges they encountered when trying to develop collaboration among students. Students' attitudes towards working with their colleagues and collaborating with students from diverse backgrounds to their own were discussed. Some students have difficulty embracing collaborative work and trying to include them was highlighted as a challenge.

> *I think that maybe just their attitude – you know, they just want to do what they want to do and what they came here to study, they don't want to think of working with other students…*(Associate lecturer, interview)

> *The one thing that students always highlight is the difficulty [of] working with people from different backgrounds and different classes and different races than what they are…And there are always some students who embrace it and some just really withdraw from the process completely – and it's a challenge to try and keep those students included and involved.* (Lecturer, interview)

In addition, another participant suggested that how the facilitation of collaboration is received by students could also be a challenge.

I think our knowledge and skills maybe and the area of assessment of these skills may be limiting. And how is it [facilitation of collaboration] *received by the students, I think that could also be a challenge – why are we doing this; what are we doing it for?* (Associate professor, interview)

Students themselves need to see the value in learning without looking at the mark input.

I think the students need to see the value in something that goes broader than a ward round, in having a case discussion or a case conference, and the value in that without being allocated a mark. (Associate professor, interview)

Student participation in group activities was underlined as a challenge as it was difficult to know who contributed to the tasks. Additionally, inadequate human resources was mentioned by another participant as a challenge to developing collaboration as there weren't enough staff to facilitate group work.

The challenge that I have picked up was when they are in a group you are not sure who gave which information because its group work. So when they are presenting group work then you're not sure whether it's their own opinion or how did they contribute to the group and all those things. (Senior lecturer, interview)

It's sometimes difficult to pick up who in the group is not [contributing] – *because again it depends on, we don't always have manpower, we don't always have enough facilitators in the class.* (Associate lecturer, interview)

Students need to see the value of the learning that goes further than mark output. Collaborative learning activities promote learning goals rather than performance goals. Being able to work with diversity (different cultural backgrounds, opinion or individuals) is a valued aspect of collaborative work. Appropriate assessment aids to evaluate collaborative learning activities would assist lecturers on assessing students' ability to collaborate.

In the clinical environment, fourth year students expressed patient loads as a barrier to developing skills in collaboration.

The thing that I found that also is detrimental to the whole collaboration process is that as students we often don't have time to go and ask or speak to an OT or a speech therapist or a dietician because depending on your condition and the place where you are, they often overload you or give you too much patients so then you don't have time to go and learn about the various aspects of healthcare and of healthcare professions. (Fourth year student, FGD)

I was encouraged twice to go to the OT department and I didn't go once just because I didn't have 15 minutes in my day to do it because I was too busy and there were too many things to do. (Fourth year student, FGD)

The same thing happened to me, we were encouraged to go sit in on an OT session and go with the dietician to go watch them do the NG tube or whatever. But every time we asked it was is your patient load finished? You have to see 12 patients first before. And so then that was a barrier to us actually going to experience. (Fourth year student, FGD)

One student expressed frustration at being unable to learn or observe from other healthcare professionals.

It frustrates me because it's a learning environment, so give me an hour a day, or not a day, give me an hour in a week to go and familiarise myself with certain things. But I don't think the clinician would be on the same page as a lecturer in the sense that they would think of something like that or allow it. (Fourth year student, FGD)

Clinical placements are meant to be a learning environment for students. The students requests for time to learn about other healthcare professionals would better prepare them for the role of collaborator. Increased patients loads strongly came across as a barrier to developing collaboration.

4.11. Summary

This chapter presented the findings of the study as gathered from a variety of sources, including curriculum documents, student focus group discussions and interviews with lecturers. It reported on the learning outcomes as they related to collaboration in the teaching space and clinical placements. Group work and interprofessional education are associated with collaborative development but the learning objectives of the tasks within modules should be clearly defined and aligned for better understanding from student.

The clinical setting is an ideal learning environment to develop interprofessional collaborative competencies. Unfortunately, increased patient loads were a major contributor for a loss in interprofessional learning opportunities as well as the attitudes of the clinicians towards collaborative practice. Clinicians should be aware of the influence they have on interprofessional learning and towards collaborative development among undergraduate students. A need exists for other healthcare professionals to be aware of their own behaviour as collaborators as students learn from observation.

Areas that need development to improve students' collaborative competencies included understanding of roles and responsibilities of health professional, communication, confidence and conflict management. These are essential for effective collaboration particularly in healthcare teams.

The next chapter discusses the findings of the thesis.

Chapter Five: Discussion

5.1. Introduction

This chapter discusses the findings from physiotherapy module outlines in its relation to developing collaboration. It also discusses the educational experiences of undergraduate physiotherapy students on how they are being developed to collaborate as well as the perspectives of the physiotherapy educators on how they are developing collaborative competency among their students. This discussion aims to interpret the data in order to answer the question: "how are UWC undergraduate physiotherapy students being prepared for collaborative work as part of their professional development?"

It will also seek to determine if collaboration in this department could be developed in healthcare education. The main themes that were identified were: Collaboration and its significance to student learning; Collaboration, learning and the curriculum; Interprofessional education; Multidisciplinary teamwork and role modelling.

5.2. The importance of collaboration and significance to student learning

Collaboration was defined as the people (or teams of people) working together towards a shared goal. When collaborating, there is symmetry and low division of labor between partners (Dillenbourg, 1999). Symmetry characterizes the associations between participants within collaborative work (Roberts, 2005). Participants in both the student focus group discussions provided some insight into how they conceived of the concept,

stating that collaboration is a working together towards shared goals. As one student explained it "*Usually when people collaborate, they bring their own unique ideas or they impart a bit of themselves into the project they are working along with others*" (fourth year student FGD). This idea of collaboration as putting part of yourself into a project is a powerful idea when thinking about the concept.

The significance of collaboration was centered around learning gains, personal development and its impact on patient outcomes through interprofessional teamwork. Participants were of the opinion that collaboration was also important for the dissemination of information as it related to peer learning. Sharing of information within health professional teams was also identified as a key concept towards collaborating by Frank et al. (2014). Students in a study by Hammer-Chiriac (2014) also suggested that the sharing of information was beneficial when working with others, as it enhanced their academic learning. Masters students have also stated that collaboration allowed them to learn from their peers, and in so doing, developing critical thinking (Brown & McIlroy, 2011; Roberts, 2005).

Students in this study reported that collaborating resulted in improved personal development. They voiced that collaborative activities developed openness through addressing constructive criticism and negotiating opinions, key elements to effective collaborative learning (Dillenbourg, 1999; Roberts, 2005). The students statements also alludes to respecting and valuing diversity and opinions, a learning outcome highlighted in the Professional Ethics module, which are both important for collaboration notably

when it comes to effective interprofessional engagements (Frank et al., 2014; IPEC, 2011). For students in this study, they felt a sense of validation when their contributions in the patients' health outcomes were acknowledged by other members of the healthcare team. With positive feedback, students are more likely to engage in interprofessional collaboration.

5.3. Learning outcomes related to collaboration

In the physiotherapy module guides, learning outcomes related to developing competency as a collaborator included: demonstrating empathy towards patients; being able to describe the holistic and multidisciplinary management of patients; communicating effectively; having respect for diversity; and conflict of interest. These were the foremost learning outcomes that will be discussed, since they are most closely linked to collaboration, particularly in healthcare education (Frank et al., 2014; IPEC, 2011; Suter et al., 2009).The students and lecturers perspectives will be discussed in conjunction with these learning outcomes.

Empathy towards patients is fundamental and is outlined as a key competency for the role of Communicator in the CanMEDS framework (2014). However demonstrating empathy towards patients wasn't strongly voiced in those words by students and yet one student reported that being invited to observe his patient's surgery helped him become more empathetic. Students agreed that involving their patients in the decision making process around treatments and in general "putting their needs first" was important. In

contrast to this, nursing and medical students had demonstrated a decline in patient empathy, ironically in an era where patient-centeredness (Hojat et al., 2009; Ward, Cody, Schaal & Hojat, 2012). On the basis of the evidence available, it seems fair to suggest the students represented in this study have a firm grounding towards patient-centeredness and care.

Within the interprofessional environment, conflict of interest may ensue over professional expertise, abilities and leadership disparities (IPEC, 2011) and as a collaborator, should be managed respectfully (Frank et al., 2010). The view that students need to be able to deal with conflict rather than simply avoiding it was shared by a lecture and was in line with students perceptions of themselves. To elaborate students felt unknowledgeable on addressing conflicting issues either in the clinical setting or the classroom. Having said that another student proposed that mediation would assist in the development of abilities around conflict resolution. Conflict resolution, management and prevention are strongly etched in the role of Collaborator and on patient outcomes (Frank et al., 2014; MDB, 2014; NPAG, 2009). When presented with a conflicting opinion that may impact patient health outcomes negatively, it is reasonable to state team members have the responsibility to address it for patient safety. Students in this study need to recognize they are part of the healthcare team and as such need to be able to voice their opinion without fear of conflict. Considering the results, it is not unreasonable to say that with a lack of conflict management skills, students will be underdeveloped in the role of collaborator within healthcare teams for future practice. In

light of this, developing effective communication skills would better prepare students to manage conflicting issues and is supported by Suter et al. (2009).

To follow through, communication (verbal and written) was emphasized by a few lecturers as fundamental to collaboration and is prominent in the literature for interprofessional teamwork and collaboration within the clinical setting (IPEC, 2011; Suter et al., 2009). Students themselves felt they did not receive good communication at clinical placements either from the clinician or other members of the healthcare team and this could potentially compromise safety around patient care (Frank et al., 2014). Equally important, third year students explained that communicating with lectures could be challenging as lectures may not always be able to convey their knowledge in terms they could understand. Constructive alignment of curriculum may be a means of developing better understanding between students and lecturers. By clearly outlining intended learning outcomes, appropriate learning activities and assessment tasks at the outset of modules, both students and lecturers would be on the same level of understanding on objectives of module (Biggs, 1999; Biggs, 2003). Students themselves will adopt a deeper approach to learning, constructing knowledge (Biggs 1999).

To describe the multi-disciplinary management of patients, students would need to have an understanding of the roles and responsibilities of other health disciplines, which has been described as a key competency to collaborating (Frank et al., 2014; MDB, 2014; NPAG, 2009). The module guides for this physiotherapy department did not include any explicit learning outcomes that related to multidisciplinary roles in the health team. This was borne out by the fact that some fourth year students reported that they did not have a

clear understanding of the role of other healthcare professionals while on clinical placement. Is it reasonable to expect students to develop competency in collaboration if they lack development in an enabling competency for collaboration (Frank et al., 2014; MDB, 2014; NPAG, 2009) as well as work as interprofessional collaborative healthcare workers (IPEC, 2011)? One lecturer articulated this well "*if they [*the students*] do not have the information of what other healthcare professionals are doing, it will be difficult for them to refer or to collaborate.*" To put it in another way, to be able to draw on the "strengths" of other healthcare professionals towards improved patient outcomes, a firm understanding on the roles and responsibilities is necessary.

To some degree, the learning outcomes have included some aspects of the enabling competencies to develop collaboration as well as those of the role of Professional, Communicator, Health Advocate and Scholar. However they appear to have fallen short on developing students understanding of roles of healthcare professionals and conflict management. Structured interprofessional activities particularly within the clinical setting may be a means to develop role understanding and conflict management within the healthcare context and is supported widely in the literature (Doucet et al., 2013; Newton et al., 2012; Nisbeth et al., 2008; O' Carroll et al., 2012). In view of this, IPE and collaborative learning activities associated with developing collaboration are discussed next.

5.4. Learning activities associated with collaboration

5.4.1. Interprofessional education

Interprofessional education has been outlined as an approach to developing students so that they become more effective members of interprofessional teams. Students trained in this approach would be more likely to become collaborative interprofessional team members (Bridges, Davidson, Odegard, Maki & Tomkowiak, 2011). An interprofessional extracurricular activity has been introduced into the Faculty of Community and Health Sciences according to an Associate Professor in this department. The structure of the activity discussed included students from various disciplines working together through case reports and, as the Associate Professor explained, students should be able to identify roles of health professionals and develop some communication skills. Students (fourth year FGD) verbalized they did not find the IP activity as beneficial to their learning nor did they see the value in the interprofessional modules presented in their first and second years of study. They expressed it as "a waste of time" and cooperated in order to complete tasks; they did not see the relevance for future practice. Students may be able to construct knowledge and understanding of the IP modules if the department aligned learning activities to achieve desired learning outcomes i.e. collaboration (Biggs 1999; Biggs 2003). Both students and lecturers should have clear understanding of learning objectives for clarity on learning tasks (Biggs, 1999; Biggs, 2003).

Yet the views of the students in this study are in contrast to what the literature elucidates.

O'Carroll et al., (2012) & Mellor et al., (2013) reported on student experiences on an IP learning activity in the clinical placement that involved students from various disciplines working through case scenarios. Students in both studies found it beneficial to developing an understanding of the roles and responsibilities of other healthcare professionals, including the development of improved confidence to learn with students from other professions and reinforcing the importance of effective communication for teamwork (O'Carroll et al., 2012; Mellor et al., 2013).

The difference between the UWC IP activity and these studies was the setting of the IP learning modules which were the clinical placement (O'Carroll et al., 2012; Mellor et al., 2013). Similar to the UWC students, there was no assessment for students in the study by O'Carroll et al. (2012). By removing the assessment factor, students were able to interact without fear of losing marks; explore their own understanding and knowledge and approach their peers without feeling a sense of inadequacy (Mellor, 2013) views not shared by the students of the current study.

As suggested by a student in the current study, interprofessional learning opportunities, either through interaction or observation, within the clinical environment should be incorporated within the clinical settings, even if learning is for a limited time (one hour a week).Given this information coupled with the literature, introducing interprofessional student interactions within the clinical setting would promote interprofessional learning

and without any formal assessment it would encourage learning gains versus performance gains.

5.4.2. Group work

Group work was one of the first learning activities that students in this study associated with developing competence to collaborate in the learning space. This method was visible in all modules but the format of the group work varied requiring more in-depth involvement of students in some modules compared to others. Students were not always enthusiastic about group work due to the lack of effort by some group members, resulting in them having to complete the work themselves. Collaboration is defined by individuals working together on a shared goal and is further characterized by low division of labor, synchronous communication and negotiability (Dillenbourg, 1999).

Despite this, there is no clear assessment outlined for collaborative effort in group work as noted by lecturers. They expressed the difficulty of establishing the contributions of individuals within the group, although some modules do reflect the use of peer evaluations. In response, students voiced that peer evaluations should be done more regularly and carry more bearing within group activities and not merely be used at the end of the group task. Lectures should provide early and frequent support and feedback on the structure and processes around group activities, lest students feel a sense of being abandoned in their groups (Brown & McIlroy, 2011). While peer evaluations encourage students to become active rather than passive recipients, there are questions related to the reliability and expertise of peer assessors, including power relations that project a

negative response to it (McGarr & Clifford, 2013). To negate poor response to peer evaluations from students, lecturers should inform students on the rationale for peer evaluation and familiarizing them with the peer evaluation process.

Interprofessional education and group work were recognized as activities to develop collaborative competencies. Although students in this study recognized the value of health professionals collaborating, they did not perceive the value in the IPE modules as transferable for future practice. To add on, they lack opportunities for collaborative development even though they are well-placed for interprofessional teamwork. Perhaps a better alignment of learning outcomes and activities would better develop student understanding on the value of IPE modules. Furthermore, interprofessional collaborative learning opportunities could be better collaborated between institution and clinicians to promote the development of students. Group work was identified as a collaborative activity yet students displayed a lack of enthusiasm due to "social loafing" and "free riding of some students. Peer evaluations is a means of motivating and assessing collaborative capabilities in group work but should be well explained to students.

5.5. Multidisciplinary teamwork and role modeling

Patient-centeredness within non-hierarchical multidisciplinary teams would impact health outcomes and health systems positively (Frenk et al., 2010) as well as emphasized strongly by students in the study. Students felt that collaborating with the patient when making healthcare decisions was important and also instilled a sense of trust in the student-patient relationship, which is in keeping with the idea that a multidisciplinary team should be based around patient-centered care (IPEC, 2011). As noted by the IPEC (2011) patient-centeredness is the purpose behind IP/MD teamwork and the lack of relationship between patient and health professionals, IP collaboration has little rationale. The students in this study may be well-positioned to work in teams but the foregoing discussion implies they do not have enabling competencies i.e. role understanding and conflict management to be effective collaborators.

Early exposure to the clinical environment was also identified as being beneficial to the students' development of collaborative competencies within the MDT. Morris & Hilton (2001) also supported clinical placements as ideal learning environments to develop interprofessional collaboration. In particular, ward rounds were classified as an interprofessional learning activity by Hilton & Morris (2001). However, some students in this study stated that they didn't feel a sense of inclusion within ward rounds, and in some instances, described needing to "sneak in" in order to be involved. Other students had the experience of some health professionals speaking amongst themselves during their ward rounds, and therefore excluding students and patients. Using professional

jargon creates a barrier to effective communication within interprofessional teams (IPEC, 2011; White, 2007). It can be acknowledged that implementing changes within organizational system may be challenging due to long standing professional hierarchies that create a barrier to effective healthcare team collaboration (IPEC, 2011; Pollard, 2008). Perhaps increasing student awareness on how organizational systems influence interprofessional collaboration should be an aim of IPE (Pollard, 2008).

Besides multidisciplinary interactions, students can learn interprofessional collaboration through observation in the clinical environment (Pollard, 2008; Sheldon et al., 2012), in particular via the role modeling of clinicians (Hilton & Morris, 2001; Mileder et al., 2014; Sheldon, 2012). Lecturers in this study agreed that some clinicians who students were exposed to could be good or bad role models in terms of learning how to collaborate with others. One lecturer was of the opinion that clinicians remained in their professional silos and may not encourage collaboration, and another stating that multidisciplinary collaboration did not occur much in the clinical setting. In the absence of engagement within multidisciplinary teams, students' learning opportunities are compromised (Ramklass, 2009). In an attempt to address this issue, the academic staff of the physiotherapy department could liaise with the clinicians within the clinical setting to identify interprofessional activities that physiotherapy students could engage in for their development.

Significantly noted by students in this study, the feedback, and the confidence the clinician showed in them influenced their collaborative abilities. Furthermore the

clinician's own self-confidence within multidisciplinary teams was verbalized by the students as having importance towards their ability to collaborate. That is to say if the clinician was fearful to contribute in interprofessional meeting, this behavior could be learnt by the student. The majority of students who observed occupational therapist and physiotherapist collaborating with each other stated they were positive role models for highlighting the value of interprofessional care (Sheldon et al., 2012). The skills of the clinician were also noted as having importance for IP learning opportunities (Hilton & Morris, 2001). When clinician's skills where underdeveloped in areas of: faith in their own abilities and themselves competent team members, students were thought to be unsafe, with fewer opportunities for independence (Hilton & Morris, 2001) an observation noted by a focus group participant.

Working as part of a team is evaluated by clinicians at clinical placements and encouraged by clinical supervisors. However students noted that there was very little opportunity for interprofessional interactions in some clinical placements due to increased patient workloads, views shared by physiotherapy students from another South African university (Ernstzen, Statham & Hanekom, 2014). Clinical placements provide learning opportunities to develop understanding of roles and responsibilities of healthcare professionals, communication, confidence and breaks down professional silos (Bridges et al., 2011; Mellor et al., 2013; O'Carroll et al., 2012). In order to take advantage of interprofessional learning opportunities, faculty would need to engage clinical staff at placements on opportunities for student development

5.6. Skills to develop collaboration

Lecturers in this study identified that communication; confidence and conflict management were important skills that students should have in order to develop the ability to collaborate. Effective communication, both verbal and written, are necessary for efficient interprofessional collaborative teamwork (IPEC, 2011; Kelland et al., 2014; Suter et al., 2009) and is an enabling competency for collaboration in the broader context of health professional practice (Frank et al., 2014; MBD, 2014; NPAG, 2009).

Confidence is an important precursor to IP collaboration (Pfaff, Baxter, Jack & Ploeg, 2014) but this is sometimes lacking in students, as was observed by a lecturer in this study. Interprofessional activities in a non-threatening environment can develop students' self-confidence (Mellor et al., 2013) and this confidence can influence the student's ability to communicate and collaborate within IP teams (Nisbet et al., 2008). With poor confidence, students will not be able to communicate ideas within groups and interprofessional teams hence making it difficult to collaborate.

Conflict management is an important aspect of effective collaboration (IPEC, 2011) and is a key competency for developing the role of Collaborator (Frank et al., 2014; MBD, 2014). This requires negotiability and a willingness to listen and respect the opinions of others (Mellor et al., 2013) and was also alluded to by a fourth year student. When conflicts are not resolved in an approach of maturity and respect (Mellor et al., 2013) it can influence the learning experience negatively. On the other hand, a fear of conflict as acknowledged by a lecturer in the students and by the students themselves, can also

contribute negatively in terms of being afraid to present a conflicting view point in the interprofessional team due to professional hierarchies which can subsequently impact patient safety and care (IPEC, 2011).

Based on the findings, student are open to the concept of listening to differing opinions yet are hesitant in addressing conflicting issues within interprofessional interactions or group work. A means to develop conflict management skill was suggested by Borg et al., (2011) who recommended that a group contract may be a means to prevent conflict and should conflict arise, solutions should be facilitated by the lecturer. Developing conflict management skills within the classroom, through structured group work could be transferable to clinical practice, hence towards developing collaborative competencies (Frank et al., 2014).

5.7. Summary

The results in this study, presents how students were being prepared for collaborative work as part of their professional development. Students have a keen understanding of what collaboration and relevance to healthcare but lack understanding of roles and responsibilities of healthcare professionals which has been identified as an enabling competency for the role of Collaborator within interprofessional teams. In this study, it was the students' confidence and conflict management abilities that were lacking and should be better improved. The clinical environment and interprofessional education are potent avenues to producing physiotherapy graduates with interprofessional collaborative abilities as well as collaborative activities such as group work and should be made use of more efficiently.

Although modules included some facets of collaboration, they lacked depth and coherency within and between their learning outcomes, activities and assessment strategies. Constructive alignment of curriculum could address lack of understanding of concepts around collaboration and improve its development such as role understanding, conflict management and confidence which also emanates from good communication skills. Structured peer assessments, group contracts and facilitation may be ways to motivate students to participate in collaborative learning within the classroom. However, students do have a firm understanding of patient- centeredness within healthcare which has been outlined as significant in literature towards improved health systems a foundation to developing other fundamental competencies to collaborate.

Chapter Six: Conclusion

6.1. Introduction

This chapter presents the summary, conclusion, significance of the study and recommendations for the development of collaborative competency.

6.2. Summary

The development of core competencies through healthcare education has been emphasised as a means to address the struggle of health systems. For the purpose of this study, the development of collaboration was explored in greater detail. Hence this study sought to answer the question: How are UWC physiotherapy students being prepared to work collaboratively as part of their professional development? It sought to do this by analysing the most updated curriculum module outlines, perceptions of students and educators related to the development of collaboration in the UWC physiotherapy department. The significance of this study rests in the value of student and educator opinions to appraise curriculum and professional development in the changing healthcare context.

The literature review established the importance of collaboration including the competencies to develop collaborative work. Collaborative competencies are significant for interprofessional teamwork as well as critical thinking, an attribute all UWC graduates should possess. Collaborative learning and IPE were established as methods to develop collaborative competencies. There were no studies on how collaboration is

developed among undergraduate physiotherapy students within the South African context. The CanMEDS framework (Frank et al., 2014), HPCSA core competency guidelines for undergraduate medical and dental students (MDB, 2014) and the essential physiotherapy competency profile (NPAG, 2009) informed the Pedagogical framework of the study.

A descriptive qualitative design was employed utilising document analysis of module outlines, focus group discussions and semi-structured interviews. The sample included module outlines (n=16), third (n=6) and fourth (n=6) year physiotherapy student (focus group discussions) and lecturers (n=7) (semi-structured interviews). The UWC physiotherapy department provided the research setting for the study. Appropriate ethical clearance was considered for entrance into research setting and to ensure confidentiality of all participants. Data was analysed using inductive content analysis.

This study reported on the learning outcomes as they related to collaboration within the teaching space and clinical placements. Although group work and interprofessional education were associated with collaborative development, the learning objectives of the tasks within modules should be clearly defined and aligned for better understanding from student (Biggs, 1999; Biggs 2003). Appropriate assessment strategies of group work, such as peer-evaluations, would motivate students to work collaboratively, negating “social loafing” and “free riding”.

Areas that need development to improve students' collaborative competencies included understanding of roles and responsibilities of health professional, communication, confidence and conflict management. Although clinical placements have been identified as a possible learning environment to develop collaborative competencies, students identified increased patient loads as a major contributor for a loss in interprofessional learning opportunities as well as the attitudes of the clinicians towards interprofessional collaborative opportunities. As identified by lecturers and supported by literature, students should also develop skills around communication, conflict management and confidence.

A noticeable feature displayed by students in this study was them engaging patients in the collaborative process. The needs of their patients were central to management especially developing trust and respect. Students are well situated to be part of interprofessional teams but could be better developed towards collaborative practice.

6.3. Conclusion

Physiotherapy undergraduate students demonstrate a lack of development towards collaborative work. Firstly, they lack a clear understanding of the roles and responsibilities of healthcare professionals. This understanding has been highlighted as an enabling competency towards developing the role of Collaborator as outlined in the Pedagogical framework (Table 1, pg. 15). It has also been outlined as an explicit feature of interprofessional collaborative practice (IPEC, 2011). Developing an understanding of

the roles and responsibilities of healthcare workers within IPE is emphasised (Doucet et al., 2013; Mellor et al., 2013; Nisbeth et al., 2008). Despite the fact that the university is offering IPE modules, it isn't enhancing physiotherapy students understanding of interprofessional roles and responsibilities as such this lack of knowledge would not be transferred to clinical practice.

Secondly, the students are inadequately prepared to address conflict i.e. prevention, management and resolution. Besides being important for the role of Collaborator (Table 1, pg. 15), conflict management has been highlighted for collaborative work (Dillenbourg, 1999; Roberts, 2005). The development of this key competency has also been outlined within IPE studies (Doucet et al., 2013; Mellor et al., 2013). Physiotherapy students in this study "run away" from conflict or felt inadequately developed to handle conflict within the classroom through group activities or through IP interactions within the clinical setting. The fact that the group of students represented in this study lack or avoid conflict, questions their ability to be effective members of the healthcare team through collaborative practice.

Lastly, students lack confidence and effective communication skills, both important for effective collaboration (IPEC, 2011; Suter et al., 2009). Despite students valuing listening and communicating with the patient, they do not exhibit confidence to communicate their opinion within the clinical environment. Although this study demonstrated that undergraduate physiotherapy students are well-positioned to participate in collaborative interprofessional teams it has demonstrated the lack of

development for collaborative work. As such physiotherapy students are inadequately developed for interprofessional collaborative practice and this may have negative impact on the health outcomes of patients.

6.4. Significance

The outcomes of this study could provide the physiotherapy department, institution and faculty with opinion into which learning activities best develop physiotherapy students' collaborative competency. It has also stressed the need to better align the learning outcomes with the appropriate learning activities as well as suitable assessment tasks that reflect learning outcomes (Biggs, 1999; Biggs, 2003). Physiotherapy students also need to see the value in the learning gains of activities and tasks, not merely working towards performance gains. This study has also demonstrated that there should be a better collaborative relationship between the physiotherapy department and clinicians for students to have optimal learning opportunities on interprofessional collaborative work. The findings of this study may have significance for curriculum development henceforth, producing graduates who have competency to collaborate across professions within healthcare teams.

6.5. Limitations to the study

There were some limitations to this study, which are discussed next. The module outlines that were used in this study were representative of the 2013 and 2014 academic years and included learning activities that were no longer being utilized by the department. This had the effect of presenting some aspects of teaching and learning practices as if there were currently being implemented, when this was not the case, and may have distorted the interpretation of some of the results. For example, some students made reference to activities conducted as part of one of these modules (Applied Physiotherapy 1), which seemed positive in the context of developing collaboration. However, since the module is now taught in a different way, the students' quotes needed to be read in that context.

In addition, the fact that the study called for volunteering of students and lecturers for the focus group discussions and interviews may present a self-selecting bias and thus the opinion presented in these results may not be representative of the entire population being studied. Purposive sampling with a larger sample population is a means to better represent views and opinions by eliminating bias that comes from non-probability sampling.

6.6. Recommendations

There are a number recommendations based on the findings of this study.

Constructive alignment of curriculum would better develop students to collaborate. In other words, curriculum should demonstrate clear learning outcomes, appropriate learning activities and assessment tasks should reflect learning outcomes (Biggs, 1999; Biggs, 2003). The curriculum alignment should target IPE modules for students to identify the value in them. It should seek to improve students understanding of the roles and responsibilities of healthcare workers (Mellor et al., 2013) and skills in communication (Suter et al., 2009), confidence and conflict management (Hammer-Chiriac, 2014).

Based on the literature and the research findings, it's recommended to the faculty that IP learning activities between students from various disciplines occur in the clinical setting as students' would view it as transferable for clinical practice.

The student responses indicate that there should be a collaborative relationship between the department of physiotherapy and clinicians, with the latter being educated on the challenges facing students in developing collaborative competency such as increased patient loads. It increased awareness among clinical staff on the learning outcomes of clinical practice could improve interprofessional learning opportunities for undergraduate physiotherapy students.

6.7. Future research

An assessment tool should be developed to evaluate collaborative competency as there are none as stated neither by the lecturers nor in the literature.

A study on a larger scale including all undergraduate healthcare students at the University of the Western Cape would be a better representation of the development of collaboration competencies of health professional students at the institution.

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Appendices

Appendix 1 Module outline data sheet

	Module	Year	Learning outcomes related to collaboration	'Activities' to develop learning outcomes associated with collaboration	Assessment of the learning outcome associated to collaboration	"Activities" not associated with learning outcome

Appendix 2: Focus group discussion question guideline

Focus Group discussion outline using Pedagogical framework

1. Please think about collaboration. What comes to mind?
2. How important is collaboration in physiotherapy?
3. Why is it important?
4. How is collaboration included in the curriculum? How are you being developed to collaborate with others?
5. Do you understand the roles of different health Professionals?
6. Do you collaborate with other Health Professionals during your clinical rotations?
    a. Probing question on collaboration with other healthcare professionals
    b. Describe the nature of this collaboration.
    c. What have your experiences with these collaborations been?
    d. How have they contributed to your development?
7. What are some of the difficulties you've encountered in collaborating with others?
8. How can collaboration be better integrated in your learning, either in the classroom or the clinical context?
9. Is there anything else that was not discussed that you think is important for the development of collaboration?

Appendix 3: Semi-structured interview questions

Semi-Structured interview outline using Pedagogical framework

1. How many years have you been a qualified physiotherapist?
2. How many years have you been involved in the education of physiotherapist?

   2.1. In which context? Clinical or lecturing?
3. What do you understand by collaboration?
4. How important do you believe the development of collaboration is in physiotherapy education?
5. How do you facilitate the development of collaboration amongst physiotherapy students?
6. How do you assess the development of collaboration in your modules?
7. Do you perceive any limitations to facilitating collaboration?
8. Is there anything else that has not been discussed that you think is important for the development of collaboration in physiotherapy education

Follow – up questions

1. Are there any skills you think are important for developing collaboration?
2. Do you think clinicians at clinical placements influence the development of collaboration amongst students? Please elaborate on your answer.

Appendix 4

INFORMATION SHEET

Project Title: Exploring the development of collaboration amongst Undergraduate physiotherapy students at the University of the Western Cape

What is this study about?

This is a research project being conducted by Janine Manilall at the Department of Physiotherapy at the University of the Western Cape. You are being invited to participate in this research project because you are a student of the department and your perceptions and understanding around collaboration will provide valuable insight. Collaboration is a valuable competency for improved patient outcomes. The purpose of this research project is to explore the development of collaboration in physiotherapy education. The knowledge gained from this study may be providing recommendations changes for physiotherapy education.

What will I be asked to do if I agree to participate?

You will be asked to participate in a focus group discussion that will be conducted at the UWC physiotherapy department at a time that is convenient for you. Focus group discussions will be audio recorded to ensure accurate data capturing. Focus group

discussions will not take longer than 60 minutes. Students perceptions on collaboration will be explored in terms of your understanding of collaboration and if or how you develop this in learning.

Would my participation in this study be kept confidential?

All personal information will be treated confidentially. To further ensure your anonymity, personal identifiable details will not be gathered. All focus groups will be audio recorded to ensure your contribution is accurately recorded. All information will be coded through an identification key that will only be accessible to the researcher.

All information collected will be held in a safe, secure location which only the researcher will have access with digital data being stored on a password protected computer. This study will use focus groups and the extent to which your identity will remain confidential is dependent on participants' in the Focus Group maintaining confidentiality. A confidentiality form will be given to each participant to ensure this.

What are the risks and benefits of this research?

There may be some risks from participating in this research study. All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Should your participation impact you negatively, please feel free to discuss this with the researcher.

Your participation would contribute to the understanding of how collaboration is being developed in physiotherapy. Results from the study may aid in curriculum development of competency in collaboration.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.

What if I have questions?

This research is being conducted by Ms Janine Manilall at the Department of Physiotherapy at the University of the Western Cape. If you have any questions about the research study itself, please contact Ms Manilall at:

Cell: 079 747 0049

Email: janine.manilall@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Research Supervisor:

Dr. Michael Rowe

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021) 959 2542

Cell: 072 514 2309

Fax: (021) 959 1217

Email: mrowe@uwc.ac.za

Dean of the Faculty of Community and Health Sciences:

Prof José Frantz

University of the Western Cape

Private Bag X17

Bellville 7535

chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

Appendix 5

Focus group discussion consent form

Title of the Research Project: Exploring the development of collaboration amongst undergraduate physiotherapy students at the University of the Western Cape

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

___ I **agree** to be audio-taped during my participation in this study.

___ I **do not agree** to be audio-taped during my participation in this study.

Participant's name……..

Participant's signature…….

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Ms Janine Manilall

University of the Western Cape

Cell: 079 747 0049

Email: janine.manilall@gmail.com

Appendix 6

Interview consent form

Title of the Research Project: Exploring the development of collaboration amongst Undergraduate physiotherapy students at the University of the Western Cape

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

___ I **agree** to be audio-taped during my participation in this study.

___ I **do not agree** to be audio-taped during my participation in this study.

Participant's name……..

Participant's signature…….

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Ms Janine Manilall

University of the Western Cape

Cell: 079 747 0049

Email: janine.manilall@gmail.com

Appendix 7

FOCUS GROUP CONFIDENTIALITY BINDING FORM

Title of Research Project: Exploring the development of collaboration amongst undergraduate physiotherapy students at the University of the Western Cape

The study has been described to me in language that I understand. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits. I agree to be audio recorded during my participation in focus group. I understand that confidentiality is dependent on participants' in the Focus Group maintaining confidentiality. I agree to uphold to uphold the confidentiality of the discussions in the focus group by not disclosing the identity of other participants or any aspects of their contributions to members outside of the group.

___ I **agree** to be audiotaped during my participation in this study.

___ I **do not agree** to be audiotaped during my participation in this study.

Participant's name……..

Participant's signature……..

Date……

Janine Manilall

University of the Western Cape

Cell: 079 747 0049

Email: janine.manilall@gmail.com