Lived experiences of first-year physical education students learning to swim

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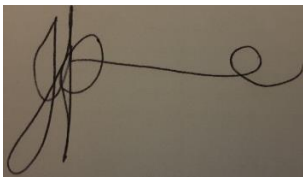
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Abstract

Drowning is the leading cause of child death in the world (World Health Organization, 2017). With over 300 000 drownings per year globally, people from low socio-economic backgrounds living in rural locations are most vulnerable to drowning (Willcox-Pidgeon et al., 2020). Obstacles that have an impact on learning how to swim includes motivation, fear, accessibility, and social constraints (Olaves et al., 2019). First-year education students who are studying the Human Movement Studies (HMS) elective at the University of Pretoria are required to pass the water activities section in their practical module (University of Pretoria, 2020). However, there are some students who are not water safe when starting the HMS elective. In this qualitative autoethnographic case study, the impact of learning to swim lived experiences on the perceptions that first-year education students had towards swimming are identified and explored. Through purposeful sampling, a sample group of students were identified. Of this initial sample group, 34 volunteers participated in an online questionnaire and 10 volunteer participants were interviewed in focus group interviews. Photovoice evidence of photographs taken during the module were used as the third set of data. In the data analysis of the collected data, four common themes were identified: fear, swimming ability, adaptation, and perception. According to complex learning theory (Light, 2014), this learn-to-swim process can be understood in terms of adaptation, social learning, and interpretation. This study concludes that the students' lived experiences of learning core aquatic and swimming skills contributed to their perceptions of swimming becoming more positive.

Keywords: Drowning; higher education; learn-to-swim; lived experiences; first-year students

Declaration of Originality

I, the undersigned, declare that this dissertation is my own original work and has not been submitted in any form for another degree or diploma at any university or other educational institute. Information, ideas, thoughts and opinions from both the published and unpublished work of others has been acknowledged in the text with a list of references clearly stated in the reference list of this dissertation.

Jan Petrus van der Merwe

13 November 2022

Dedication

This study is dedicated to all the South African students who are brave enough to learn how to swim.

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List of Acronyms

CAPS Curriculum and Assessment Policy Statements

CLT   Complex Learning Theory

FET   Further Education and Training

HEI   Higher Education Institute

HMS   Human Movement Studies (the subject)

LO   Life Orientation (the subject)

LTAD   Long-Term Athlete Development

LTPD   Long-Term Participant Development

MI   Multiple Intelligence

NCS   National Curriculum Statement

PE   Physical Education (the subject)

R-NCS   Revised National Curriculum Statement

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Chapter 1: Dipping a Toe Into the Water

1.1 Introduction

While the focus of this study includes "lived experiences" as an important construct relating to a distinct community, it stands in stark contrast to what happens in the real-life settings of other communities.

Enock Mpianzi, the 13-year-old Parktown Boys' High School Grade 8 pupil who drowned at the Nyati Bush and River Break Lodge during an orientation camp, was the fifth child to die at the notorious lodge since 1999, the Sunday Times reported (Hosken et al., 2020). Mpianzi disappeared when the makeshift raft that he and other boys were on overturned on the Crocodile River on 15 January 2020. His body was found two days later after other pupils had allegedly repeatedly warned camp facilitators that Mpianzi had last been seen struggling in the water and that he had gone missing – but these warnings were ignored.

Figure 1

Enock Mpianzi (Grobler, 2020)

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According to the Sunday Times, Grade 8 Northview High School pupil Portia Sowela, 14, drowned in the river while at a sports camp in 1999 (Masweneng, 2020). Like Mpianzi, she was swept away by river currents during a water activity. And similarly, no one reportedly realised that she was missing with her body only being found the following day. Mellony Sias, 18, from Adamantia High School in Kimberley also drowned in the river at Nyati during a camp of his school's hockey team, EWN reported (Modise & Lindeque, 2020). His drowning was confirmed by the school as well as by someone who had been involved in the search-and-rescue mission that had tried to locate Sias at the time. The Sunday Times further revealed that Grade 10 Malvern High School pupil Thuso Moalusi, 17, drowned in the lodge's dam, not the river (Hosken et al., 2020). Provincial police spokesperson Colonel Adele Myburgh told the publication that Moalusi had drowned in 2002 "while taking part in an obstacle course at the dam during the Nyati marathon activity". Lastly, Grade 6 Welgedag Primary School pupil Tumi Mokowane, 12, reportedly drowned in the lodge's swimming pool in September 2009. Like Mpianzi, he was missing for hours before the alarm was raised about his disappearance (Grobler, 2020).

South Africa is a beautiful country with many natural resources. It is sad that one of these natural resources, which is considered life-giving, is also taking away the lives of, among others, our youth. In the above newspaper article, it was reported that five children drowned at one camp site in South Africa over a number of years. This single newspaper article illustrates that drowning should be a rampaging concern for all South Africans, especially South African children. Drowning is not only a local problem; it is also a major killer of children worldwide (World Health Organization, 2017).

There are several known reasons that prohibit the learning of swimming skills and water safety knowledge in both high- and low-income countries (International Life Saving

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Federation, 2007). Obstacles that have an impact on learning how to swim include motivation, fear, accessibility, and social constraints (Olaves et al., 2019). These obstacles are used as excuses for not knowing how to swim, which subsequently leads to the high occurrence of drowning (Olaves et al., 2019).

As parents influence the physical activity and behaviour of their children, a lack of swimming safety skills can become hereditary (Pharr et al., 2014). A cyclical familial pattern in which a lack of swimming safety skills leads to a fear of drowning by the parent (Irwin et al., 2015) effectively leads to a decrease in the swimming frequency of the parent and consequently the children. This is then followed by a decrease in parental encouragement of children to swim, which leads back to a lack of swimming safety skills in the children. A generational pattern that discourages children and parents from swimming emerges (Pharr et al., 2014).

This worrying information highlights the importance of drowning prevention through swimming education, which is an important intervention in apprehending this natural killer (Rejman et al., 2020). The International Lifesaving Federation notes that there is growing evidence that a basic level of swimming skill, coupled with water safety knowledge, is enough to prevent most drownings (Stallman et al., 2017).

The first-year Human Movement Studies (HMS) elective at the University of Pretoria includes a water activity section in which students are required to swim (University of Pretoria, 2020). However, there are some first-year education students who are not water safe when starting this elective. Not being water safe refers to the student's basic swimming inability. Students who are not water safe run the risk of drowning if left in the swimming pool without supervision (Cesari et al., 2000). These first-year students are typically between the ages of 18 and 20 years, whereas the best time to teach swimming skills to a person is at the age of five years (Whipp, 2001). The older the person, the more difficult it is for them to

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master water safety and basic swimming skills (Whipp, 2001). A problem emerges when first-year education students who are not water safe choose to study the HMS elective, of which water activities is a compulsory section, and they struggle to master the required skills. To better understand this problem, the perceptions of first-year students' experiences when learning to swim needs to be identified. Their perceptions are mainly based on what they do during a scheduled "class". Practical classes serve as learning opportunities specifically designed for learning to swim. It can be considered an aquatic ecosystem (Guignard et al., 2020), similar to skills laboratories that are used in other fields of specialisation and typically found in the natural sciences.

Studies pertaining to the experiences of first-year university students are vast. These studies cover a wide range, from experiences caused by a mismatch between the expectations and reality of university (Hassel & Ridout, 2018) which include the student engagement with institutional support initiatives (Pather et al., 2017), to ones that include students' orientation, social life, development, support, transport, and living arrangements (Lekena & Bayaga, 2018). My study is novel insofar as the focus on the experiences of first-year students is concerned because it focused on the lived experiences of students mastering swimming for academic purposes and the change in perception that went along with it.

The construct "lived experience" is more than something that is only experienced. It is being experienced in a way that makes a special impression, which gives the lived experience lasting importance. Central to a lived experience is the meaning attributed to it (Frechette et al., 2020). Reid et al. (2005) state that a lived experience is coupled with a reflective and subjective process of interpretation. The lived experience must thus contain an interpretation of significance. If the lived experience remains purely descriptive, it is considered incomplete. A lived experience thus involves the shaping of the immediate raw experience through interpretation, reinterpretation, and communication (Frechette et al., 2020)

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As a researcher and higher education practitioner – lecturer or academic – I intended to explore the lived experiences of first-year education students when they were learning to swim. The perception that the students had of swimming was explored in relation to their swimming experience.

According to the most recent yearbook of the Faculty of Education at the University of Pretoria, the undergraduate programme emphasises the time spent by student teachers at school sites during their school practice or work-integrated learning under the mentorship of competent mentor teachers. This model of learning to teach through on-site observation and practice instead of extended periods of theoretical training has given the students a definite advantage (University of Pretoria, 2020). The first-year students at the University of Pretoria studying towards a Bachelor of Education (BEd) degree in the Senior and Further Education and Training (FET) phases and who choose the Life Orientation (LO) module are compelled by the university to also take the HMS module. The latter consists of two sections, hockey and water activities. Students are required to pass the compulsory water activities section of their first-year practical module. This section of the module includes water safety, water confidence, and swimming strokes. Owing to the vast difference in the swimming skill levels of the students, they are divided into two categories. The students who are competent swimmers are categorised as skilled swimmers. For these students to pass the practical water activities module at first-year level, they must be able to dive into the water and swim a total of 40 metres. These 40 metres are divided in 25 metres of freestyle and 15 metres of either backstroke or breaststroke in their final assessment (University of Pretoria, 2020).

Students who are not water safe and thus at risk of drowning are categorised as novice swimmers. The swimming skills that the novice swimmer students need to master for their final assessment are water treading for 15 seconds, 15 metres of non-supported travelling (swimming) through the water and touching the bottom of the pool (two-metre depth) with

both hands. Some of the novice students had never seen a swimming pool, let alone the large swimming pool at the University, which is 25 metres long and 12 metres wide, and, at the deepest side, four metres deep.

Based on my first-hand observations during the swimming classes, it is my perception as the lecturer that the whole swimming experience was completely new, strange, and terrifying to some of the students – making it a real-life lived experience. Figure 2 is a photograph of the swimming pool in which the water activities module took place.

Figure 2

University of Pretoria Groenkloof Campus Swimming Pool

The shallow end of the pool in Figure 2 is one metre deep, and it slopes down to the deep end (the side closest to the building), where it is four metres deep. One of the most challenging aspects of this pool is that the shallow end is only one metre wide but it is 25 metres long (the side furthest away from the building in the photograph). This is challenging because the shallow end is the only place in the swimming pool where the students can stand.

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The rest of the swimming pool is too deep for them to do so, making this the place in the pool where the majority of the skills are mastered and where time is spent. Essentially, over 100 students must learn swimming skills in 25 metres of swimming space. Floating, moving through the water, touching the bottom of the pool, and the start of water treading are all to be mastered in this small area (12 per cent) of the pool. When the students are comfortable in the shallow end and they have a good understanding of the skills that have to be mastered (generally halfway through the module), instruction moves to the deep end for two main reasons. First, this is where water treading is practiced as the students can no longer stand in the swimming pool. Secondly, this is to get them comfortable and confident being in the water when they cannot stand or support themselves, other than to use the skills that they have learnt. The swimming pool is also not heated, so the water can become very cold at times during the eight months that the students need to learn to swim.

To give context to the setting of this study, the Groenkloof Campus, where the swimming pool is located and where the water activities module takes place, is discussed. The Groenkloof Campus is a satellite campus of the university and is designated to the Faculty of Education. As such, the primary purpose of the swimming pool is to aid in the teaching and learning of education students. Having a swimming pool of such a high standard is a massive asset and creates the opportunity for quality learning to take place. The swimming pool is easily accessible to all the students of the university as it is located on the campus next to the lecturing halls. The area around the swimming pool is also big enough to accommodate the large number of students learning to swim. The only problem with the swimming pool, as mentioned above, is that the shallow end is not big enough to accommodate all the students simultaneously.

Based on my personal experience, observations, and perceptions, the lecturers involved in offering the module on swimming activities are under a lot of pressure having to

teach swimming skills to a large number of students (over 100) while also having to keep them safe. The low lecturer to high student ratio of 2 to 150 makes teaching incredibly difficult. The novice swimmer students have seven formal contact sessions with the lecturers during the first semester to master as many of the required swimming skills as possible. They then have about eight months to practice these skills on their own before being assessed during the second semester. During these eight months there are some additional informal swimming lessons. These lessons are offered by a learn-to-swim coach, with a lifesaver and swimming tutors present. I am the learn-to-swim coach as well as the part-time lecturer who is involved in the presentation of the formal contact sessions. The lifesaver is contracted by the university. He is a proficient swimmer and participates in the sport of lifesaving. The swimming tutors are second- and third-year students who have passed the water activities module in the past and have volunteered to help the first-year students. The academic year of the university commences with the first semester in February and ends with the second in November of the same year (University of Pretoria, 2020).

The first-year students' lived experiences and related perceptions regarding mastering swimming inform the water activities module lecturers of factors thereby contributing to quality learning and where improvements should be made. Such practice-based evidence provides practice guidelines through data collection that matches the needs (both learning to swim and knowledge of how students experience the water activities classes) of the practitioners, that is, the students and lecturers responsible for the water activities module (Green, 2008).

Chapter 2 explores the literature regarding swimming skills, experiences, learning in general, and learning that is specific to the act of swimming with a view to constructing a theoretical framework. In Chapter 3, the research design of the study is discussed. In Chapter

4, I report on the analysis of the data collected from the interviews and observations. Chapter 5 concludes the study with reference to its significance and implications.

1.2 My Journey as a National Swimmer and a Higher Education Practitioner

In this section, I briefly reflect on my own lived experience as a national swimmer and share this with the reader with a dual purpose in mind – my world of swimming is both performance- and education-based. Having mastered competitive performance-based swimming, my goals and purpose have shifted towards the educational side of swimming, where I am once again a student with much to learn.

In the image below (Figure 3), I am swimming the butterfly swimming stroke in competition.

Figure 3

Swimming Butterfly at the Peak of my Competitive Swimming Career

This was during the peak of my swimming career during which I achieved many accomplishments within the sport of competitive swimming. I was a national swimmer who represented South Africa all over the world and competed internationally for four years. I represented TUKS (University of Pretoria) for five years at the University Sport South Africa

national competition and was part of the winning team for four years. I have also broken several provincial and University Sport South Africa swimming records.

I started my swimming career over a decade ago and, at my peak, reached a high level of competitive swimming at international level (see Figure 3). Towards the end of my swimming career, I started lecturing swimming at the Faculty of Education of the University of Pretoria as a semi-professional swimmer and coach.

My students were first-year education students of whom the vast majority could not swim and were not water safe. During my first year of facilitating learning during the water activities section of the practical module, I realised that I could not relate to my student swimmers at all. This recognition challenged me to juxtapose my lived experiences to that of my students. My students struggled to learn the most basic aquatic skills such as floating and blowing bubbles – skills that I had learnt as a toddler two decades ago. They were also not fearless like the children to whom I used to teach swimming, as they had a lifetime of preconceived ideas regarding water in general and swimming per se. Furthermore, their mature bodies were heavy in the water and they tired very quickly. My struggles in teaching these students to swim and their struggles in learning to swim inspired this study.

I acknowledge that by conducting the research, I have learnt that both my students and I had to learn in a reciprocal fashion. They had to learn to swim; I had to learn how to teach learning to swim in a different way.

1.3 Background Information

To understand the phenomenon of the first-year education students having to learn to swim, an understanding of both past and present external factors that contributed to this phenomenon are required. These external factors include the past of the school subject Physical Education (PE) and the current BEd degree in the Senior and the Further Education and Training (FET) phases.

The continual transformation and restructuring of PE (Coakley & Burnett, 2014) in South Africa has had some effect on the field of specialisation. PE was changed and reduced in 1997 from a stand-alone subject to one of six learning outcomes in the new subject called LO (Burnett, 2020). The implementation of LO in 1997 had a negative effect on the PE learning outcome. LO was made a non-examinable subject, and was thus perceived as less important than the other examinable subjects (Burnett, 2020). The implications of this resulted in LO teachers loathing to present the PE learning outcome, the children being reluctant to participate in it, and the public regarding it as a waste of time and money. In addition, the restructuring of higher education and the phasing out of teacher training colleges positioned PE as a discipline under pressure with a decline in qualified PE teachers (Bloemhoff et al., 2016).

The Department of Basic Education Action Plan 2014 indicates the facilitation of the implementation of PE in schools (Department of Sport and Recreation, 2012). This encompassed not only the re-introduction of PE as a subject, but also assessed the capacity of educators to teach it and the sport-specific training they received (Bloemhoff et al., 2016). The need for the re-skilling of educators to teach PE and resourcing schools with the necessary equipment cannot be emphasised enough (Department of Sport and Recreation, 2012). Even though not all the schools in South Africa have the necessary resources to offer PE, the Department of Education recommends that teachers be trained and educated to improvise apparatus and equipment to use during PE classes until it can be allocated (Department of Education, 2011).

First-year students studying towards a BEd degree at the University of Pretoria in the Senior and FET phases who choose LO as an elective must also take HMS as an elective (University of Pretoria, 2020). This combination of the LO elective and the HMS elective is currently compulsory.

The HMS elective is made up of a theoretical part and a practical part. The theoretical part covers subjects, such as Sport Management, Sport Marketing, Anatomy and Physiology, Sport Psychology, Biomechanics, Recreation Studies, and Exercise Science. In the practical part, students need to perform various sporting codes including swimming, lifesaving, indigenous games, athletics (track and field), hockey, gymnastics, cricket, soccer, rugby, tennis, softball, netball, and dance (University of Pretoria, 2020). During the process of learning how to perform the sporting skills, the students also master skills pertaining to designing learning opportunities to implement these principles of the respective sporting codes in a school setting once they are employed as a teacher.

First-year students intimidated by attending a large higher education institution (Crozier et al., 2008), who have very few swimming skills, and who are not water safe are required to become competent in swimming – a skill that is best mastered at the young age of five and that is incredibly challenging to learn the older you get, as mentioned above. These students are required to become water safe and competent in swimming in order to pass the water activities module section of their first-year practical module (University of Pretoria, 2020). Research suggests that children need, on average, 16 swimming lessons to achieve a minimum competency in swimming skills (Willcox-Pidgeon et al., 2020b). However, adult swimming skill acquisition requires further research as little is known about their swimming skill acquisition (Willcox-Pidgeon et al., 2020b).

During my time as a lecturer teaching the students to swim, I have observed that during the first practical class, the students generally bundle together in the corner next to the swimming pool, hiding behind each other. It looks like they are overcome with a paralysing fear when they enter the water and cling to the side of the pool. The first couple of lessons are spent getting them comfortable being in the water, walking in the water and getting their faces wet. During the swimming lessons, the first-year students are assisted by swimming

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tutors. Floating and blowing bubbles are introduced next. This is where the progress slows down. Based on observation from the poolside, it looks like the students struggle to keep calm when their feet leave the bottom of the pool, and they are required to float. It looks like panic sets in immediately and they fight with everything in them to get their feet back on the bottom of the pool. Floating is considered a valuable survival skill and an important skill that students need to master, because, without this skill, they will struggle to learn to swim (Cesari et al., 2000). The water treading is also a survival technique (Cesari et al., 2000) and is particularly difficult for the swimmers to master because the water treading is done at the deep end of the pool. This is not only physically but also mentally challenging for the students (Popke, 2009). As soon as the student knows that standing on the bottom of the pool is no longer an option, a visible paralysing fear overcomes them again. Students can have difficulties adjusting psychologically or physiologically to the unstable and weightless environment of water. Like a fear of heights, a fear of depths is an intuitive defence mechanism (Popke, 2009). According to Dash (2006), a common perception is that if you have a phobia for the water you need to master swimming. However, the truth is that if you want to master swimming you must first overcome your phobia of the water (Dash, 2006). Informal swimming sessions are not compulsory for first-year students but are recommended.

1.4 Problem Statement

The drowning rate in not only South Africa but also the world is alarming (World Health Organization, 2017). With the vast majority of South Africans unable to swim, the risk of drowning increases (Cesari et al., 2000). When a person is unable to swim, they form certain negative perceptions pertaining to water safety and swimming (Pharr et al., 2015). These negative perceptions prohibit not only themselves, but also their children from learning how to swim (Pharr et al., 2014).

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As alluded to above, the first-year education students at the University of Pretoria who enrol for HMS, are required to pass the water activities section that is part of their practical module (University of Pretoria, 2020). Most of these students, however, are not water safe and cannot swim. As mentioned above, negative perceptions regarding swimming develop when an individual reaches adulthood without ever learning how to swim (Pharr et al., 2015). Therefore, when these students are required to learn to swim as young adults, they tend to bring many negative preconceptions regarding swimming with them. With not much known about adult swimming skill acquisition (Willcox-Pidgeon et al., 2020), the already difficult challenge of teaching adult students to swim becomes a lot harder.

1.5 Research Question

Qualitative research is exploratory and is used to investigate a topic when the variables or base theory are unknown (Tracy, 2019). Qualitative research can be started by identifying a research problem that can be understood by exploring a phenomenon or concept. Then a research question can be formulated that can help to address the research problem (Creswell & Creswell, 2018).

I consider the following lived experiences regarding swimming as notable. When first-year education students need to learn to swim, they seem to be reluctant to take part in the swimming classes and they struggle to grasp concepts that I have taken for granted for a long time. I can see they are going through experiences that I have not experienced for a long time – if ever. Hence my predisposition regarding the transformation within the students changed as I observed that towards the end of the module they enjoyed swimming and did not want to get out of the swimming pool after class. This was an extremely rewarding lived experience.

So, as a lecturer teaching first-year students how to swim, I became curious about gaining insight into what lived experiences these students were going through when I was

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teaching the various water safety and swimming skills, and how these lived experiences changed their perception of swimming. This led to the following principal research question:

How did the lived experiences of first-year education students learning to swim at a higher education institution influence their perceptions of swimming?

From this research question the following sub-questions were derived:

1. Did the first-year education students perceive a change in their experiences during the process of mastering the skills of learning to swim?

2. How can my practice of facilitating learning to swim be informed by the perceptions and lived experiences of first-year education students mastering the skills of learning to swim?

1.6 Rationale and Significance

As a learn-to-swim coach and a lecturer at the University of Pretoria, this research is important to me on a personal, professional, and scholarly level. On a personal level, it is important since swimming is one of my passions. At a professional level, swimming forms part of my field of specialisation, and, as an early-career academic, I have to become a scholar of both my field of specialisation and my teaching practice. The work of Hlengwa (2019), which focuses on early-career academics, is notable as it is about mentoring early-career academics. In this regard, I can attest to the fact that I was indeed, although informally, mentored in a number of ways. The Head of Department was a mentor *par excellence*. As the professional world of an academic is multidimensional, his mentorship included foci, such as being an academic, a scholar, a university teacher, to name but a few. Peer mentoring between me and my colleagues was reciprocal as we learnt from one another. However, I tapped into the vast knowledge of my seasoned colleagues to learn what the life of an academic entails. Figure 4 is a photograph of me and a mentor colleague at the side of the swimming pool during a water activities practical class.

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Figure 4

Peer mentoring during the water activities class

Peer mentoring is an approach that engages the student as a partner and enhances the student's holistic competencies alongside the mentor (Chan & Luo, 2020). Peer mentors can assist with specific skills that have been shown to improve academic performance by buffering stressful academic situations and improving student retention (Beltman et al., 2019). Peer mentoring relationships can be very advantageous in graduate education as it can further academic and professional socialisation, enhance critical thinking, and contribute to ongoing professional and personal development. Through these relationships a student's academic experiences can be enriched through the increased exposure to multiple worldviews and research traditions (Lorenzetti et al., 2019).

To me, it is important to create learning opportunities that will activate as many people as possible to swim. Therefore creating such opportunities for prospective educators to become competent swimmers can have a positive effect on students' futures, and the way they will create such opportunities for their learners one day.

1.7 Aim of Study

The phenomenon that I studied, also referred to as the unit of analysis (Damsa & Jornet, 2021), was how the various lived experiences that first-year education students at a higher education institution, as part of their studies, changed their perceptions of swimming when learning to swim. The perceptions that these students had of swimming and how the learning to swim experiences impacted these perceptions were recorded through interviews.

By conducting the research, I could identify and explore the perceptions that the students had of swimming and how their experiences when mastering swimming as part of their studies changed their perceptions of swimming.

The aim of this study was to investigate how the perceptions that the students had of swimming changed with their lived experiences of learning to swim and mastering the respective swimming skills. Information gathered on the changes in the students' perceptions in relation to the learning to swim experiences could inform and subsequently improve the process of students mastering swimming skills.

1.8 Outline of the Study

The structure of this thesis is defined by headings which create an outline of the study. The headings of the chapters of the study are metaphors that I have chosen to illustrate the content of the chapters, and, at the same time, describe the actions of swimming.

For Chapter 1, the heading Dipping a Toe Into The Water is a metaphor for the introduction to the study. Like a reader reading the introduction to find out what awaits them in the rest of the research paper, a swimmer dips a toe into the water to find out whether cold or warm water awaits them.

Diving Into the Water, the heading for Chapter 2, is a metaphor for the literature review. The literature review is where the researcher explores all the knowledge and literature that relates to their study. In this metaphor, the researcher diving into a new world of

knowledge and literature is the same as a swimmer who dives into a new and different world under the water.

Kick and Pull is a metaphor for research design. A research design is a plan of how the research study will come together. Chapter 3 is the "how" of the study: how the data will be collected, how the sample will be selected, and how the data will be analysed. Kicking and pulling is the how of swimming. To swim you have to kick and pull to move forward and stay on top of the water. Kicking and pulling is the design of swimming.

The heading Flowing Through the Water is a metaphor for the data presentation, findings and discussion. Like a swimmer flowing effortlessly through the water, in Chapter 4 the data that flows through the study is presented and discussed.

Finally, Making Every Stroke Count is a metaphor for the research study's significance, implications, and conclusion. Just as each stroke counts and adds up towards the overall swimming speed, efficiency, and ability of a swimmer, so the other four chapters come together and add up to form the significance, implications, and conclusion of this research study.

1.9 Summary

In this chapter, the phenomenon of first-year education students learning to swim at a higher education institution is introduced. My journey as a swimming competitor and educator, which led me to the phenomenon under investigation and ultimately to this research study, are discussed. Relevant background information regarding the phenomenon of the research study was also discussed, along with the problem statement that was identified, the research question that needs to be answered, the rationale and significance of this phenomenon, and the aim of the study. In the next chapter, relevant literature is discussed.

Chapter 2: Diving Into the Water

2.1 Introduction

As mentioned in Chapter 1, drowning is a problem, not only in South Africa, but also around the world. On the same day that 13-year-old Enoch Mpianzi drowned in the Crocodile River when his makeshift raft overturned during his school's orientation camp (Baxter, 2020), 15 January 2020, another 13-year-old boy Shaun Seboko was found dead floating in his school's hostel swimming pool in Magaliesburg (Pretorius, 2020). Drowning holds a massive risk for South Africans, and, in particular, South African children. The WHO has identified drowning as the third leading cause of accidental injury death worldwide, with 90 per cent of accidental drowning deaths occurring in middle- to low-income countries (World Health Organization, 2021). With over 300 000 drownings per year globally, people (particularly children) from low socio-economic backgrounds living in rural locations are most vulnerable to drowning (Willcox-Pidgeon et al., 2020). Statistics South Africa recorded 1 453 drownings in South Africa in 2017 (Department of Statistics South Africa, 2020). An argument can be made that the high drowning statistic can be attributed to the fact that only 15 per cent of the South African population can swim in a country that possesses approximately 2 000 kilometres of coastline and an array of other fresh bodies of water (Harrison, 2007). A possible solution to the drowning problem is to teach South Africans to swim. As the WHO identified, drownings can be prevented by creating opportunities for children to learn about basic water safety and to master swimming and lifesaving skills (World Health Organization, 2021). From the worrisome drowning statistics and the WHO's recommendation on drowning prevention, the necessity and importance of learning to swim is clear.

Students who are struggling with a subject they need to master is a phenomenon that challenges lecturers. There are several reasons for this, including the fact that there are differences in modes of thinking which contribute to this struggle (De Boer et al., 2013;

Herrmann,1995; 1996; Herrmann and Herrmann-Nehdi, 2015). These modes are focused on later in this chapter and serve as an exemplar. Different forms of teaching can be constructs used in the literature. What works for one student and when they need to learn might not work for another (Cassidy, 2004; Cassidy et al., 2015; Pritchard, 2009). What does not work for them then becomes an area of discomfort or an aspect of learning with which they struggle. Also, what works for one lecturer and when they need to teach might not work for another. So, this might bring discomfort into areas of teaching or aspects of teaching with which they struggle. There is an array of theories on learning styles and thinking preferences that can be found in the seminal work of scholars such as Paivio (1971), Gregorc (1982), Kolb (1984), and Herrmann (1995). Kolb's experiential learning theory was chosen for this study because of its holistic integrative viewpoint related to learning.

The holistic integrative viewpoint combines perception, behaviour, cognition, and experience (Kolb, 1984). To make this point of view the focus of my study, I refer to "lived experience" instead of simply referring to experience. The second theory is complex learning theory (CLT) in which the interpretive process is central to learning. According to this theory, students use their backgrounds to interpret and reflect on new experiences as a result of which learning takes place (Light, 2014). Analogous to this, lecturers use their backgrounds to interpret and reflect on new experiences regarding their teaching.

The literature review concludes with two theories of psychology that are used to overcome phobias. Systematic desensitisation, which stems from behaviour therapy, uses relaxation techniques alongside desensitisation to decondition anxiety responses (Holden, 2018). Flooding also stems from behaviour therapy and uses a technique of exposing patients to their phobias in a safe environment to demonstrate that no harm occurs when fully exposed to the phobia (Bagiartini & Noviekayatie, 2020; Bufford, 1999).

2.2 Physical Education in South Africa

Physical Education as a discipline goes beyond school education and has a remarkable impact on society and people. Sport, health, nutrition, and life-skills are by-products of Physical Education and is thus important for the total education of school learners (Hendricks, 2004).

Before South Africa became a democracy in 1994, PE in the South African school curriculum was a stand-alone subject that received two periods of an hour each per week and teacher training colleges provided specialist training for PE teachers (Bloemhoff et al., 2016).

As a result of policy transformation processes across all South African government departments, a new National Curriculum Statement (NCS) was introduced by the Department of Education. This NCS was called Curriculum 2005 and education was based on outcomes. Outcomes-Based Education was implemented in 1997 (Coakley & Burnett, 2014). This new curriculum reduced PE from a stand-alone subject to one of six learning outcomes in the new subject LO, as highlighted in Chapter 1. Only one period per week was allocated to LO and all six parts had to be covered (Bloemhoff et al., 2016), namely development of the self in society, social and environmental responsibility, democracy and human rights, careers and career choices, study skills, and physical education (Department of Basic Education, 2011). Soon Outcomes-Based Education was no longer the focus in programmes offered at higher education institutions, but rather through workshops and other means of educator professional development opportunities offered by provincial Departments of Education (Van Deventer, 2011). The government then closed 120 teacher training colleges, which contributed to a negative attitude towards education as a profession and led to a loss of nearly 16 000 educators, most of whom were teachers with vital skills and experience (Jansen & Taylor, 2003).

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A task team reviewing the implementation of Curriculum 2005 had identified inherent flaws and major complaints in 2002 (Bloemhoff et al., 2016). This resulted in the Revised National Curriculum Statement (R-NCS) which was developed to address the shortcomings of Curriculum 2005 and was implemented in 2004 (Bloemhoff et al., 2016). To improve the performance of the R-NCS, Curriculum and Assessment Policy Statements (CAPS) were developed in 2009 (Bloemhoff et al., 2016). CAPS identified the aims of LOs as preparing and guiding learners for a life of possibilities (Van Deventer, 2011). CAPS further stated that in the Senior phase (Grades 7 to 9), two and a quarter hours per week were to be allocated to LO, of which PE received 40 minutes, and in the FET phase (Grade 10 to 12), two hours per week were to be allocated to LO, of which 60 minutes were allocated to PE (Department of Basic Education, 2011).

A big problem currently in PE is that insufficient teacher training is resulting in unqualified staff having to present and teach PE, which has a destructive influence on the perception and quality of PE as a subject (Bloemhoff et al., 2016; Morgan & Bourke, 2005; Prinsloo, 2007). The Department of Sport and Recreation recognised that PE teachers were crucial in the re-introduction of PE as a stand-along subject. (Department of Sport and Recreation, 2012). The National Sport and Recreation Plan (2012) stated that, to optimise access to PE, sport, and recreation in all schools in South Africa, qualified teachers were required. According to the Department of Education (cited in Bloemhoff et al., 2016, p. 221), although not all schools possess the necessary equipment, apparatus, or facilities to present physical activities, it is recommended that LO teachers be trained and educated to improvise apparatus and equipment to use during PE classes until it can be allocated (Bloemhoff et al., 2016). The need to re-skill educators to teach PE and resourcing schools with the necessary PE equipment cannot be emphasised enough (Department of Sport and Recreation, 2012).

2.3 Danger Of Drowning in South Africa

South Africa possesses enough resources, with about 2 000 kilometres of coastline and various in-land bodies of water, for swimming to take place. The country also has experts in the field of swimming with an array of Olympic swimming medallists, yet only 15 per cent of the population could swim in 2007 (Harrison, 2007). This statistic shows that there is a massive gap within the country with regard to swimming. Therefore, the question arises: How can swimming be one of South Africa's most successful Olympic sports, yet only 15 per cent of the population can swim? With the worrisome drowning statistics from the World Health Organisation and Statistics South Africa mentioned above, it is essential for both children and adults to develop water safety and swimming skills in order to participate in activities around water (Willcox-Pidgeon et al., 2020).

Yet, there is no specific reference to drowning, drowning prevention, and water safety in the various legislations that govern the various state departments (International Life Saving Federation, 2011). There is also no specific legislation to promote national water safety campaigns in the curriculum set by the Department of Education (International Life Saving Federation, 2011).

A study on adult female immigrants learning to swim in Australia reported that the reasons for not learning to swim earlier in their lives included cultural and religious reasons, costs, lack of information, priorities, and fear (Willcox-Pidgeon et al., 2020). It can be speculated that these reasons could also be valid in the South African context. This deduction is made as South Africa is a country that has various cultures and religions (Lundgren & Scheckle, 2018) with more than 50 per cent of South Africans living in poverty (Department of Statistics South Africa, 2002).

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2.4 Learning to Swim

Swimming consists of many different skills being performed together in a complex sequence (Bay, 2016). It is important for educators to understand the development of motor skills (like swimming skills), as many variables contribute to the ability to process and learn motor skills effectively. Specific sport-related motor skills are learnt behaviours that are related primarily to environment, opportunity, good teaching, and practice (Stevens-Smith, 2020). All the different swimming skills must be learnt and mastered to be able to perform the four different swimming strokes (Lawton, 2013). The learning process of skill development is comprised of four phases, which includes understanding the skill, acquiring and refining the skill, automatisation of the skill, and generalisation of the skill (Sigmundsson, 2021).

The sport of swimming consists of four swimming strokes, namely freestyle, backstroke, breaststroke, and butterfly (Ncube et al., 2019). It is recommended that a person's swimming journey starts at a young age with water safety skills (McKay & McKay, 2005). According to the skill development learning process, young children have many neurons and possible connections, giving them an enormous potential to create numerous nerve-cell networks that can be developed through stimuli and training (Sigmundsson, 2021).

The water safety skills that should be learnt first, according to Swimming South Africa's Learn to Swim manual, are the core aquatic skills, which include floating, aquatic breathing, and moving through the water (Cesari et al., 2000). Water safety skills generally do not include learning the four swimming strokes, however, they are considered the foundational building blocks of these strokes (McKay & McKay, 2005). Floating, which involves moving from a vertical position to the horizontal neutral position in the water, is a core aquatic skill that needs to be learnt first as it serves as the platform for the four swimming strokes (Bay, 2016).

Stroke development is introduced after the completion of the water safety programme and the mastering of water safety skills. In stroke development, the four swimming strokes are taught by building on the water safety skills (Ncube et al., 2019). During stroke development, awareness of propulsive force, drag force, and how specific movements create propulsion and minimise drag is increased (Bay, 2016). Freestyle is generally taught first as it is the easiest swimming stroke to learn, followed by backstroke. Breaststroke and butterfly are the more difficult swimming strokes to learn, as they are more technical and require new movement patterns to be learnt (Lawton, 2013).

According to Edelman (1990), skills like swimming are learnt by creating certain networks of brain nerve cells and strengthening their connections through stimuli and experience. These networks of nerve cells make connections and work together. In the beginning, these connections are small and not strong, but with training and experience they get stronger and bigger. Making the core aquatic skill's nerve-cell network stronger through practice and experience provides the basis for other swimming skills to be learnt and connected to the nerve-cell network (Sigmundsson, 2021). Physical activities like swimming, which promote nerve-cell growth and enhance the brain's cognitive ability, including attention and memory, result in enhanced overall learning (Zhao & Li, 2018).

Swimming South Africa promotes and prescribes a long-term participant development (LTPD) model in their Level 1 (Ncube et al., 2019) and learn-to-swim (Cesari et al., 2000) coaching training manuals. LTPD is a variation of long-term athlete development (LTAD), which is also used in the United Kingdom (Ford et al., 2011) and Canadian swimming federations (Norris, 2010) to guide the development of their swimmers. LTAD makes sure that the swimmer is getting the appropriate training by aligning their biological age, skill level, and training (Balyi et al., 2013).

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The primary goal of LTAD is to ensure that children learn fundamental skills during their optimal physical development stages (Lang & Light, 2010), which ensures that athletes develop optimally and peak at appropriate times (Ford et al., 2011) thus avoiding athlete burnout and promoting lifelong participation (Balyi et al., 2013). Swimming South Africa changed the model's name from LTAD to LTPD to be more inclusive (Ncube et al., 2019).

The LTAD model consists of seven stages, each of which is based on the participant's biological age (Balyi et al., 2013). The LTAD model is discussed in detail as it is describes how swimming should be taught, which forms an essential part of this study.

The skill development learning process includes quantitative and qualitative changes (Sigmundsson, 2021). Quantitative changes involve developing new skills; however, the focus is not on the quality of the skill. At the start of the quantitative changes of skill development, the neural network is small. Qualitative changes involve being better at a skill. Here the neural networks become larger and stronger. Next, the focus is on the quality of the skill (Sigmundsson, 2021). At the start of each LTAD stage, quantitative changes take place as new skills are being learnt. At the end of each stage, qualitative changes take place as the skills are being performed better at a higher level. Once the skills are performed at a high level, the next stage and more skills can be introduced. Each stage of the LTAD process takes about three years (Balyi et al., 2013). This time frame gives the participants enough time to form nerve-cell networks through continuous experience and stimuli of each stage to reach the automatisation and generalisation stages of the skill development learning process (Sigmundsson, 2021), before moving on to the next stage.

Stage 1 of the LTAD is called the active start stage and the recommended biological age for this stage is 0 to 6 years (Balyi et al., 2013). The objective here is to learn fundamental movement skills. The child is introduced to the aquatic environment, achieves water confidence and learns the basic water movement skills (Cesari et al., 2000). Through

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the introduction of these skills, the child becomes aware of water safety. This stage should be guided, structured, and fun.

Stage 2 is referred to as the fundamental stage (Balyi et al., 2013). The recommended biological age for this stage is 6 to 9 years. Basic movement literacy skills are developed in this stage. In swimming, basic movement literacy skills that need to be mastered include aquatic breathing, streamlining, balance and buoyancy, sculling and treading water, rotation and orientation, travel and coordination, entries, exits, and diving (Ncube et al., 2019). These skills are referred to as core aquatic skills. Core aquatic skills allow learners to enjoy many aquatic activities and enhance their swimming ability. As such, all learners should learn these skills (Cesari et al., 2000).

Stage 3 is the technique-building stage (Balyi et al., 2013). The recommended biological age for this stage is 9 to 12 years. During this stage, excellent technique should be developed as the child's nervous system is basically complete and there are rapid improvements in the coordination of movement skills (Lang & Light, 2010). The four swimming strokes, along with dives and turns, are taught and developed during this stage (Ncube et al., 2019).

In the following stages, emphasis is placed on the conditioning of the muscular, cardiovascular, and respiratory systems (Ncube et al., 2019). The swimming technique is also further developed and refined. The recommended age for Stage 4 is 12 to 16 years, for Stage 5 it is 16 to 18 years, and for Stage 6 it is 18 years and older (Balyi et al., 2013). Stage 7 is the lifelong participation stage. This stage is for participants who have retired from competitive swimming, now participate in it recreationally, and use it for exercise (Ncube et al., 2019).

As discussed above, in the LTAD, water safety should be taught between the ages of 0 and 6 years and the core aquatic skills should be taught to children between the ages of 6

and 9 years (Cesari et al., 2000). However, as described in Chapter 1, first-year students at the University of Pretoria only learnt these skills at the age of 18 or older. This is problematic because the older a person is, the more difficult it becomes for them to master water safety and basic swimming skills (Whipp, 2001). The quantitative and qualitative changes that occur during skill development also need a considerable amount of time and practice (Sigmundsson, 2021). However, the students only have a limited time to learn and develop their aquatic skills. Students, as young adults, also have less nerve cells to connect and create networks with, making it more difficult for them to learn new skills than when they were young (Ford et al., 2011; Sigmundsson, 2021). The views of scholars on the effectiveness of adult learn-to-swim programmes are not clear as it is not well studied (Willcox-Pidgeon et al., 2020). According to the LTAD (Balyi et al., 2013; Cesari et al., 2000; Ncube et al., 2019), first-year students should be entering their final stage of lifelong participation; instead they are only starting their swimming journey. In a study that looked at adult female immigrants learning to swim in Australia, the participants stated that the 10 sessions they had to overcome their fear of water and learn the requisite water safety and swimming skills were too short (Willcox-Pidgeon et al., 2020).

2.5 Learning Theories

Learning is the process of the acquisition of new (or the modification of existing) skills, knowledge, behaviours, values, or preferences (Jensen & McConchie, 2020). There are many different theories regarding the way people learn (Pritchard, 2009). What is ideal and works for an individual student might not be ideal or work for another. Stevens-Smith (2020) states that learning differences even occur in gender. The learning process also differs with regard to the subjects and the skills that students need to master. Owing to the diverse thinking preferences of students in the classroom, learning opportunities should be designed in such a way that they factor in the uniqueness of the individual student (De Boer et al.,

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2013). Theories like Whole Brain® learning[1] (Herrmann, 1989) and multiple intelligences (Gardner, 1993) show that there are various ways in which students use the functionality of the brain to think and learn. As an educator, based on experience, one needs to determine what works and what does not work with a specific group of students (Visser et al., 2018). One way of determining the best learning style is by determining the thinking preferences of the students (De Boer et al., 2013). In doing so, the lecturer will have a better understanding of how the students learn (De Boer et al., 2013) with a view to better accommodating them. The purpose of accommodating students according to their preferred way of thinking is to optimise the quality of learning.

2.6 Brain-Based Learning

Brain-based learning refers to learning and teaching methods based on the latest scientific research about cognitive development, how the brain learns, and how students learn differently (Dardiri & Hariyanto, 2018). Establishing a relationship between physical education and brain-based learning theory will be of great significance to optimise a PE curriculum (Zhao & Li, 2018). The results of a study that used brain-based learning to teach table tennis skills indicated that the educational curriculum based on brain-based learning contributed to the students' learning of basic table tennis skills (Jebur et al., 2022). According to Jensen and McConchie (2020), understanding how the brain functions may be one of the most relevant areas of pedagogical knowledge that educators should acquire. Brain-based education is the engagement of strategies that are based on the principles of the brain that we currently believe to be true (Jensen & McConchie, 2020). Early brain research has indicated that the brain can be split into the left and right hemispheres with each controlling different aspects of thinking and action (Stevens-Smith, 2020). The left hemisphere is identified as

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[1] Herrmann International own the trademark for Whole Brain® and as such must include the trademark sign and be capitalised.

being analytical, logical, and rational, while the right hemisphere is holistic, conceptual, and imaginative (De Boer et al., 2013).

Stevens-Smith (2020) describes how the left and right hemispheres of the brain process information using American football as an example. According to Stevens-Smith (2020), the right hemisphere of the brain, which sees learning as a big picture, acknowledges that a touch down has been scored. The left hemisphere of the brain, which sees learning in individual parts, understands that a player caught the ball in the end zone. The same example can be applied to swimming. The right hemisphere of the brain would see the big picture of swimming which is swimming the whole stroke. The left hemisphere of the brain would see the swimming as individual skills which would include skills like floating, kicking, and pulling.

Brain-based theories describe how the common activities of neuronal cells in the brain generate behaviours and analyses why the environment stimulates or affects certain brain activity. Advanced cognitive behaviours of the brain, including perception, intelligence, and thinking is also described by brain science – a construct used by Zhao and Li (2018).

I prefer using the construct of brain-based teaching and learning or education instead, as found in the work of Bonomo (2017), De Boer et al. (2013), du Toit (2018), Jebur et al. (2022), Jensen and McConchie (2020), and Stevens-Smith (2020).

Intelligence is defined by Gardner as biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a specific culture (Gardner & Moran, 2006). The intelligence that best relates to swimming is bodily kinaesthetic intelligence, which is the processing of instructions, together with sensory and kinaesthetic information in the swimming pool (Ardha et al., 2018). This information is then used to create certain movement patterns to execute the current aquatic challenge or task at hand. Although kinaesthetic intelligence is considered to

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be dominant in swimming, it should be kept in mind that the respective intelligences are interrelated. They inform one another. An example is the interrelatedness between kinaesthetic and spatial intelligence. Spatial intelligence includes perception about the depth of a swimming pool, the length, and the area (how wide), which a swimmer needs to keep in mind when performing strokes.

At the core of brain-based education is the notion of different modes of thinking (Bonomo, 2017; De Boer et al., 2013; du Toit 2018; Jensen & McConchie, 2020; Stevens-Smith, 2020) and cognitive ability, which has led to cognitive learning and training based on scientific evidence that became a new direction for educators (Zhao & Li, 2018).

The body recognises and acquires knowledge through the process of cognition. This process involves a sequence of social and psychological behaviours such as emotion, spirit, thinking, and learning (Zhao & Li, 2018). Behavioural aspects such as emotive thinking and spirit are typical of the right-brain hemisphere that scholars of brain-based learning, such as De Boer et al. (2013), Herrmann (1995; 1996), and Herrmann and Herrmann-Nehdi (2015) refer to. The left-brain hemisphere breaks information down into different elements, while the right-brain hemisphere considers the whole of the information and searches systematically for connections and similarities (De Boer et al., 2013). Right-brain learners tend to struggle with literacy as it requires more individual details and organisation for learning. This highlights the fact that education in general is geared to favour left-brain (detail-orientated) learners (Stevens-Smith, 2020). Cognition and the functions of the different brain hemispheres should thus be considered when creating more efficient and effective learning to swim opportunities. This is where accommodating students according to their preferred modes of thinking is essential. This suggests that whole brain learning opportunities should be designed.

As further discussed below, the brain and intelligence can be divided into several quadrants and profiles. According to these theories, the optimum way to learn is to make sure

that the learning opportunities incorporate and activate all the different quadrants (De Boer et al., 2013) and profiles (Adrdha et al., 2018) of the brain. These theories can contribute to optimising learning and create more effective learn-to-swim programmes of quality.

Herrmann (1995; 1996), the father of Whole Brain® thinking, further divided the left and right hemispheres in more distinct quadrants. The Whole Brain® model splits the brain into four quadrants which have their own distinct learning modes, language, values, different ways to solve problems, and ways of knowing (De Boer et al., 2013). The Whole Brain® model also promotes the idea that human thinking is divided into four types, each of which correlates with the different quadrant regions of the brain (Zhao & Li, 2018). They distinguish between four thinking types, namely analytical thinking, organisational thinking, communicative thinking, and fantasy thinking. Analytical and organisational thinking occurs in the left hemisphere of the brain, while communicative and fantasy thinking occurs in the right hemisphere (Zhao & Li, 2018).

Herrmann (1995; 1996) is not the only person who investigated the differences of how people think and learn. Gardner (1993) challenged the standard IQ tests and scores with multiple intelligence (MI) theory. MI theory encompasses psychometric psychology, experimental psychology, cognitive psychology, developmental psychology, differential psychology, neuroscience, anthropology, and cultural studies (Gardner, 1993). Gardner used this multitude of fields to create eight different intelligence profiles that exist within each individual and can be nurtured and channelled in specific ways (Ardha et al., 2018). The notion of intelligence being a matter of nature and nurture is apt, where nature refers to latent potential and nurture to the development of potential. The eight intelligences are each orientated to a specific type of information, namely linguistic, logical-mathematical, musical, spatial, bodily kinaesthetic, naturalistic, interpersonal, and intrapersonal. Each of these eight intelligence profiles are connected and present in an individual. Their dominance just differs

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within the individual and is based on strengths and weaknesses. Some individuals have a higher body-kinaesthetic intelligence (typically athletes, surgeons, dancers), while others have a higher linguistic intelligence (typically writers) (Gardner & Moran, 2006).

Like the eight intelligence profiles of MI theory, the four modes of thinking of the Whole Brain® model are connected (Zhao & Li, 2018) and every person has a combination of these specialised processes in different proportions (De Boer et al., 2013). The different modes of thinking are used together (Zhao & Li, 2018) as complex problem-solving signals in the brain are sent to and from the different quadrants of the brain (De Boer et al., 2013). For less complex problem-solving or learning, one quadrant can be activated to be dominant, depending on the task at hand, while the other quadrants are less involved (De Boer et al., 2013). If a student is required to only operate in their least preferred mode of thinking, their learning can be affected in a negative way due to a loss of interest (De Boer et al., 2013). On the flip side, if a student is operating simultaneously in different thinking modes, their learning could be affected in a positive way. This is important because a positive attitude and feelings of pleasure can develop interests, which is a significant factor in the success of student learning (Sin & Hudayani, 2020). A person's interests are their individualised desires or impulses towards something. Interests can be learnt with new insights, specific inputs, and new thinking patterns, which can change something that was not previously desirable into something desirable (Sin & Hudayani, 2020).

Brain-based learning recommends that education should focus on a holistic view of the brain. A system-based approach is emphasised with a holistic view of the brain, where the whole is greater than the sum of its parts (Bonomo, 2017). Learning that activates all the brain quadrants and intelligence profiles is thus more conducive to quality learning compared to learning that only focuses on one of the brain quadrants or intelligence profiles.

Physical educators could be teaching the correct way to catch a ball by laying out the details involved but fail to present the big picture of why the skill is important, which may confuse and leave a right-brained learner behind (Stevens-Smith, 2020).

When the principles of the Whole Brain® model are used to design learning opportunities, the various brain quadrants and thinking styles can be activated, which can then spark new interests, even making learning skills like swimming more desirable (Sin & Hudayani 2020).

Additionally, learning opportunities should be designed with MI theory in mind so that each student's individual intelligence profile can benefit from the learning opportunity (Ardha et al., 2018) because each student learns in a different way (Sözen et al., 2009). By determining the intelligence profiles that students belong to, according to MI theory, and facilitating the appropriate training for the different intelligence profiles could help students get a more efficient education (Sözen et al., 2009).

From the brain-based research done on the Whole Brain® model, and MI theory discussed above, it can be deduced that much can be gained by creating learning opportunities for learning to take place in the swimming pool that activates all the brain quadrants and intelligence profiles. The main benefit would be that the students will learn more effectively, which may make swimming more interesting and desirable to them. These psychological aspects, namely interest and desire, are integral to increasing the quality of learning to swim.

The most important aspect of understanding learning differentiation is for educators, including lecturers, to gain insight in how to implement these changes in their current teaching practices (Stevens-Smith, 2020).

2.7 Complex Learning Theory

Lately, constructivist learning theories such as CLT have been suggested in the coaching and physical education literature because constructivist learning theories can aid in the understanding of how learning occurs in sport and physical education with a view to enhancing it (Light, 2014). The constructivist view of learning considers the student to be an active participant in the process of actively constructing new meaning (Bada, 2015). This constructivist view of learning is similar to experiential learning theory's holistic integrative viewpoint on learning that combines perception, behaviour, cognition, and experience (Kolb, 1984). Experiential learning theory's holistic approach with regard to human adaptation converts experience into knowledge (Passarelli & Kolb, 2011). As advocated by Whitehead and Huxtable (2021), lived experience can be extrapolated to living theory, that is, to lived knowledge.

In both these theories, the body and its senses are involved in cognition and learning through the act of perception. Perception is more than simply a biological function of the body. It employs the body's senses, including hearing, sight, touch, as well as motor responses. Perception processes include interpretation formed by experience (Light, 2008). According to experiential learning theory, the transformation of experience constructs knowledge (Passarelli & Kolb, 2011). A conclusion that can be drawn from these theories in which the experience and the perception of the experience are fundamentally important for learning to occur.

CLT is a theory of learning based on three core ideas that are influenced by complexity theory and which are underpinned by constructivism (Davis & Sumara, 2003). Constructivism learning theory that underpins CLT is found in psychology and explains how people acquire knowledge and learn. It adopts an ecological and holistic view of learning and cognition that challenges the separation of body and mind (Light, 2008). Constructivism

implies that humans construct meaning and knowledge from their experiences, thus it can be directly applied to education (Bada, 2015). CLT suggests that swimming is a complex phenomenon comprised of the engagement of the swimmer's body, mind, emotions, sensations, and connections with the water. This experience of the execution of technique, feel for the water and whole person, and lived experience of learning forms aspects of a complex process (Light, 2014).

The first core idea of CLT is adaptation. Learning is considered to be an ongoing process of adaptation and a conception of learning as a complex, versatile, and continually changing process. This process involves the whole person as a complex process with the learner inseparable from their environment (Light, 2014). As mentioned above, experiential learning includes adaptation that converts experience into knowledge (Passarelli & Kolb, 2011). Adaptation is emphasised in experiential learning theory. Adaptation is the process whereby knowledge is formed and reformed through experience. Hence learning is a process where concepts are derived from experience and it is continuously modified by experience (Kolb, 1984). In the context of learning to swim, concepts related to the act of swimming are derived from lived experience in real-life settings and is continuously modified by new lived experiences – experiencing the act of swimming first-hand.

Adaptation thus plays a big part in learning skills like swimming (Leite et al., 2007). Swimming requires the student's mind and whole body to work together in a new and unfamiliar aquatic environment. The aquatic environment in which the student has to learn is completely different from the environment that they know and live in. Learning to swim is a complex process that requires that the student be inseparable from the aquatic environment, as swimming can only be learnt in an aquatic environment. Continual adaptations in the aquatic environment convert learning experiences into knowledge which generally leads to learning to swim (Passarelli & Kolb, 2011).

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The second core idea is social interaction which reflects the influence of social constructivism. It sees cognition as a social process where various cognising agents are inseparably intertwined. This means that personal knowledge and activity are intertwined with social interaction, collective knowledge, knowing, and activity (Light, 2014). Extrinsic feedback, which can be regarded as a form of social interaction, plays a critical role in the learning of skills such as swimming (Lao et al., 2016). Extrinsic feedback is acquired from external stimuli, which includes visual and verbal cues (Zaton et al., 2018). Verbal and visual feedback can be received from lecturers, coaches, or peers (Lao et al., 2016). Verbal feedback can take the form of instructions and observations, while visual feedback can be in the form of demonstrations. All these extrinsic feedback methods involve social interactions. The collective knowledge of the students grows with feedback. While learning to swim, students regularly give feedback to one another regarding the skills that they are mastering, telling, and showing each other what they believe is difficult, easy, and what works for them. They also share observations regarding the performance of other students. The students who are socially interacting through constant feedback aid in the growth of the collective knowledge (Dankulov et al., 2015). The back-and-forth feedback between the students and the lecturer also grows the collective knowledge for both the students and the lecturer. The students gain knowledge of the skills that they need to enact and the lecturer gains knowledge on how best to facilitate the acquisition of skill knowledge. In the improvement of movement-based activities, verbal feedback may be the most important element as it is probably the most effective form of feedback. Verbal feedback cues that are appropriately prepared can enhance performance in swimming by continually updating motor patterns (Zaton et al., 2018).

The third core idea of CLT is interpretation which means that learning is seen as an interpretive process. Learning thus involves the learner drawing on prior experiences and knowledge to make sense of and interpret learning activities (Light, 2014). While mastering a

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skill, intrinsic feedback (Zaton et al., 2018) and interpretation (Light, 2014) both occur in relation to movement and experience. The proprioceptive information that intrinsic feedback provides can be used to adjust and compare movement execution with the given explanation and motor imagery. This type of feedback is provided by the neuromuscular sense organs (Zaton et al., 2018). Both constructs are interpretive processes. CLT's idea of interpretation draws on prior experiences, while intrinsic feedback draws on current proprioceptive information. Both these constructs use their processed information to learn. This core idea of interpretation can possibly explain the observed fear and anxiety that some of the students experience during their first couple of classes. Some of the students cannot make sense of nor interpret their new aquatic environment as they do not yet have any prior experience or knowledge to draw on (Saravanan et al., 2020). Only after the first couple of classes can the students start drawing on their previous class experiences – lived experiences – and knowledge to start making sense of and interpret the learning activities.

A good example of CLT is present in the argument of Lave and Wenger (1991). They argue that children in Australia learn to surf through a complex interaction of anticipation, motor skills, responses, social interactions, and a remarkable interplay with a dynamic and fluid environment. Instead of learning a discrete set of techniques, they learn by engaging in a practice that simultaneously involves the body and the mind operating in, and in relation to, an unpredictable and dynamic physical environment. Their learning takes place through complex processes that use their existing knowledge to experiment with, reflect on, and, through action, engage their bodies and minds in modification and adaptation (Lave & Wenger, 1991).

The same example of CLT can be applied to students learning to swim. Learning to swim and learning to surf take place in similar environments. They both require a complex interaction of anticipation, motor skills, responses, social interactions, and an interplay with a

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fluid environment. Learning to swim involves more than just reproducing a predetermined ideal collection of correct standardised movements and techniques. The learning technique can be seen as a process of interpretation, reinterpretation, and adaptation undertaken by the swimmer, with no two swimmers having precisely the same technique in action (Light & Wallian, 2008). From a CLT perspective, the learning of swimming techniques unfolds from the personal interpretation of technique and whole person experience of it by the swimmer within a literally fluid environment.

2.8 Theories of Psychology

Humans are likely to repeat pleasant experiences and avoid unpleasant experiences (Holden, 2018). Swimming is a difficult skill to master that can be upsetting for some. Others are reluctant to learn how to swim which subsequently leads to a fear of drowning (Holden, 2018). This can be equated to some swimmers living the experience of being upset and others living the experience of fear.

Negative prior aquatic experiences have the potential to result in water phobic behaviours (Penden & Franklin, 2020). This can cause some students to struggle just to get into the water, while other students struggle with the depth perception of the pool – part of spatial intelligence – which can cause a fear of sinking and drowning (Holden, 2018). A fear of water can additionally create phobic behaviours; this is counterproductive to the learning process (Penden & Franklin, 2020).

In the study on adult female immigrants learning to swim in Australia, fear was a common theme identified as a barrier to previous participation in learning water safety and swimming skills. During the participants' first lesson, they indicated that they were so scared that some could not submerge and only stood in the water. The reasons for this fear included a previous near-drowning experience, never having been in the water before, not knowing how to swim, and not knowing what to expect (Willcox-Pidgeon et al., 2020).

Two psychological theories that are used to overcome phobias are systematic desensitisation and flooding (Holden, 2018). Systematic desensitisation is a behaviour therapy technique that uses a combination of relaxation and desensitisation to gradually decondition anxiety responses (Rachman, 1967). Flooding, which exposes patients to their phobias in a safe setting, is a behaviour therapy used to eliminate phobias (Bufford, 1999). Once the patient is fully exposed and realises that no harm has occurred, the fear-inducing stimulus loses its influence (Bagiartini & Noviekayatie, 2020). However, flooding is not commonly used in a learn-to-swim setting. Learning to swim generally incorporates a systematic desensitisation approach. The student must first be comfortable and relaxed with the core aquatic skills before moving on to the next more advanced swimming skills (Cesari et al., 2000).

According to Holden (2018), all teaching programmes should be based upon some sort of systematic desensitisation approach in which the students adapt to a skill in small manageable pieces so that they can gradually move closer to the fear, and then adapt and completely eliminate it (Holden, 2018). The effectiveness of systematic exposure could be enhanced by positive reinforcement during the treatment of phobias and anxiety (Chan et al., 2016). Positive reinforcement could thus be used in addition to systematic desensitisation as it has been shown to be effective in increasing resilience in the presence of a feared stimulus (Rapp et al., 2005). Chan et al. (2016) state that, instead of using an intervention that is heavily reliant on the therapist, a self-monitoring approach should be used as it may have more applicability to traditional learn-to-swim programmes.

According to Penden and Franklin (2020), improving a swim teacher's skills would contribute to empowering them to manage and prevent negative aquatic experiences during swimming instruction. As the title of the study suggests, such experiences can be equated to lived aquatic experiences. Empathy is a skill that is highlighted in the prevention of negative

aquatic experiences. In the study on female adult immigrant learning, water safety, and swimming skills in Australia, it is reported that the participants praised their instructors whose support, effort, and patience made them feel comfortable in the water and helped them overcome their fear of the water (Willcox-Pidgeon et al., 2020). These participants also reported that a significant factor in overcoming their fear and learning the required water safety and swimming skills was group lessons. These lessons provided for cooperative learning during which interpersonal skills were developed. The participants stated that the supportive and encouraging environment created by the group lessons helped them overcome their fear. This corresponds with the study by Willcox-Pidgeon et al. (2020).

According to Mihaly Csikszentmihalyi (cited in Forbes, 2006), the state of optimal experience is a mental state that happens when the challenge of the task undertaken exactly matches the ability to perform it. Optimal experience reminds one of the constructs of lived experience, which, in a sense, is optimal at a given time. However, the question remains: How does the teacher make it happen in practice? When extrapolated to the context of my study, the question arises: How does the lecturer make it happen in practice? Making it happen suggests that the lecturer should design learning opportunities (swimming lessons) in such a way that learning is optimised, for example, as Whole Brain® lived experiences.

2.9 Other Universities in South Africa

At the University of Pretoria, swimming is part of three practical modules. Two of the modules are part of the Faculty of Education (University of Pretoria, 2022a) and University of Pretoria, 2022b) while the third is part of the Faculty of Health Sciences (University of Pretoria, 2022c). A desktop study of the year books of seven South African universities was conducted to see if any of the other universities in South Africa offered swimming education as part of their academic programmes. The documents of the universities that were studied included the University of Stellenbosch, the University of the Free State, the University of

Cape Town, the University of the Witwatersrand, the North-West University, the University of KwaZulu-Natal, and the University of the Western Cape. Each of these university websites and year books were examined, specifically those of the faculties of Education and faculties of Health Sciences to see if swimming was included in any of the academic programmes on offer (North-West University (2022), University of Cape Town (2022), University of KwaZulu-Natal (2022), University of Stellenbosch (2022a), University of Stellenbosch (2022b), University of the Free State (2022), University of the Western Cape (2022), University of the Witwatersrand (2022)). The only other university that could be found to offer an academic swimming programme was the University of Stellenbosch. On their website they listed swimming as part of a practical module in their Sport Science programme. (University of Stellenbosch, 2022b).

Aside from the University of Stellenbosch, the University of Pretoria is the only government university of the eight in South Africa that offers swimming as part of its academic programme. It falls under the Faculty of Education. As mentioned in Chapter 1, the University of Pretoria's BEd degree in the Senior and FET phases, includes the electives LO and HMS which must be taken together (University of Pretoria, 2020). Swimming is included in the first- and second-year compulsory practical modules of the HMS elective (University of Pretoria, 2022a; 2022b).

2.10 Summary

It is clear from the literature discussed in this chapter that learning to swim as an adult is not an easy task, but it is essential. Qualified PE teachers using more efficient learning programmes that are informed by science are needed. Individuals think and learn in different ways. To make learning opportunities more effective, these different modes of thinking and learning should be accounted for when designing learning opportunities. In the next chapter, the research design and methods employed in this study are explained.

Chapter 3: Kick and Pull

In this chapter, I discuss the research design, conceptual framework, and research methods of the study.

3.1 Research Design

A research design is a plan and procedure that a research study will follow. It covers the steps from wide assumptions to the detailed methods of the data collection process, the analysis of the data, and the interpretation of the data. Research methods, along with the nature of the research problem, influence the research design selected for a study (Creswell & Creswell, 2018).

A qualitative research design was chosen for this study. A phenomenon like students learning water safety and swimming skills as adults, from their own perspective, is best explored using qualitative data (Tracy, 2019). The meaning that the students assigned to their learn-to-swim lived experience was to be understood primarily from their own perspective (Hancock & Algozzine, 2006). The qualitative research design provided the students with the opportunity to fully describe their lived experiences and perceptions of the phenomenon, which provided rich, informative, and insightful data that were interpreted by me, the researcher, as Creswell and Creswell (2018) suggest.

The qualitative research design also integrated me, the researcher, into the study, as the research instrument that absorbed, shifted through, and interpreted the phenomenon through observation, participation, and interviewing (Tracy, 2019). The researcher conducting qualitative research is essential to the process and the final product, and separation from this is not possible or desirable (Galdas, 2017). In qualitative research, the concept of bias tends to be incompatible with the philosophical underpinnings of qualitative inquiry (Thorne et al., 2016). Concepts such as thoroughness and trustworthiness are more relevant to the subjective and reflective nature of qualitative research (Galdas, 2017). In this

qualitative research study, the concern and focus were on my transparency and reflectivity about the processes by which data were collected, analysed, and presented (Galdas, 2017). A qualitative research design was also appropriate as the data collection was to be done by me as the researcher in the same environment as the participants which, according to Hancock and Algozzine (2006), is the most authentic means of data collection. This offered me the opportunity to use focus group interviews for this purpose. I did this following Creswell and Creswell (2018) as proponents of focus group interviews. The focus group interviews were recorded and transcribed for data analysis purposes. The data analysis moved inductively from particular to more general themes and the interpretation of the meaning of the data were made by me (Creswell & Creswell, 2018).

3.2 Conceptual Framework

The influence of theory spreads throughout nearly every aspect of the study. A theoretical framework explains the way things work and is linked to an attempt to understand some phenomena (Collins & Stockton, 2018). To construct an applicable conceptual framework, I will indicate how the principles of learning theories in which experience plays a central role are interrelated and how they complement each other. As this research study explores how the experiences of first-year students learning to swim impacts their perceptions of swimming, I will show how these learning theories could inform context and meaning to these experiences and perceptions.

Figure 5 is a diagrammatic representation of the conceptual framework. As indicated, a constructivist epistemology was adopted, under which a constructed CLT was used as the principal theory.

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Figure 5

A Diagrammatic Representation of the Conceptual Framework
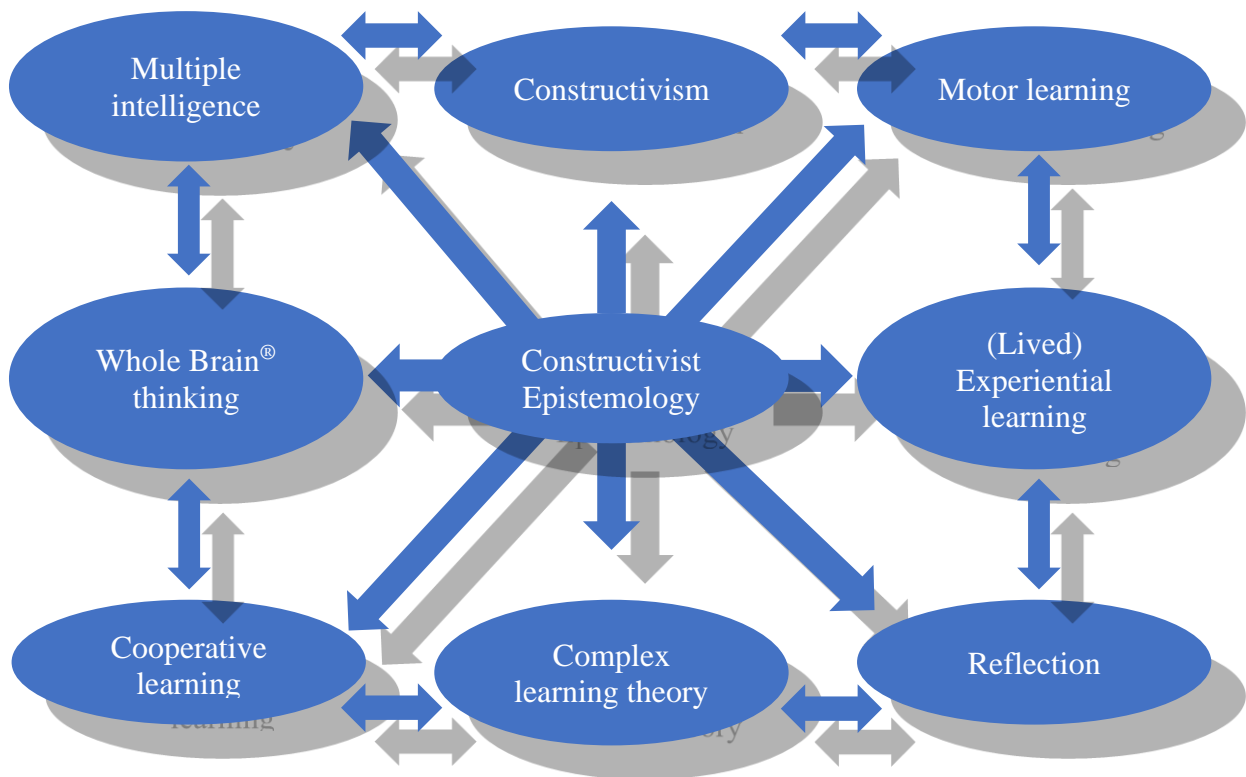
The whole process of students coming to the swimming pool and mastering swimming skills takes place during a learning opportunity, which is a multidimensional real-life setting. Therefore, to engage in a discussion of all the aspects requires a multitude of theories to gain insight into the real-life setting. These theories include, amongst others, CLT, experiential learning, cooperative learning, motor learning, self-regulated learning, Whole Brain® learning, and MI.

In this conceptual framework, constructivist epistemology is the basic way of knowing. CLT is the principal theory that informs the secondary theories. Various constructs came up in all the theories included in this conceptual framework. These common constructs of the various theories served as links to complement and connect one another, indicating the interrelatedness.

The first of these common themes was social interaction, which was present in CLT (Light, 2014), cooperative learning theory (Healy et al., 2018), MI (Gardner & Moran, 2006), and Whole Brain® thinking (De Boer et al., 2013). Social interaction is one of the core ideas of CLT (Light, 2014) which links with the dimension of cooperative learning in which students are encouraged to learn from each other (Healy et al., 2018). In this study, the students learnt from and gave advice to each other in the swimming pool and they explained what they found the easiest way to perform certain swimming skills to be. Social interaction is also closely linked to the interpersonal and linguistic intelligence of MI theory (Gardner & Moran, 2006) and the communicative thinking style of the Whole Brain® model (De Boer et al., 2013).

The second common theme was experience, which is present in CLT (Light, 2014), experiential learning (Passarelli & Kolb, 2011), and constructivism (Bada, 2015). Through my constructivist lens, new meaning-making related to experience was brought to the fore, which include the constructs "lived experiential learning", "lived constructivist meaning-making", and "lived complex learning". As the theories included in the conceptual framework were interrelated and interconnected, a constructivist epistemological stance allowed me to construct new meaning by combining constructs, such as "Whole Brain® lived experience", "Whole Brain® lived cooperative learning experience", and "Whole Brain® self-regulated learning experience" (du Toit, 2018). Drawing on prior lived experience is another core idea of CLT (Light, 2014). Experience can thus link CLT with experiential learning (Passarelli & Kolb, 2011) and constructivism (Bada, 2015), both of which involve learning from previous experience.

The third common theme was adaptation, which is present in constructivism (Bada, 2015), CLT (Light, 2014), self-regulated learning (Bada, 2015), and cooperative learning

(Healy et al., 2018). Adaptation is one of the key concepts of constructivism (Bada, 2015), hence adaptation links most of the learning theories that evolved from constructivism.

The final common theme was reflection, which is present in all constructivist-based learning theories, including CLT (Light, 2014), self-regulated learning (Bada, 2015), and cooperative learning (Healy et al., 2018). Reflection is a concept that is present throughout this conceptual framework – it underscores the notion of continuous reflective thinking about what one intends to do (reflection before action), reflecting while one is executing a task (reflection in action), and reflecting after a task is complete (reflection after action) (Ayan & Sferoglu, 2011). Most constructivist-based theories require reflection for learning to take place. Reflection also happens within oneself and with others (Chang, 2019), hence reflection happens on an intrapersonal and interpersonal level, which links it to modes of thinking of the Whole Brain® model – specifically emotive thinking that is situated in the quadrant that represents the "emotional self" (De Boer et al., 2013; Herrmann, 1995, 1996). It is also integral to inter- and intrapersonal intelligence and linguistic intelligence. In the case of intrapersonal intelligence, constructivism per se is applicable while with interpersonal intelligence socio-constructivism is the focus of the reflective learning. Linguistic intelligence becomes evident in interpersonal settings, such as cooperative learning. In intrapersonal contexts, such as self-regulated learning, self-talk becomes a linguistic ingredient that promotes learning by the self.

Whole Brain® learning (De Boer et al., 2013) is concerned with the different thinking preferences of individuals and determine specific brain profiles by means of the Herrmann Brain Dominance Inventory (HBDI®). The theory of MI (Ardha et al., 2018) describes the different types of intelligence profiles of individuals. Hence both these theories advocate that the way people think and subsequently learn optimally are different. Both these theories identify distinct means of gaining insight into the world and represent the outcome using

profiling. They state that all individuals have, to a certain extent, all the specified traits (modes of thinking and intelligences), the dominance of the traits just differ from person to person. These modes of thinking and the MIs overlap and can be linked, not only with each other but also with the other learning theories discussed above.

Using a constructivist epistemology, I selected CLT as the principal theory. My choice was based on the fact that the learn-to-swim context is multidimensional and, therefore, complex. This, in turn, makes learning to swim complex and it makes studying the phenomenon of lived experiences and perceptions relating to the mastering of swimming of first-year students complex. In a sense, it becomes a synchronist process: the principles of CLT applied to both student learning and my professional learning. For the latter to happen, I engaged with an array of aspects related to researching one's own practice. One essential element was the gathering of data.

Among others, questionnaires and interviews were employed as research methods as a means to inform my professional learning and professional development. Conducting interviews with the participants and having them complete questionnaires generated some of the data sets. After the data collection, the data were analysed by identifying themes. Photographic evidence, which is typical of photovoice as a research method, was collected. Photovoice is an ethnographic technique that fuses photography, experiential knowledge, and critical dialogue. It provides a contextually situated site for reflection on visual images and associated meanings (Sutton-Brown, 2014). Hence, photovoice as a research method provides participants with an opportunity to use photographs to reflect on, and present their lived experiences (Hergenrather et al., 2009). Photovoice research also indicates that images can teach. The lesson that an image teaches resides in how students interpret the image and not in its physical structure. By discussing and interpreting the image, it gains meaning (Wang, 1999).

A constructivist epistemological paradigm guided me in conducting the research – an insight of Collins and Stockton (2018). There is a distinct difference between a constructivist epistemology and constructivist learning. Epistemology is related to research and scholarly meaning-making or construction of new insight, commonly referred to as new knowledge. Constructivism in the context of student learning holds that learning is an active process in which learners construct new meaning based upon prior insight, lived experiences, discussions with other students, and studying relevant literature.

Constructivist principles offer a variety of pedagogical benefits by changing the focus from a teacher-dominated classroom dynamic to a student-centred approach (Kumar, 2015). The teacher's role now transforms to that of providing stimulating and motivational experiences in the building of knowledge bases (Wheatley, 1991), where instruction needs to be in alignment with principles of constructivism for optimal learning to occur. Similarly, I needed to ensure that my teaching practice was student-centred and, moreover, learning-centred. I agree with du Toit (2018) that the latter is more appropriate as it allows for reciprocal learning. As much as the students learnt about learning to swim, I learnt how to design learning opportunities that would accommodate them with regard to their respective preferences for modes of thinking and to ensure that their lived experiences were enriched. Such lived experiences are enriched by using the principles of learning theories such as self-regulated learning, cooperative learning, Whole Brain® learning, and constructivist learning.

Constructivist dimensions of learning propose that meaning is closely connected to experience. Thus, instructions need to be linked to experiences and contexts that motivate students to want to learn. Learners come into classrooms with their prior experiences and embedded cognitive structures based upon those experiences (Kumar, 2015). Students who want to learn to swim attend practical swimming lessons in the swimming pool – a distinct lived experience different from any other. Students enter the swimming pool as a learning

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space with their own experiences regarding swimming and embedded cognitive structures based on their lived experiences within this aqua space. The student–teacher–learning-space triangle makes for an ontological stance that I embrace. I consider these three dimensions as creating the ontological landscape in which learning to swim can be optimised.

An ontology is concerned with the nature of reality (Tracy, 2019). In this ontological landscape, students are encouraged to actively process knowledge, link it to previously assimilated knowledge, and make it theirs by constructing their own interpretations. Students re-analyse their existing internal cognitive schemes only if new information or experiences are integrated within existing knowledge formations in memory (Kumar, 2015). Students select and process information by constructing hypotheses, making decisions, and giving meaning to experiences in an organised, structured fashion. The student must actively construct new meaning that can be linked to their existing mental framework for meaningful learning to take place (Hanley, 1994). In essence, the students construct their own meaning of their lived experiences. Within the domain of constructivism, the meaning-making is intrapersonal and, within socio-constructivism, meaning-making is interpersonal – a collective effort.

Next, I focus on the central role of theory in qualitative research and present a visual that shows the interrelatedness of the different aspects involved. The representation (Figure 6) is an adapted version of the model by Collins and Stockton (2018). The visual is followed by a brief description.

Figure 6

The Central Role of Theory in Qualitative Research (Collins & Stockton, 2018)
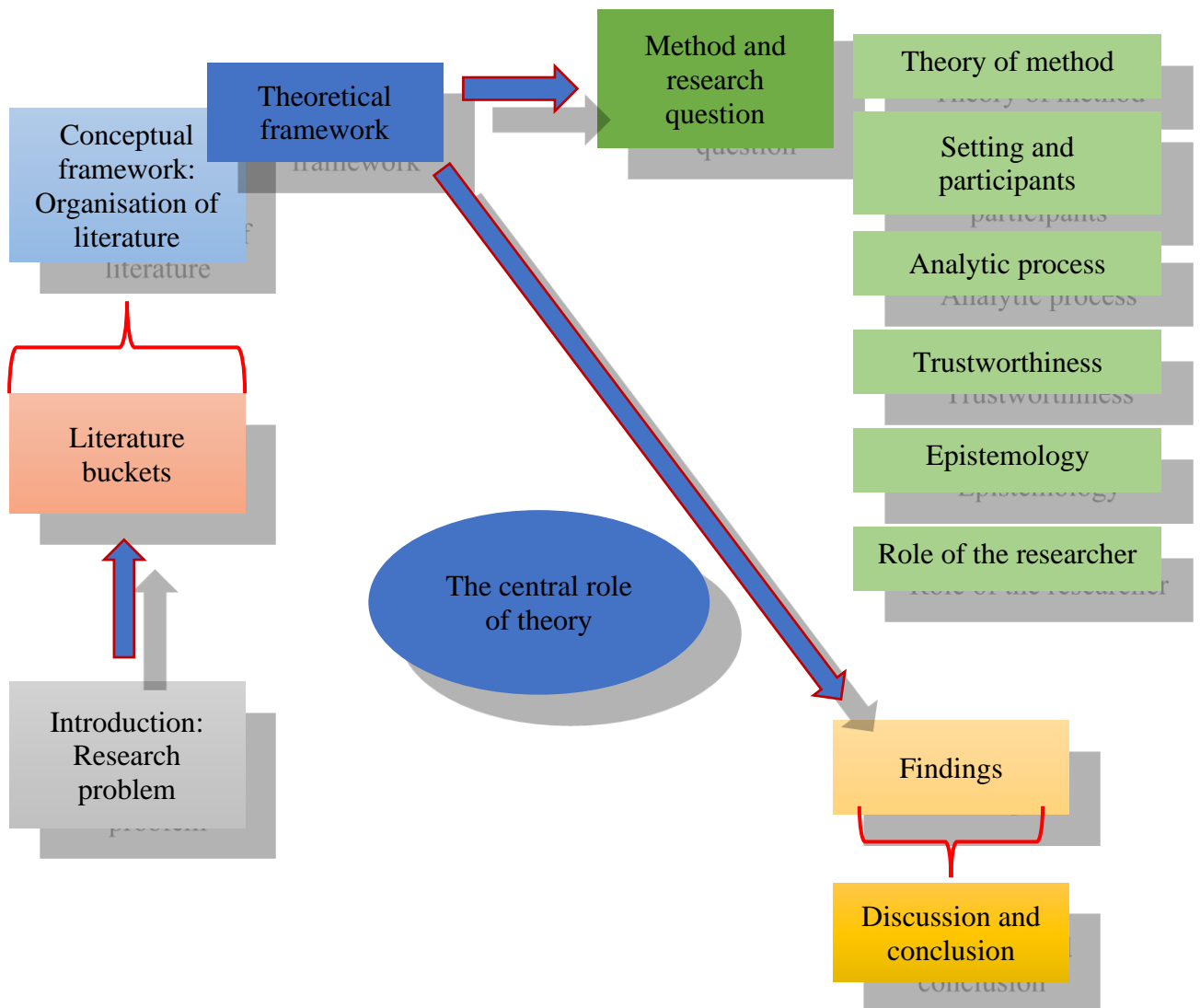
According to Collins and Stockton (2018), a theory can be defined as an idea that organises many other smaller ideas with a considerable amount of explanatory power. The conceptual framework is defined as the map of how the literature works together in a study. A theoretical framework refers to the use of theories in a study that both conveys the values of the researcher and provides an articulated lens for how new knowledge will be processed, whereas a theory of methods provides guidance of which methods makes sense to help answer the research questions.

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Theory plays a role throughout the entire process of designing and engaging with the research (Collins & Stockton, 2018). Figure 6 shows the areas where the theoretical framework is integral in the qualitative research process.

The process starts with a research problem from which a base of literature can be generated to both support the problem and to give a record of what has already been stated about it. The research problem in this study was that first-year students had to learn to swim at a higher education institution. Underpinned by the literature, the main problems that were identified included the high drowning rate worldwide, the low percentage of South Africans being able to swim, the reduction of PE in schools, and the lack of research on adults learning to swim.

As shown in Figure 6 the literature is then organised into a conceptual framework. The theoretical framework, which is derived from the conceptual framework, now forms the blueprint and apex part of the qualitative study (Collins & Stockton, 2018). In this study, a constructed conceptual framework was used, as shown in Figure 6 and discussed above. As further indicated in Figure 6, the theoretical framework influences the research methods, analytic process, trustworthiness, epistemology, and role of the researcher. Through the theoretical framework, a case study method and then the constructed autoethnographic case study research method were chosen for this research study. The research methods are further discussed below. Through the analytic process, the theoretical framework also influenced the findings and subsequently the discussion (Collins & Stockton, 2018). The CLT that formed a central part of the theoretical framework influenced the findings of the study and is integrated in the discussion.

3.3 Research methods

3.3.1 Case Study

A case study falls under the qualitative research approach category, where a phenomenon needs to be identified that will be analysed in a natural context by using various sources of information (Creswell & Creswell, 2018). In my view, the construct "natural context" can be made more specific – a real-life context. Moreover, a real-life lived experience in a swimming pool, while learning to swim.

This research method was chosen as the phenomenon of first-year education students learning to swim in the university swimming pool in a practical class setting. An added benefit in case study research is that context is important in the investigation of groups or individuals and other phenomena of interest (Tracy, 2019). Through the detailed investigation of the phenomenon, additional questions could also be explored (Hancock & Algozzine, 2006). In this case study, focus group interviews with the students were the main source of the information that was collected, analysed, and used. The information that was collected from the focus group interviews is descriptive and exploratory in nature, with the purpose of identifying themes of behaviour, rather than testing a hypothesis. The researcher allocated more time in the environment being investigated than is the case with other research types.

3.3.2 Autoethnographic Case Study

As I was directly involved in the case that I researched, it seemed appropriate that this research study be qualified as an autoethnographic case study. Auto-ethnography is an approach to research and writing that seeks to describe and systematically analyse personal experience (auto) in order to understand cultural experience (ethno) (Ellis et al., 2011). My personal experience was of importance because I am directly involved in teaching the

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students to swim. The auto in auto-ethnography is reflective in nature and used by the self (me, in this case) as du Toit (2018) asserts. The cultural experience concerned was the students learning to swim. The ethno part of auto-ethnography can also refer to a scholarly community (du Toit, 2018) which, in this study, was the first-year novice swimmers.

The different research methods were integrated. It is my view that such integration was fitting as it offered multiple lenses through on which the phenomenon was focused.

3.4 Research Sampling

In order to collect data, boundaries need to be set through recruitment and sampling. Then information can be collected through methods like focus group interviews and questionnaires. In qualitative research, participants who will best aid the researcher to understand the problem are purposefully selected (Creswell & Creswell, 2018).

To collect the necessary data, students who were unable to swim were included. As the practical class consisted of multiple students with various swimming abilities, purposeful sampling was used to select the students who were unable to swim and who were not water safe. The class was, however, already divided into skilled and novice swimmers. Thus, purposeful sampling could be used to select any willing novice swimmers to take part in the study.

During the recruiting process, there were multiple interactions with the students in an attempt to obtain participants for the research sample. Many of these interactions were futile as the students were either reluctant to participate in the study, or they procrastinated and forgot to submit their letters of consent for the study. Eventually, through persistence, 34 students were recruited to participate in the online questionnaire. Of these 34 students, again through much struggle and determination, 10 agreed to participate in focus group interviews.

3.5 Data Collection Protocol

In qualitative research, it is advised that multiple sources of data be used (Creswell & Creswell, 2018) to interpret a phenomenon with regard to the meanings that people bring to them (Denzin & Lincoln, 2018). Data collection for qualitative research includes methods like focus groups, individual interviews, photovoice (Wang, 1999), or a combination of these (Hancock & Algozzine, 2006). The qualitative data should be collected in the natural setting of the phenomenon (Denzin & Lincoln, 2018), which requires that the researcher spend a significant amount of time in the same environment as the phenomenon being studied (Hancock & Algozzine, 2006). In this study, I spent the entire time with the students while they were busy learning the various core aquatic and swimming skills. I observed them starting their swimming journey and mastering their swimming skills. I spent a considerable amount of time not only next to the swimming pool, but also in the swimming pool with the students. I was fully immersed in the natural setting (swimming pool) in which the phenomenon (students learning to swim) presented itself.

The data-gathering process incorporated three sets of data. The first set of data was collected by means of an online questionnaire, the second set of data was collected through focus group interviews, and photovoice provided the third set of data. The online questionnaire was sent to 34 participants via email and completed online. Of those 34 participants, 10 agreed to participate in focus group interviews. Two focus group interviews were conducted. The first consisted of three participants and the second consisted of seven participants. Altogether ten participants were interviewed in two focus groups. Photographs were taken throughout the water activities module which illustrate the experiences that the students had while learning the various core aquatic and swimming skills. In Chapter 4, I interpret these photographs to give meaning to them. It is appropriate that I interpret these

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photographs as I was fully integrated in the process throughout the phenomenon of the students learning to swim.

3.5.1 Online Questionnaire

Of the 150 students in the class, 34 students agreed to participate in the research study by completing the online questionnaire. The online questionnaire consisted of 21 questions with the last two questions being of great value to this study as they were open-ended and required qualitative data. The main purpose of the online questionnaire was to recruit as many participants as possible, as there were not many volunteers initially. After completing and submitting the online questionnaire, the students were asked to participate in the focus group interviews. Ten students agreed to do so.

3.5.2 Focus Group Interviews

An interview is a tool used mostly by qualitative researchers to discover, understand, reflect, and explain the respondents' subjective perspective with regard to lived experiences and viewpoints (Tracy, 2019). The two focus group interviews conducted with the 10 students focused on their lived experiences during the water activities module section. Special interest was given to their perceptions of swimming before and after the module section in question. Focus group interviews were appropriate and beneficial as they produced insights that uniquely resulted from the group interaction. Focus groups are effective in exploring emotional experiences, as participants show less inhibition when they interact with their peers, which can generate self-disclosure otherwise hidden in one-on-one interviews (Tracy, 2019). Complex phenomena, hidden or unseen within these lived experiences, can be encountered which can require further exploration, while also creating meaning between the participants and their information (Tracy, 2019). During the focus group interviews, the first-

year students shared their various lived experiences and reflected upon them. They shared with each other and with me how they experienced the module, the skills which they enjoyed learning, and the skills that they struggled to learn. The students had varying opinions regarding which swimming skills were the easiest and hardest to learn. The students also stated what being able to swim meant to them. They collectively agreed that they enjoyed their holidays much more now. They also reminded each other of their collective struggles and past fears, all of which generally involved the deep end of the swimming pool.

3.5.3 Alternative Qualitative Methods

With more researchers venturing into virtual and visual worlds to practice qualitative methods (Tracy, 2019), a participant-generated visual approach worked very well in a study like this because swimming is so visually appealing. As mentioned above, the photovoice research method, which combines photographic evidence, experiential knowledge, and critical dialogue, was used in this study. Through photography, visual materials formed part of the final representation. Visual representations, however, relinquished anonymity and could have involved some ethical dilemmas. This potential problem was addressed before the visual materials were used. The participants agreed to their photographs being used by signing a consent form before the data collection process began.

3.6 Data Collection Process and Interpretation

The purpose of the data analysis was to make sense out of the audio, text, and image data that were gathered in the data collection procedure (Creswell & Creswell, 2018). Coding is the process whereby data is organised into themes, with a word representing the category of the theme being assigned (Creswell & Creswell, 2018). The data collected during the data collection phase included online questionnaires and focus group interview recordings. The Microsoft Office Word program was used to convert the focus group interview recordings

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into transcripted Word documents. These transcripts from the interview recordings were used in the data analysis. The overall goal of the analysis was to reach some inferences regarding the lived experiences of the students learning to swim and the related changes in perception. Analysis of the focus group interview data worked inductively, as Charmaz (2003) suggested. The process of identifying codes in the qualitative data is referred to as coding. A code is a shorthand representation of some more complex set of issues or ideas (Charmaz, 2003).

The inductive coding began with the identification of themes and ideas that emerged after repeatedly reading through the online questionnaires and focus group interview transcripts. In the process referred to as open coding (Charmaz, 2003), I identified, grouped, and coded reoccurring themes within the data sets. These theme codes included enjoyment, comfort, exercise, scared, difficult, competent, scared to fun, positive module, lecturer good job, patience, struggling, lifetime advantage, difficult to easy, short time period, grading criteria, no swimming abilities, some swimming abilities, participating in swimming with a fear of drowning, fear of drowning, fear of drowning overcome, nervous, confidence, swimming ability increase, comfort, sense of accomplishment, perception change, and swimming alone. The more specific axial coding was conducted next. The axial coding involved collapsing and narrowing the themes identified in the open coding by identifying the themes that were related and giving them a new code. These new merged axial codes were fear, perception of swimming, swimming ability, and adaptation. These themes along with the conceptual framework were used to address the research questions. This approach is advocated by Creswell and Creswell (2018).

3.7 Trustworthiness, Validity, and Reliability

Trustworthiness is evident when the findings of a study provide similar meanings to what the study participants shared (Lincoln & Guba cited in Lietz et al., 2006). Peer debriefing was one of the methods used to ensure this through the verification of data coding.

A peer was asked to review the focus group interview transcripts and confirm the coding and themes that were identified (Lincoln & Guba, 1985). This helped to ensure the elimination of some bias because of assumptions that I, as the researcher, may have had during the process (Lietz et al., 2006). Qualitative research bias is discussed in the kick and pull section (see Section 3.1). Creswell and Creswell (2018) describe reliability and validity or trustworthiness in terms of eight strategies that I employed to verify the findings in this study. Triangulation of the three different data sources was performed by examining evidence from the alternative sources and using all three sets to build a coherent justification for the proposed themes. Member-checking was used to determine the accuracy of the qualitative findings by asking the participants to verify the accuracy of the final findings. By using self-reflection, I intended to create an honest narrative that may resonate well with readers. Life is comprised of positive perspectives and those that are not. The inclusion of the latter makes this study more credible. Peer debriefing, as described by Lincoln and Guba (1985), was also implemented which aided in enhancing the accuracy of the accounts as well as an external audit trail in the data collection process that reviewed the entire project. All the data that were collected from the online questionnaires, focus group interviews, and photographs were reviewed by a peer mentor at the university. This peer mentor was indirectly involved with the water activities module which meant that he had insight into the process of students learning to swim. He reviewed the collected data and the analysis of it to ensure that the data were handled and processed as accurately as possible, thus, ensuring that the findings of this study are credible.

3.8 Summary

In this chapter, a detail explanation of why I chose a qualitative research design for this study has been provided. The integrated conceptual framework was also discussed and presented in a diagrammatic format (Figure 6). The study design, research methods,

participant selection, data collection, data analysis, and trustworthiness were discussed. In the following chapter, the data and findings will be presented. This is followed by an overall discussion of the outcome of the study.

Chapter 4: Flowing Through the Water

4.1 Introduction

In this chapter, the data that were collected and analysed as discussed in Chapter 3 is presented and discussed. The journey of the students mastering core aquatic and swimming skills is described through the data presentation and the visual representations of the data that is included through the use of photographs and interpretations.

The photographic evidence that is depicted throughout this chapter shows various moments during the water activities module. These photographs have been interpreted by me to give context and meaning, as mentioned in Chapter 3. The data from the focus group interviews were interpreted and used to construct the participant narratives. These participant narratives consist of each participant's perceptions and experiences of swimming before, during, and after the water activities module. The data collected from the online questionnaires and focus group interviews were interpreted and reoccurring themes were identified. The analysis of the data moved inductively from identifying specific themes to identifying more general overarching themes. The four overarching themes identified are fear, perception, swimming ability, and transformation. These four overarching themes are present in most of the data sets and form the basis of the research findings. From the data collected and the themes identified, it is clear that the lived experiences of the students in the water activities module created a perception change with regard to swimming.

The first image in this chapter (Figure 8) illustrates a typical class setting. The lecturer is at the side of the pool observing, facilitating, and helping the students during their practical water activities class. In this image, the students are practicing and preparing for their final assessment. They have formed groups and are practicing the various swimming skills that are going to be tested. This highlights the social aspect of the water activities class. As mentioned in Chapter 2, the social aspect forms a fundamental part of student learning and is part of

theories like Whole Brain® thinking, MI, cooperative learning theory, and CLT. In this photograph we can see a form of cooperative learning theory at work. Students are learning by communicating and watching each other performing the swimming skills.

Figure 7

Typical Water Activities Practical Class Setting

4.2 Data Presentation

The data collected from the online questionnaire (Questions 20 and 21) and the two focus group interviews are presented below in Tables 1, 2, 3, and 4. The recurring themes that were identified from the participant responses were enjoyment, comfort, exercise, scared, difficult, competent, scared to fun, positive module, lecturer good job, patience, struggling, lifetime advantage, difficult to easy, short time period, grading criteria, no swimming abilities, some swimming abilities, participating in swimming with a fear of drowning, fear of drowning, fear of drowning overcome, nervous, confidence, swimming ability increase, comfort, sense of accomplishment, perception change, and swimming alone. A response from the participant is given as a quote, along with the other participant numbers or letters that

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reported the same theme in their responses. The participants' identities have been protected by the number or letters assigned to them. A number was assigned to the participants in the online questionnaire (1, 2, 3) and a letter was assigned to the participants in the focus group interviews (A, B, C).

In respect of the online questionnaire, an example of responses typical to the theme has been tabled. The number of the participant whose response was quoted is indicated. This is followed by brackets indicating the number of the respondents who said something similar. In this way, it becomes clear how many respondents were of the same view. The responses of those who participated in the focus groups were treated in the same way. In this case, letters of the alphabet were used.

The next image (Figure 9) gives an idea of the role of a swimming tutor.

Figure 8

A Student Learning to Swim Being Supported by a Swimming Tutor

The swimming tutors were students who had passed the water activities module in the past and had agreed to help the current students pass the module. Here, the tutor is supporting a novice swimmer during an informal swimming lesson.

The student was expected to be able to move through the water unsupported. However, as illustrated in the photograph, the student needed support from the tutor. The main reason that the student in Figure 9 was unable to move through the water unsupported, was because the student was unwilling to put his face in the water.

He was trying to get his head far away from the water while attempting to swim, creating an incorrect body position. As the head is pulled out of the water, the hips and subsequently the whole body will sink if left unsupported, as illustrated in Figure 9. The student is visibly tense and fighting the water, instead of relaxing and flowing with the water. This is a general problem faced by many novice students. This is normally an indication that the student is not comfortable or is scared in the water and has not fully learnt the prior swimming skill that is necessary to perform this skill, that is, floating.

The main role of the swimming tutors is to make sure that the students are safe when practicing their swimming skills. They also guide the students with advice made from their own observations, and sometimes give a helping hand.

Next, the data gathered by means of the online questionnaire is tabled. The responses and analysis to question 20[2] "Why do or don't you enjoy swimming now?" are stated in Table 1.

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[2] Question 1-19 of the online questionnaire generated quantitative data and was not used in this qualitative study.

Table 1

Online Questionnaire – Question 20

Theme	Response
Question 20 (why do or don't you enjoy swimming now?)	
Enjoyment	It has given me a new perspective that life is fun when you try new things. I never thought that I one day could be able to swim it was out never on my mind but since then I love swimming. Participant 10 (1, 2, 5, 6, 7, 9, 10, 11, 16, 18, 19, 21, 22, 25, 27, 29, 30, 32)
Comfort	Swimming is a nice activity especially if you get comfortable in the water, then you just enjoy playing in water and trying other different swimming skills. Participant 19 (3, 5, 13, 14, 17, 19, 21, 22)
Exercise	I now see swimming as a fun and exciting exercise to do, it teaches me that in everything I do I should never panic but rather take a deep breath and give it a shot. Participant 27 (1, 2, 20, 27, 30)
Scared	Scared of water. Participant 8
Difficult	It is difficult. Participant 28 (15, 28)
Competent	I now enjoy swimming because I have some skills and I'm now comfortable with water. Participant 21 (4, 13, 12, 16, 17, 21, 23, 26, 27, 31, 32, 33)
Scared to fun	I now enjoy swimming because I know how to swim, and I no longer have a fear to be in the pool because I can float in water. Participant 24 (6, 22, 24)

Table 2 states the responses and analysis to question 21 "Do you have any general comments regarding the JMB 123 water activities module?".

Table 2

Online Questionnaire – Question 21

Theme	Response
Question 21 (Do you have any general comments regarding the JMB 123 water activities module?)	
Positive module (Learn a lot, benefitted, interesting, fun, good experience)	JMB 123 is an excellent module it assisted us in being excellent teachers where children won't drown when they are around. It also assisted JMB 123 students who come from disadvantaged backgrounds gain more knowledge and skills about themselves that maybe finding a new passion. Participant 10 (1, 3, 5, 7, 10, 11, 13, 20, 21, 23, 28, 31, 33)
Lecturer good job (patience, encouragement, understanding)	Thank you for your patience with us and encouraging us during every lesson. Participant 18 (9, 12, 18, 19, 30)
Patience	Keep being patient and understand that students are not the same. Some will take time to feel comfortable in the water and some will not. Participant 12 (12, 18, 30)
Struggling	I am still struggling. Participant 15
Lifetime advantage	It was a nice module and it taught us how to swim when we couldn't, and this is a lifetime advantage that we could make use of in terms of not being afraid of going to pools to swim. Participant 20 (10, 20, 24, 28)
Difficult to easy	This is a very interesting module, difficult at the start but if you're willing to learn everything it becomes easy as it unfolds, and practice is very important. If you want to learn faster, you need to also practice. Participant 23 (23, 33)

Short time period	The time period is too short for us to learn everything. Participant 29 (29, 32)
Grading criteria	Good module but should change the grading criteria please. Participant 31 (31, 32)

Table 3

Focus Group Interview 1

Theme	Response
No swimming ability	I couldn't swim at all before this whole module. I used to go to the pool, my auntie had a pool and I used to stand in the pool holding the side of the pool because I was too scared to let go and be in the water. I was not confident at all. Participant C
Some swimming ability	I could swim but not very well and I wasn't very confident in the water. But I had pool at home also, but I would just stand in the pool. Not really swim that much. Participant B (A, B)
Participated in swimming with fear of drowning	I couldn't swim at all before this whole module. I used to go to the pool, my auntie had a pool and I used to stand in the pool holding the side of the pool because I was too scared to let go and be in the water. I was not confident at all. Participant C (A, B, C)
Fear of drowning	I was also very scared of drowning until now. I'm not scared now. Participant A (A, B, C)
Fear of drowning overcome	I did think about that (drowning), but now I don't think about it. I can save myself. Participant B (A, B, C)
Nervous (Crowd, unknown, time frame)	I was a bit nervous, even though I could swim because there's so many people around and getting into the water and actually doing what was required. Participant A (A, B, C) I was also really nervous at first because I didn't know if I'll be able to actually learn in that little time that we had cause I didn't know at all. Participant C (A, B, C)

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Confidence (Competence) increase	Compared to how I used to swim, and how I can swim now. I have a lot more confidence in myself in the water. Participant A (A, B, C)
Swimming ability increase	I also feel like now I'm better in the water. I can actually swim, and I don't have to just stand holding the wall. I can like move around. Participant C (A, B, C)

Table 4

Focus Group Interview 2

Theme	Response
No swimming ability	I learnt everything from scratch, like floating, treading water, everything. Participant G (E, G, I)
Some swimming ability	In my case growing up in the area I learnt to swim in a river, so I came here already knowing how to swim. But not as a skilled swimmer. Participant H (D, E, F, H, J)
Uncomfortable to comfortable	I started to be comfortable then, and then I felt water safe, and then everything else the course went through everything, just went well and I believe that I was capable of doing what I had thought that I couldn't do. Participant I (E, G, I, J)
Nervous (Anxious)	It's very nerve-wracking actually. Because we weren't kids anymore, so we're going to be in front of a bunch of adults trying to learn how to swim again. What if you drown? How embarrassing. So, it was pretty nerve-wracking. Participant J (G, I, J)
Fear of drowning	I thought swimming is dangerous. If I go inside the water, I will drown and die. Participant G (G, I)
Fear of drowning overcome	From dangerous it moved from that to fun, you know you get to be interested now. No, the swimming let's go yeah, we get to even go to the public swimming pools any day. I will just go there and then now I'm very free to be in the water without anyone assisting, so now I'm very comfortable and everything is just flowing. Participant I (G, I)

Sense of accomplishment	For me it was new, so now I feel like I'm skilled, I even brag to my friends, I can float I could do this and this. Participant G (G, I)
Perception change	I won't only rely on just first aid like outside of water, but I can help someone that's also drowning so it changed my perspective that it's not just for fun. Participant E (E, F, G, I)
Swimming alone now	(Interviewer: Is there anyone that still feels like they won't go swim alone, they'll only go swim with some friends?) No. Participant F (D, E, F, G, H, I, J)
Swimming ability increase	Then touching on the floor as well. It was very challenging because I never knew that movement. It was my first-time hearing about it, but as time, time went. It was easier for me. When we assessed I could do those movements. Participant F (D, E, F, G, H, I, J)

From the data collected and analysed above, a picture started to emerge. Most of the participants who completed the online questionnaire and were in the focus group interviews reported that they were nervous and/or scared at the start of the water activities module section. The participants reported that during the module, they became more competent in the water by learning core aquatic skills. They reported that after the water activities module section, they felt much more confident in the water and that they enjoyed swimming thereafter. The students who reported that they had a fear of drowning at the beginning of the water activities module section, later reported that they were no longer scared of drowning.

It is reasonable to assume that the lived experiences that the students had throughout the water activities module made them more competent and confident in the water and that that resulted in a perception change. These lived experiences changed how the students regarded, understood, and interpreted swimming. For some students, this perception change was drastic as they had first perceived swimming as dangerous, difficult, and they were petrified of being in the water. After the module they perceived swimming to be fun,

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enjoyable, and they loved every second in the water. For other students, there was a much more serious perception change – at a pedagogical and humanitarian level. The students started to interpret and regard swimming as a means of helping other people by teaching them the core aquatic skills that they had learnt.

All the perception changes that were reported by the participants were positive in nature. The way that the participants understood, regarded, and interpreted swimming either went from negative (scared) to positive (enjoy), or from positive (fun) to more positive (helping others).

Figure 10 illustrates a typical learning opportunity where students are learning to swim. Before this stage of the learning process, the students should have mastered floating and water treading. During this stage, the students are practicing their final skill which is moving through the water. This skill is taught with the aid of floatation devices (kick boards and pool noodles). Floatation devices are introduced at the start of this stage and are later removed when the students have progressed enough, so that the students can learn to move through the water unsupported. As can be seen in Figure 10, the students practice moving through the water skill in waves of students swimming behind each other. The students have to get out as soon as they reach the side of the pool to make space for the next wave of swimmers to get to the side of the pool. This method is used to accommodate the huge number of students in the practical class, making sure that all the students get a chance to practice. The student sitting on the side of the swimming pool looks like he is observing the coming waves of students busy performing the swimming skill that he has just completed while reflecting on what he could have done better.

Figure 9

Students Practicing Moving Through the Water With Floatation Devices

4.3 Participant narratives

The participant narrative consists of information collected from the focus group interviews and which was interpreted by me. The focus group interviews focused on the personal lived experiences of each student. Specific reference was made to their perceptions of swimming, both before and after the swimming module. Here, each student's journey of learning core aquatic skills is presented.

4.3.1 Participant A

Participant A was a female student who grew up in Gauteng. Even before the start of the swimming module, she loved swimming and being in the water. However, she had little

swimming ability before the start of the swimming module. She had learnt some swimming skills from her grandfather as they went weekly on Wednesdays to a public swimming pool. She was not confident in the water and was very scared of drowning.

Even though she had some swimming skills, she was nervous at the first class of the module because of the large number of students in the class. Getting into the water for the first time and doing what was required also made her nervous. She struggled the most with learning how to blow bubbles and open her eyes in the water. She was scared that the water was going to shock her and then she would drown. The easiest skill for her to learn was the water treading skill where she had to keep her head above the water.

After the swimming module she felt a lot more confident in the water and believed that her swimming ability had improved. She went swimming after the module and said she enjoyed it and that she was not scared of drowning anymore. She could now not get enough of swimming and tried to go swimming every weekend. If she had her own pool, she would be in the water every day.

4.3.2 Participant B

Participant B was a female student who grew up in Gauteng. She loved being in the water, but she had little swimming ability before the start of the swimming module. The little swimming ability that she had she had learnt in her home pool, where she would stand in the swimming pool too afraid to swim or let her feet leave the floor. She was not confident in the water and feared drowning. Still, she loved being in the water, even though she was scared and constantly thought about drowning.

She was nervous before the start of the swimming module as she did not know what to expect from the swimming module and what was expected of her. She struggled the most with learning how to go under the water and to open her eyes under the water. As she

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progressed through the swimming module, her nervous feeling was replaced by a growing confidence (both in the water and in the module). The easiest skill for her to learn was water treading. She enjoyed becoming skilled in swimming 15 metres the most because she could see how all the small skills that she was learning were coming together and she built up to her swimming the 15-metre distance.

After the swimming module she no longer feared or thought about drowning because of her belief that she could save herself. She went swimming again and enjoyed it more because she no longer only stood in the pool; she could move around the water with confidence due to her new swimming skills. She was happy that all her hard work had paid off and that she could now swim.

4.3.3 Participant C

Participant C was a female student who grew up and lived in Gauteng. She had no swimming ability before the start of the swimming module. Her family could swim, and her father tried to teach her swimming skills, but she was too scared to learn the skills from him. She was scared that he would drop her and then she would drown. She enjoyed being in the water but could not swim and feared drowning, causing her to never let go of the swimming pool wall. She would regularly go to her aunt's pool and would just stand in the corner of the pool, not moving and holding onto the wall. Her lack of swimming skills and fear of drowning always prohibited her from enjoying herself fully in the swimming pool.

She was very nervous at the start of the module due to her complete lack of swimming skills and the short timeframe in which she was required to conquer her fear and learn to swim. She struggled the most with learning to tread water because she had to let go of the wall at the deep end of the swimming pool. She did not know how she was going to keep herself up in the water. As she progressed through the module, her confidence grew, and she

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realised that she would be able to learn to swim and complete the module within the timeframe. The fact that she had to pass the module motivated her to push through, conquer her fears, and learn to swim. She attributed her ability to learn everything that was required to the competence of the lecturer's teaching abilities. The easiest skill to learn for her was the 15-metres swimming skill.

After learning to swim in the swimming module she was much more confident in the water and enjoyed being in the water much more. When in the water, she could move around instead of just standing by the edge of the pool, holding onto the wall. She even ventured into the deep end of the pool without any fear of drowning. She no longer feared or thought about drowning like she did at the start of the swimming module. She thought that the swimming module was brilliant and was happy that she was forced to complete the module in order to complete her degree. If given the opportunity to choose another sport over swimming, she would still have chosen swimming, knowing what she now knew.

4.3.4 Participant D

Participant D was a female who grew up in the North-West province. She had had swimming classes at primary and high school, so she possessed some swimming skills. She classified her swimming ability before the module as between novice and skilled. She was part of the novice swimming group as this group was the closest to her swimming ability and she was not confident enough in her swimming ability to be part of the skilled swimming group.

While learning to swim she discovered that swimming on her side was much easier for her than normal swimming with her whole body. She enjoyed learning the water treading skill the most.

After the module, she had enough confidence in her swimming ability to go swimming in a deep pool without anyone else around. She believed that she had the ability to do the skilled swimming if given the chance again.

4.3.5 Participant E

Participant E was a female student who grew up in Gauteng. She had a swimming pool at the apartment complex where she lived in and she swam (played in the water) a lot as a young child. She stopped swimming at primary school. At high school she attempted to start swimming again but after a near-drowning experience, she stopped swimming completely.

During the module she learnt the fundamental skills of swimming which she had not learnt as a child playing in the water. By learning these skills, she realised the importance of the fundamental swimming skills. She struggled the most with touching the floor skill. The breathing while going down to the bottom of the pool was a problem for her. She overcame this problem with the help of her peers. She had to learn breathing patterns and first practiced them out the water before doing it in the water. After she had learnt how to hold her breath, going down to the bottom of the pool was easy for her. She enjoyed learning water treading and floating the most.

She expressed that swimming was like walking for her after completing the swimming module; she felt more balanced. She also felt that swimming had opened a new door for her and that she could teach children how to swim by using and teaching the fundamental skills that she had learnt. She also wanted to learn the more advanced swimming skills, so that she could teach it to children as well. Her perception of swimming changed from a fun recreational activity to a skill that could help people in the water. She stated that she enjoyed vacations more because she could swim in the ocean or pools without the fear of

drowning. Previously she only went into the ocean or pools to take photographs in the shallow waters, but now enjoyed going in all the way.

4.3.6 Participant F

Participant F was a male who grew up in Limpopo. As a young child he travelled with his mother for her work and started swimming in the hotel swimming pools by getting into the shallow end. He learnt swimming skills by playing in the water.

By being somewhat water safe and possessing some swimming skills, he challenged himself to learn the fundamental swimming skills that he did not know. These skills included touching the bottom of the pool as well as the more difficult skills like swimming on his back. He enjoyed the challenge of learning the swimming skills, especially the more difficult ones. Swimming on his side was the most difficult skill for him to learn. He most enjoyed learning the water treading skill because he could not do that previously.

4.3.7 Participant G

Participant G was a female from Mpumalanga. She went to a government school in the village where she grew up. She had no prior swimming ability. She did not even have access to water for swimming purposes. She learnt her entire swimming ability during the course from scratch.

She perceived swimming as her biggest fear before starting the swimming module. She thought it was dangerous and, if she ever went into the water, she would drown and die. She described the first class as nerve-wracking and was scared that she was going to drown or embarrass herself.

The most difficult skill for her to learn was treading water because the pool was too deep, and she was unable to stand as her feet would not touch the ground. She always

panicked while learning this skill, because she was very scared of being in the deep end of the pool. She believed that having a strict instructor helped her learn the swimming skills to the best of her ability.

She described the experience of learning how to swim as awesome. Learning all these new swimming skills from scratch was a valuable opportunity for her and she was proud of her accomplishment. She often bragged to her friends that she could now swim. Her perspective of swimming went from traumatising to fun. She now enjoyed vacations because she could swim in the ocean or pools without fear of drowning.

4.3.8 Participant H

Participant H was a male from North-West. Growing up he swam in a river that was close to his home. At the river, there were people teaching some water safety skills.

He was not scared of the swimming pool because he was used to the moving water in the river. Yet, he was not confident enough in his swimming ability to join the skilled swimmer programme. He joined the novice group as he still had some fundamental swimming skills like floating to learn and needed to gain confidence in his swimming ability.

He learnt most of the swimming skills in the course and described his experience as enjoyable, fun, and somewhat challenging. He enjoyed learning the floating and water treading skills the most, while the side swimming skill was the most difficult skill for him to learn.

4.3.9 Participant I

Participant I was a female from Kwazulu-Natal. She grew up in the rural areas around rivers and dams but was always discouraged from swimming. She was told that swimming was for adventurous boys and not for girls. She also had a fear of the water because she had

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always been told to associate water with danger. She was frequently told that she must not go to the river because there were snakes there. Before the module started, she perceived swimming as dangerous.

She described her experience as depressing at first because all she felt was pressure and anxiety. When she looked at the pool, she felt sick because she thought she was never going to be able to learn to swim. She was very uncomfortable in the water when learning to swim. The most difficult skill for her to learn was that of swimming 15 metres. Her main problem in learning that swimming skill was that she got tired very quickly and could not complete the 15 metres. She overcame that problem by learning to flip over on her back when she got tired and completing the 15 metres on her back. As she spent more time in the water and got her face wet, she became comfortable in the water and her mindset changed. She started to believe that she was capable of doing something that she had previously thought was impossible. Then, as she learnt more and more fundamental swimming skills, her confidence in the water grew and she started to enjoy the swimming classes. She enjoyed learning the water treading, floating, and touching the floor skills.

Her perception of swimming changed entirely after the module, after which she perceived swimming as fun and now enjoyed it. She expressed that she was now interested in swimming and said that she had been going to public swimming pools. She now felt free and comfortable in the water without anyone assisting her. She was happy with her swimming abilities and was grateful that she had learnt to swim.

4.3.10 Participant J

Participant J was a male. He had some aquatic skills that he had learnt at school but classified his swimming ability as novice before the start of the module. He would not swim alone as he did not feel water safe if nobody was around.

At first he was very nervous to learn to swim in front of the other students. He expressed that he had a fear of embarrassing himself in the water, which he did not want to do in front of his peers. He would have preferred to have had one-on-one learning sessions. After he got into the pool and started the process, he enjoyed it and had fun. After the module he felt confident enough in his swimming ability to go swimming alone.

Figure 10

Students Resting at the Side of the Swimming Pool During a Water Activities Practical Class

The above photograph (Figure 11) was taken during a water activities practical class. In this photograph, there are mixed emotions on the students' faces. The two students standing on the right seem to be tired but happy and ready to practice the next swimming skill. The students sitting at the left of the photograph, however, look unsure and worried about practicing the next swimming skill. A possible reason for this contrast is that the students did not have the same swimming skills.

From the participants' narrative stories, it can be deduced that not all the students started at the same skill level nor did they have the same perceptions about swimming. Some of the students grew up playing in dams, rivers, and swimming pools. Other students were

discouraged from going near these places. Some of the students did not even have access to water at all. The one thing that most of the students had in common at the start of the water activities module section was that they were not confident in the water nor in their swimming ability.

After the water activities module, most of the students reported the same three aspects. First, they all reported that their swimming ability had increased. Second, they all reported that they had more confidence in the water. Third, they all reported that they enjoyed swimming much more after the water activities module.

From these stories, it can be inferred that the water activities module resulted in a change in the perception that the students had towards swimming. The students regarded, interpreted, and understood swimming differently after the water activities module. The students' lived experiences resulted in an increase in confidence and competence in the water. The lived experiences that contributed to the learning of core aquatic skills and improved swimming ability could be seen as the main contributors to the students' change in perception.

4.4 Data Analysis and Interpretation of Main Findings

In this section, all the collected data from the online questionnaire and focus group interviews were integrated. The themes identified here are the most salient themes in the data (Tracy, 2019). The themes are presented in Table 5, along with a response from a participant, and the participant codes that were reported in the same theme.

Table 5

Overarching Themes

Theme	Response
Fear	I was also very scared of drowning until now. I'm not scared now. Participant A
	I did think about that (drowning), but now I don't think about it. I can save myself. Participant B (A, B, C, G, I, 6, 8, 22, 24)
Perception of swimming	From dangerous it moved from that to fun, you know you get to be interested now. Participant I
	For me it went from traumatising to fun. Participant G (A, B, C, E, G, H, I, 1, 2, 5, 6, 7, 9, 10, 11, 16, 18, 19, 21, 22, 25, 27, 29, 30, 32)
Swimming ability	I also feel like now I'm better in the water, but not like 100% 100%, but I can actually swim, and I don't have to just stand holding the wall I can like move around. Participant F (A, B, C, D, E, F, G, H, I, J, 3, 4, 5, 12, 13, 14, 16, 17, 19, 21, 22, 23, 26, 27, 31, 32, 33)
Adaptation	Compared to how I used to swim, and I can swim now. I have a lot more confidence in myself in the water. Participant A
	For me it went from traumatising to fun. Participant G (A, B, C, D, E, F, G, H, I, J)

4.4.1 Fear

Fear was reported by most of the participants, with the fear of drowning being the most reported. However, this fear, did not stop most of the students from going into the water in swimming pools prior to the start of the water activities module. They reported that they still went into the water, but constantly held onto the side of the swimming pool. They went into the water knowing that they were not water safe, and the fear of drowning was always at the back of their minds. This gave a few of the students some lived experiences of being in

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the water, but it was not considered swimming experience as they rarely moved through the water with their feet off the ground.

Participants A, B, and C all had a love for the water and had some experiences of being in the water. However, they still reported that they were very scared and fearful of drowning before the start of the module. The experiences they had of being in the water did not give them confidence in their water safety and swimming abilities. The following response by Participant C is typical of those who lacked confidence:

I used to go to the pool, my auntie had a pool and I used to stand in the pool holding the side of the pool because I was too scared to let go and be in the water. I was not confident at all.

Participant E also had some experience of being in the water as she played in the pool in their apartment complex as a child. At primary school she did not have any water or swimming experiences and then at high school she attempted to start swimming classes. During this attempt to start swimming, she had a near-drowning experience. This near-drowning experience caused her to have a fear of drowning, and she did not go into the water again until the start of the water activities module. She had the following to say, "I had a bit of a weird experience in high school, I almost drowned. Then I just stopped I didn't attempt to swim again."

Participant G grew up in a small village and had no swimming experience or experiences in the water whatsoever. She did not even have access to any swimming facilities or water resources. She reported that she believed swimming was dangerous and she was very scared of drowning. She explained that even the idea of having to go swimming at the start of the water activities module section was traumatising for her. Her response was, "I thought swimming is dangerous. If I go inside the water, I will drown and die."

Participant I grew up in a rural area that was surrounded by rivers and dams but was always discouraged from going swimming. Fear was used as a tactic to keep her away from the dams and rivers. She was always taught that she would drown if she went into the water and that there were snakes by the river. She believed swimming to be dangerous and was scared of drowning. She explained, "I fear the water because they be like there's a snake there don't go there. So, I was afraid of water or being inside it."

Participant J had some swimming experience but reported that he was too scared to go swimming if nobody else was around. He also reported that he was scared to embarrass himself in front of his peers in the swimming module by drowning. He said, "I'm scared of embarrassing myself."

Figure 11

Students Getting Ready to Jump into the Swimming Pool to Practice Their Swimming Skills

In this photograph (Figure 12), the students were preparing to jump into the water during their water activities class. From the students' body language and facial expressions, it can be derived that the students were scared and/or worried. As mentioned in Chapter 1, the swimming pool was not heated and could get cold during the timeframe during which the students had to learn the aquatic and swimming skills. Having to learn aquatic skills in cold water would be uncomfortable and make the whole process more difficult. The student on the

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right's facial expression indicates that she was worried. From the literature and data collected, it is reasonable to assume that the student was worried about getting into the cold water as she might not be comfortable or confident in her swimming abilities. Thus, she might be scared that she could drown or embarrass herself.

4.4.2 Perception

The perceptions that the students had of swimming seemed to change during the swimming module. Some of the students regarded swimming to be dangerous and difficult before the start of the course but their perception of difficulty and danger mostly changed to one of enjoyment and fun.

Participants A, B, and C already had a love of being in the water before beginning the module. After the module they reported that they could not get enough of swimming. They loved being in the water more now because they could do more in the water without the constant fear of drowning. According to Participant C:

> Oh yeah, so I enjoy it much more now that I know how to swim. Before also I used to love the water, but it's just that I didn't know how to swim so I didn't really enjoy myself because I couldn't really move well. My family knows how to swim, but like they would all swim and I would just be standing in a corner and just moving, holding onto the wall, but now that I know how it's like, really fun and I enjoy it a lot.

Participant E's perception changed from swimming as a fun recreational activity for children, to swimming as a skill set that could change and save children's lives. A possible reason for this more serious perception change could be her near-drowning experience. After the module, she wanted to teach children how to swim by teaching them the fundamental swimming skills that she had learnt during the swimming module. "I can help someone that's also drowning so it changed my perspective that it's not just for fun," Participant E explained.

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Participant F's perception of swimming changed from swimming as playing to swimming as a sport with certain challenges. Owing to his self-taught water and swimming skills, Participant F was not fearful of the water like some of his peers. After he saw what the skilled swimmers were capable of doing, he set himself a challenge to learn as many of the swimming skills as possible. He approached the swimming module as an athlete would approach a sport, stating, "It was very challenging because I never knew that movement. It was my first-time hearing about it, but as time went. It was easier for me. When we assessed I could do those movements."

Participant G and I's perceptions changed from swimming being traumatising, dangerous, and leading to certain death to being fun and enjoyable. After the module, they enjoyed holidays because they could go swimming without the fear of drowning. According to Participant G, "I thought swimming is dangerous. If I go inside the water, I will drown and die. But now it is fun I really enjoy it."

Figure 12

A Student Practicing Moving Through the Water Swimming

In this photograph (Figure 13), the student is practicing the swimming skill of moving through the water. As is evident in the picture, students learning to swim struggle with

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holding their breath when their heads go under the water. They tend to panic and thrust their heads up, out of the water, to breathe. This is common for new swimmers as they are not used to having their breathing restricted and not being able to breathe freely whenever they want. All new swimmers attempt to swim with their heads up, out of the water, so that they can breathe whenever they want to. However, this causes an inefficient body position in the water as the swimmer's hips fall lower, resulting in the swimmer swimming in a vertical instead of a horizontal position. This high head and low hip position is evident in Figure 13, as the swimmer's hips are nowhere to be seen. Swimming in a vertical position is very energy consuming because of all the frontal resistance. The frontal resistance is also evident in Figure 13 where the water splashes against the student's chest and shoulders.

4.4.3 Swimming Ability

Swimming ability is a common theme that was reported on during the interviews. All the students reported that they were much more confident in the water after the module due to their improved swimming ability and that they would go swimming in a deep pool without anyone else present.

The most improvement in swimming ability came from Participants C, G, and I. These participants reported that they had absolutely no swimming experience or skills prior to doing the swimming module. They all had a fear of drowning and zero confidence in the water. After the module they reported that they no longer had a fear of drowning, that they were confident in the water, and that they now enjoyed swimming.

The other participants also indicated an improved swimming ability. This is backed by the fact that they also reported that they had more confidence in the water and that they now enjoyed swimming more. Participants E and F reported that they would attempt to do the skilled section of the water activities module.

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Figure 13

Students Practicing Swimming Skills During the Water Activities Practical Class

What can be deducted from Figure 14 is that the students seem to be comfortable yet show that they are still attentive in terms of their lived experience as their lips are pressed together. This may also be due to their awareness that they might swallow water. The students are using floatation devices in this photograph which allows them to keep their heads out of the water as they have something supporting them. Floatation devices like this are used to get students moving comfortably in the water. By having their heads out of the water, the students are more relaxed as they do not have to worry about breathing. Although, as mentioned above, with their heads out of the water, the student's legs have to work hard to get them moving due to the inefficient body position that is created. The legs working hard is evident in the top left part of the picture where their feet come out of the water and makes splashes when kicking. This might also explain why the students look so focused. A problem for students with long hair (like the students in Figure 14) is that when they put their heads in the water, their hair covers their faces which makes breathing and seeing in the water difficult and a lot more challenging.

4.4.4 Adaptation

Aside from the three themes discussed above, a fourth theme is present, namely the theme of adaptation. A possible reason for the adaptation that was observed is the exposure that these students had to the experience of the water activities module. In the first theme, fear turned to fun, enjoyment, and confidence. In the second theme, perception of swimming was changed from dangerous to fun. In the third theme, swimming ability changed from non-existent to capable, or from novice to skilled. All of these changes fall under the overarching theme of adaptation. According to the CLT (Light, 2014) in order for any of these changes to have happened the students had to adapt to the water and aquatic skills which they were learning.

In Figure 15, the students are practicing with floatation devices.

Figure 14

Students Using Floatation Devices to Practice Swimming Skills

Here the students are at the deep end of the swimming pool where they are unable to stand. The students are using both their arms and legs to propel through the water. The floatation devices are used to support the students to keep them comfortable and give them some confidence in the water. In this photograph, it is evident which students are comfortable in the water and which students are not by looking at how high the students' heads are out of the water. The higher the students' heads are out of the water, the more uncomfortable they normally are. The students who are confident and comfortable in the water will have their heads low or in the water, like the students at the far side of this photograph.

4.5 Complex Learning Theory

The students reported that at the start of the module they were nervous, not confident in their swimming ability, and scared. During the module, they started to feel more confident in the water as they learnt the various core aquatic skills and, after it, they enjoyed swimming. According to the CLT (Light, 2014), this process is the core idea of adaptation, as the students had to continually adapt to a new dynamic environment. At the start of the module, the students did not have or were not confident in their swimming ability. During the module, the students were exposed to the learning environment (swimming pool) where they learnt some of the various core aquatic skills and started to adapt in the water. This is a possible reason for the increase in confidence and swimming ability in the water that the students reported.

All the planned learning opportunities were conducted in a social environment. The students were surrounded by their peers who were on the same journey. They all had little to no prior swimming ability and were not confident in the water. The students went through the adaptation phase together and learnt in a social environment. This is in line with social interaction, the second core idea of CLT. While learning, the students shared ideas as to how to perform certain aquatic skills. A good example of this was that Participant E struggled with

going down to the bottom of the pool. Her peers then gave her advice and shared knowledge that had worked for them, which helped her to learn that aquatic skill.

At the start of the water activities module, most of the students did not have much good prior experience or knowledge about swimming. They either approached being in the water very cautiously (always standing or holding onto something) or they perceived swimming as being dangerous and avoided it. Hence, the start of the module was the most difficult for the students and the lecturer as the students could not interpret or make sense of the learning opportunities because they did not have any good prior knowledge or experience to draw on. Towards the end of the module, the students progressed the most as they then had prior experience and knowledge of swimming that they could use to interpret the learning opportunities. The process of interpretation is present in the research study where the students who had some swimming experience and knowledge learnt faster and easier than the students with no prior swimming abilities and knowledge to interpret or draw from.

In Figure 16, CLT is evident. This photograph was taken during one of the final water activities classes. Here the students are moving well through the water.

Figure 15

Students Flowing Through the Water

As mentioned above, most of the students were reportedly unable to swim and were fearful of the water. However, after adapting to the new dynamic environment, these students flowed through the water. The social environment in which they learnt to swim is evident in this photograph, with multiple students swimming at the same time. Each time after swimming to the side of the pool, the students generally talked about what they had struggled with and what had worked for them. Again, in this photograph, it is evident that the students with high head positions are not yet fully comfortable in the water and are attempting to swim with their heads out of the water. These students are swimming much slower than the students who are comfortable enough in the water to keep their heads low or in the water. The students with low head positions are interpreting the experiences and knowledge that they gained in the previous practical classes better.

The goal here was not to swim fast but to travel through the water, which these students were all able to do. These students were also in the middle of the swimming pool, so they would not have been able to stand if they had stopped swimming. It is thus evident that these students increased their swimming ability and conquered their fear of drowning, which most of the students reportedly had.

Chapter 5: Making Every Lap Count

5.1 Introduction

In this chapter, the significance of the study and possible implications of the findings are discussed. The aim of this study was to establish if and how the perceptions that students had of swimming changed with the lived experiences of learning to swim and mastering respective swimming skills.

5.2 Contextualisation of the Research

As discussed in the literature (see Chapters 1 and 2), drowning is a major problem in the world, especially for children. PE in South African schools went through major changes that caused the degradation of not only the teachers who were responsible for teaching the subject, but the subject itself. As such, the vast majority of South African children are not learning water safety or core aquatic skills in school. This creates a major drowning risk for South Africans, particularly South African children. This problem is illustrated by the constant drowning fatalities in South Africa, particularly of schoolchildren. Core aquatic skills are normally taught to children in learn-to-swim programmes as this is the best time to teach these skills (Cesari et al., 2000). Teaching these core aquatic skills to adults are filled with challenges that are not well researched (Willcox-Pidgeon et al., 2020).

In this research study, we see that at the start of learning the core aquatic skills in a practical class setting the students' perceptions of swimming were that it was dangerous and difficult. The students bundled together before the start of the first class, hiding behind each other, too scared to get into the water. In the practical classes that followed, they were exposed to a range of learning experiences in which they had to learn to float, breathe, kick, and pull. All these learning experiences took place in the unstable and dynamic aquatic environment. As they spent time interpreting and adapting to their learning experiences, they

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learnt the various aquatic skills necessary to adapt to their new aquatic environment. These new adaptations shifted the students' perceptions regarding swimming. Being more competent and confident in the water led to a more positive perception of swimming. The students then regarded and interpreted swimming as a fun and enjoyable activity.

5.3 Overview of Research Findings

An overview of the research findings will be discussed in relation to the literature review and by answering the research questions in Chapter 1.

The research question that this study aimed to answer was, How did the lived experiences of first-year education students learning to swim at a higher education institution influence their perceptions of swimming?

From a CLT perspective, the lived experiences of the students learning to swim enabled them to adapt to a new dynamic environment. Social interactions with peers going through the same experiences and often struggling to learn the same core aquatic skills were used to enhance the learning process. All the while, the students had to continuously interpret their current learning experiences by drawing on their prior knowledge and experiences. This constant adapting, social interactions, and interpreting caused a perspective shift among the students with regard to swimming. Adapting to these experiences resulted in the students becoming more capable and confident in the water. The students indicated that, by being more confident in their swimming ability, they no longer feared drowning, and then enjoyed swimming, and being in the water much more. The students reported that their perception of swimming thus changed from swimming being dangerous, scary, and very hard, or impossible to do to swimming being fun, enjoyable, and possible to do. The students also reported that they even enjoyed their holidays more now because they were able to go swimming without being scared.

The first sub-question formed from the main research question was, Did the first-year education students perceive a change in their experiences during the process of mastering the skills of learning to swim?

The students reported that at the start of the water activities module they struggled to perform the core aquatic skills that they had to learn, and they experienced the module as being scary and difficult. After the module, the students indicated that they could perform the core aquatic skills and that they experienced the module as fun and enjoyable. As the students' competence and confidence grew in the water, they started to enjoy the water activities more, which led to more positive experiences during the module.

The second sub-question from the main research question was, How can my practice of facilitating learning to swim be informed by the perceptions and lived experiences of first-year education students mastering the skills of learning to swim?

This research study of the lived experiences of students and how it impacted their perceptions of swimming can inform my practice of facilitating learning to swim. The majority of students perceived swimming as dangerous, were scared during the first couple of classes, and experienced the classes as difficult. Continuous exposure to learning experiences in which the students had to interpret and adapt, along with the social interactions with peers, caused the students' perceptions of swimming to change. Their new perception was that swimming was a fun and enjoyable activity.

Figure 16

Groups of Students Taking Turns To Practice Moving Through The Water

Figure 17 is evidence of one of the last practical classes. It is reasonable to assume that during this class most of the students had adapted to the aquatic environment and swimming skills. This assumption is based on the fact that the students look confident and comfortable in the water, as is evident by their body and head positions in the water. Here the students have plenty of lived experiences and knowledge regarding their aquatic environment and swimming skills which they are using to interpret their current learning experiences. The students at the side of the swimming pool also look confident and comfortable before having to jump into the water.

5.4 Policy and Practice Implications

Based on this research study, it is clear that future PE teachers not only need to be able to swim, but they also need to be able to teach their students the basic core aquatic skills in their practice. With the high drowning rate of South Africans, several of which are schoolchildren, it seems clear that PE teachers with water safety and core aquatic skills are necessary in schools. All higher education institutions in which PE teachers are trained

should include a water activities or swimming module in their curriculum. If future PE teachers can teach the next generation to be water safe and how to swim, a more positive perception of swimming will be created.

5.5 Limitations of the Study

There were several limitations to this research study. The first limitation was the relatively small sample size. From the class of over 100 students, only 34 agreed to participate in an online questionnaire and from those participants only 10 agreed to be part of the focus group interviews. The results of the study would have been clearer with a bigger sample size to confirm that the interpretations made by the researcher accurately describe the lived experiences and perceptions of the students. I struggled to get the students to participate in the research study and had to make constant changes to the research design to convince the students to participate in the study and to accommodate the smaller research sample. Originally 12 students were supposed to do individual semi-structured interviews. However, to convince the students to participate in the study, the semi-structured interviews were changed to an online questionnaire and focus group interviews.

Another limitation of the study was that only one higher education institute was used. By conducting the same research study at various higher education institutes in different regions, a more comprehensive conclusion could be obtained.

5.6 Recommendations for Future Research

With the limitations of the study being that only one higher education institute was used in this study, versions of this research study can be conducted at other higher education institutes that have a module that is similar to the water activities module. As indicated in the literature review (see Chapter 2), more research is required regarding adults learning to swim.

Studies regarding the incorporation of brain-based education in learn-to-swim programmes is another recommendation for future research as the literature regarding this looks promising.

5.7 Conclusion

In this qualitative research study, the lived experiences of the first-year education students learning to swim at a higher education institute were investigated and described. Four themes were inductively identified during the data analysis, that is, fear, swimming ability, perception, and adaptation. This study concluded that as the students swimming ability increased and they adapted to the water activities module, their fear of the water and swimming decreased while their perception of swimming generally became more positive. Even though the water activities module was not easy for the lecturers or the students, as described in Chapter 1, it was definitely worth it.

Figure 17

Students Smiling While Practicing Their Swimming Skills with the Aid of Floatation Devices

This photograph (Figure 15) is what this study was all about – students enjoying their swimming experiences because they are confident and comfortable in the water. After adapting to the aquatic environment and swimming skills, these students can now enjoy swimming and being safe in the water. They now have the lived experiences and knowledge not only to interpret aquatic environments, but also to help other students dip their toes in the water.

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