Practising for practice – The role of constructionist pedagogies in the development of undergraduate nursing students

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Declaration of Authenticity and Author's Rights

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Dedication

This thesis is dedicated with affection to the memory of my mum, Jean Morag Douglas. I would like to acknowledge this appreciative, inspiring, strong, funny, and eccentric woman. I am certain she would have been absolutely delighted with this achievement.

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List of Abbreviations

AEI	Approved Educational Institutions
AI	Appreciative Inquiry
BSc	Bachelor of Science
CA	Content Analysis
CPs	Constructionist Pedagogies
EdD	Doctorate of Education
IRE	Initiation-Response-Evaluation model
MKO	More Knowledgeable Other
NMaHP	Nursing, Midwifery and Health Professions
NMC	Nursing and Midwifery Council
NL	Nurse Lecturer
PhD	Doctorate of Philosophy
QDA	Qualitative Descriptive Analysis
RTA	Reflexive Thematic Analysis
SN	Student Nurse
UK	United Kingdom
UWS	University of the West of Scotland
VRM	Visual Research Methodologies
ZPD	Zone of Proximal Development

Glossary of Terms

The following glossary is a list of terms used within my thesis. The purpose of contextualising these is to promote consistency by explaining the terminology and phrases used. Throughout the literature, and in my own practice as a nurse lecturer, multiple terms or phrases seem to be used to mean similar things. Unless otherwise specified, these represent my own definitions.

Action learning (Constructionist classroom pedagogy)	Reflection-based learning supported by other students and guided primarily by the nurse lecturer. Concentrating on specific areas of practice, action learning is a structured approach aimed at strengthening students' capacity to solve and manage problems.
Authentic task(s)	Within the framework of constructionist pedagogies in a university environment and pre-registration nurse education, the term 'authentic task' denotes a learning activity that aims to simulate real-life scenarios faced by students. These objectives, formulated under the constructionist paradigm, necessitate students to actively generate knowledge and develop skills through participation in meaningful and contextually pertinent activities. Authentic tasks in pre-registration nursing education can include group discussions, simulations, or hands-on experiences that closely resemble the intricacies and challenges encountered in practice settings. These tasks aim to facilitate the merging of theoretical knowledge with practical application.
BSc programme	Prepares undergraduates to study nursing as a discipline and, following completion to the threshold standard of degree, to meet the requirements for registration with the Nursing and Midwifery Council (NMC).

Collaborative learning	An educational approach when two or more students learn or attempt to learn something together. The idea is for students to engage so that they can benefit from each other's resources, such as their skills.
Collaborative working skill	A particular capability that enables an individual to engage effectively with others.
Collaborative pedagogy	An umbrella term for a group of pedagogies which share a similar broad philosophical viewpoint associated with learning with others. There are different types of collaborative pedagogies which can be differentiated by their instructional design features and nuanced philosophical orientation
Constructionist classroom pedagogy	A pedagogy which physically takes place within the academic setting (within the University of the West of Scotland). First, primacy is placed on social interaction (intermental) and then cognitive processes (intramental). Knowledge is constructed through social interactions between learners (students), their environments and other people. Secondly, students are brought together. Thirdly, an interactive element is built into the pedagogy. Fourthly, there is interdependence, in that people are expected to collaborate and/or learn from one another. The fifth element is that the tasks are pre-defined and specifically designed for group participation. This type of pedagogy is the focus of this thesis.
Constructionist pedagogy	A type of collaborative pedagogy where the primacy placed on teaching and learning is on social interaction. Knowledge is constructed through social interactions between learners (students), their environments and other people.
Constructivist classroom pedagogy	A pedagogy which physically takes place within the academic setting (within the University of the West of Scotland). Primacy is placed on cognitive processes (intramental) and then social interaction (intermental).

Debrief (Constructionist classroom pedagogy)	Occurs following a learning activity during which students reflect, review and discuss various aspects of their practice. Using a structured approach, the goal is to optimise the learning experience and improve individual and team skills.
Dialogue	Verbal interaction between at least two individuals.
Final Year Student	The last year of study for an undergraduate pre-registration student nurse who is enrolled on the BSc in Adult or Mental Health Nursing Programme
High fidelity simulation (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). The preset task is regarded as complex in nature. The physical environment may be contextualised to the practice environment such as a ward or living space in a client's home. It may or may not involve the use of equipment such as a patient simulator. This is a full body computerised mannequin that replicates the anatomy and physiology of a real person. Students are expected to perform interventions and experience them as if it was a real client/situation. It may involve autonomous involvement of participants following orientation regarding the client, their environment, the equipment and the expectations of their participation in the scenario. There may be few verbal interruptions by the nurse lecturer during the session.
Group discussion (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). In classroom-based group discussions, students are typically assigned a preset task to be discussed by the group. Discussions may cover different topics such as factual, controversial or abstract topics. Discussions may

	have several functions such as to build consensus, initiate ideas, generate controversy.
Group work (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). In classroom-based group work, students are typically assigned a preset task to be completed by the group. This may be case-based and revolve around the management of a particular patient group or scenario. Students may be assigned a specific role (e.g. notetaker or timekeeper).
LT KuraCloud (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). LT KuraCloud is a cloud-based, eLearning technology used by groups of students within the physical space of a classroom. LT KuraCloud comes with a range of case studies based on real patient scenarios. Using a PowerLab, LT KuraCloud also offers a range of clinical skills modules which supports hands-on learning. Students can measure blood pressure and conduct electrocardiogram (ECG) on each other. LT KuraCloud is included as a constructionist pedagogy because it aligns with the key five features outlined in Figure 4 (p. 70).
Low Fidelity Simulation (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). The preset task is regarded as less complex in nature than those used in high fidelity simulation. The physical environment may be contextualised to the practice environment such as a ward or a kitchen or living space in a client's home. It may or may not involve the use of equipment such as a patient simulator or simulated patient. Examples of simulated patient may include

	Resuscitation Anne or anatomical of physiological representation of urinary system for students to practise urinary catheterisation. Students are expected to work together. Frequent prompting by the nurse lecturer. Participants have been informed of all the steps of the scenario.
Nurse Lecturer (NL)	A nurse who has a recordable teaching qualification on the NMC register and who has a role in preparing student nurses for registration and entry onto the NMC register.
Pedagogy	The theory and practice of teaching.
Real-world	The term real-world as it pertains to pre-registration nurse education denotes the tangible clinical and healthcare settings in which nurses will eventually practise. Real-world in the context of this study, contrasts with the controlled and simulated environments of a classroom or a training facility. It encompasses the dynamic, unpredictable, and often challenging situations that nurses may encounter in their professional careers
Real-world task	A real-world task refers to an activity that closely mirrors situations, challenges, or responsibilities found in authentic, everyday life or professional settings. These tasks are designed to engage individuals in practical application, problem-solving, and decision-making that parallel what they might encounter outside the university context.
Role-play (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). This is when a person participates in a preset task where they simulate being a service user, carer / family member or healthcare professional. Nurse lecturers have control over the preset task, including what condition the client exhibits, what complications they develop, which students are assigned to take care of the service user and what they

	want them to do. The individual may, for example, portray a patient with a specific condition in a way that is intended to be realistic.
Skills Classes (Constructionist classroom pedagogy)	Students sharing the same physical space within the university environment and where the pedagogy aligns with the key five features outlined in Figure 4 (p. 70). The physical environment may be contextualised to the practice environment, such as a ward or living space in a client's home. These are sessions specifically designed to promote the development of psychomotor, affective and communication skills. Included in this are specific clinical skills (measuring blood pressure, removing sutures, inserting an indwelling urinary catheter) and social interaction skills such as collaborative working skills. These may include verbal and non-verbal communication skills, decision-making skills, problem-solving skills and reflection skills. These are all skills that students require for practice. Students may be informed of the steps and there may be frequent prompting by the lecturer. Students may practise with each other. The physical environment does not fully match the context required by the scenario in terms of space and equipment available.
Social constructionism	According to social constructionism, individuals generate knowledge about the world in a social context. Their understanding is contingent on their experiences, the places and times in which people live and work, and that perceptions are built on shared assumptions.
Sociocultural learning theory	This theory of learning is based on the works of Vygotsky. It views learning as a social activity by which understanding is generated within a society or culture. The core premise is that social interaction is necessary for development in a number of domains (e.g. cognitive, social, ethical, psychomotor).

Story telling (Constructionist classroom pedagogy)	When student nurses, nurse lecturers, service users or others involved in a learning situation refer to their own experiences to promote student learning. Learning is promoted when individuals use their experiences to illustrate, contextualise and add meaning to their perspective.
Student Nurse (SN)	Undergraduate students enrolled on a BSc programme who are being prepared for registration and entry onto the Nursing and Midwifery Council register as a registered nurse.

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Abstract

Constructionist pedagogies are one of several collaborative pedagogical approaches used extensively in pre-registration nursing programmes. Constructionist pedagogies imply that preparation for practice is constructed in social interaction between individuals and their environment. This research, undertaken to inform teaching and research practice, investigated perceptions of constructionist pedagogies from the perspective of student nurses and nurse lecturers on the same programme. To date, there has been no published research on the collaborative elements of constructionist pedagogies in nurse education in relation to the development of collaborative working skills.

The study was framed within a social constructionist research design, aligned to my own philosophical assumptions about learning and shaped by my personal experiences as a learner, nurse and nurse lecturer. Purposive sampling, semi structured interviews and focus groups, mediated through Ketso and an Appreciative Inquiry approach, were used. Nvivo software was used to organise data. A pluralistic approach to data analysis was adopted, drawing on Reflexive Thematic Analysis and Content Analysis.

The study found that the impact of multiple constructionist pedagogies, used simultaneously, prepares students for practice by providing opportunities to practise and develop collaborative working skills. The development of collaborative working skills is complex and multidimensional; the study recognised multiple interpretations regarding the role of constructionist pedagogies, and revealed information about interaction processes that reflected the complexity of learning and development. A key finding is that collaborative working skills can be considered a meta-skill, incorporating and facilitating the development of sixteen interconnected subskills.

A nuanced understanding of how sociocultural learning theory and contextual factors could be applied in connection to key elements of constructionist

pedagogies was shown. Contextual factors, such as the nature of the social interaction, the task and the physical environment, combined with social and cognitive aspects of constructionist pedagogies, assist in the development of collaborative working skills and the transfer of theory from an academic setting to practice.

This study recommends that a constructionist pedagogy repertoire is maintained in pre-registration nursing education. The distinct method adopted may help to improve pedagogical research by inspiring new methodological ideas.

Chapter 1: Introduction and philosophical positioning of the thesis

Section 1.0: Introduction to the thesis, research aim and questions

For some students, becoming a registered nurse can be a complicated and challenging process (Dyson, 2018) as they navigate the complex relationship between academia and practice, acquire new skills and create their nursing identities. Pre-registration nurse education programmes aim to prepare students for nursing practice by combining practice and theoretical components, while matching the standards of the Nursing and Midwifery Council (NMC) with local and market demands. Nurse educators play an important role in achieving this balance; they are expected to develop and effectively apply pedagogical strategies that encourage the development of skills considered vital for nursing and healthcare in the twenty-first century (NMC, 2018a, 2018b, 2018c, 2018d & 2018e).

Graduate nurses play a crucial role in healthcare delivery. Nurses are the largest professional group in the healthcare workforce, are the primary providers of hospital patient care and deliver most of the nation's long-term care. Collaboration is seen as a necessary component of professional nursing practice and a characteristic of contemporary healthcare delivery in Scotland. The relationship between collaborative working and the impact on promoting safe, effective and positive healthcare outcomes is promoted by the NMC which is charged with safeguarding the public (NMC, 2018a).

As part of their preparation for professional practice, nurse education programmes must provide opportunities for student nurses to develop and apply skills obtained in university to real-world circumstances. In the classroom, constructionist pedagogies facilitate the development and transfer of skills from theory to practice and vice versa. Transfer between contexts is achieved by simulating hospital, health centre and household situations. Within the design aspects of constructionist pedagogies, tasks that promote

varied forms of social interaction, such as dialogue and physical features that mimic clinical placement conditions, aid in the development of collaborative working skills.

The overarching objective of this research is to add to the body of knowledge on the role of constructionist pedagogies in preparing student nurses for practice. My research aims to inform teaching practice, with a particular emphasis on the development of collaborative working skills from students' and lecturers' perspectives. The research aim and questions are provided below.

The study aims to explore how the collaborative learning features of constructionist pedagogies, said to manifest in classroom practices, contribute to the development of student nurses for practice. The three research questions developed to support this broad aim are:

1. What does collaborative learning mean to student nurses and nurse lecturers?

2. In relation to developing skills for practice, what collaborative skills do student nurses and nurse lecturers associate with classroom-based constructionist pedagogies?

3. In what ways can collaborative pedagogies be enhanced in the pre-registration programme to maximise the development of collaborative working skills for practice?

Within the context set out above, this chapter introduces the thesis and provides the rationale for conducting the research. It is divided into three sections. Section 1.1 explains how my interest in constructionist pedagogies in pre-registration nursing education developed. It provides an overview of the personal, professional and academic influences that culminated in me choosing to explore constructionist pedagogies and undertake a Doctorate of Education (EdD). Section 1.2 is divided into four sub-sections. Sub-section 1.2.1 introduces social constructionism and sets out the rationale for adopting a social constructionist standpoint. In sub-section 1.2.2, I explain how the

chosen theoretical and conceptual frameworks connect several components of my study and justify its focus on collaborative working skills. Sub-section 1.2.3 explains my decision for writing this thesis predominantly in the first person to demonstrate my sense of personal connection to the research. Next, in alignment with a social constructionist perspective and in recognition of contextual nuances, sub-section 1.2.4 elucidates the reasoning behind the chosen approach for selecting literature to underpin the thesis. Finally, Section 1.3 gives a brief overview of the structure of the thesis.

Section 1.1: Positioning myself in the research

I am employed as a lecturer in nursing at the University of the West of Scotland and teach on undergraduate nursing programmes where collaborative pedagogies are used extensively. During my tenure, I have taught throughout the BSc programme. For Berger (2015), the researcher's background and worldview can impact on all aspects of the research process: as a nurse and lecturer I came to this study from an informed and value-laden perspective and the significance of these orientations is discussed throughout the thesis. My current position arises from, and is guided by, three inter-connected components of my life, as shown in Figure 1; personal, professional and academic factors influenced my research topic, methodology and motivation for undertaking the EdD. During the research, I took a reflexive stance as I came to grasp my own standpoint and found ways to integrate it in my work. Reflexivity encompasses critical and ongoing self-reflection, it impacts on both the process and the output of research and on one's own bias, preferences, values, behaviour and assumptions (Berger, 2015; Dowling, 2006; Patnaik, 2013). My aim was that, in making my stance visible, readers would be able to contextualise the study and understand it (Petty et al., 2012; Parahoo, 2016). Figure 1 further illustrates the significance and connection of reflexivity to my study.

Figure 1: Positioning myself within my research: Interlinking motivators
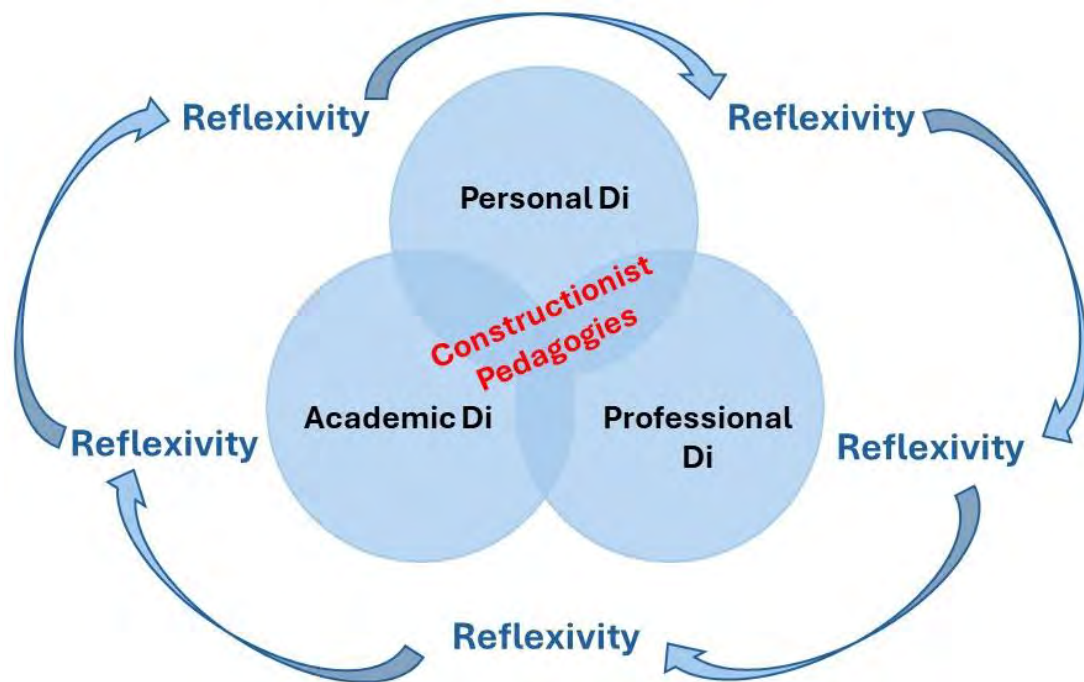
1.1.1: Personal influences on choice of topic

Brailsford (2010) asserts that intrinsic interests might encourage an individual to pursue a certain field of study. My interests, values, attitudes and views on collaborative pedagogies date back to my primary school years and have been reinforced throughout my personal life. As an athletic student, I benefited from possibilities for collaboration and learning through play and physical activities; I enjoyed being a part of groups where I could participate. This was in stark contrast to my classroom experiences, where I found the didactic approach tedious because of a marked lack of participation.

Participating in group activities, building and maintaining healthful relationships, valuing experience-based knowledge, and doing meaningful work all influenced my decision to pursue a nursing career and reaffirmed my interest in collaborative work. As a student nurse, I was encouraged to learn on the job and I utilised the knowledge and skills of others to scaffold my education in nursing science and art. The nurses' home, where I lived and socialised with other students and registered nurses, was a near-constant source of learning. Through storytelling, knowledge and experiences were

shared and traditions, values and behaviours were passed down. Notwithstanding that this was an informal learning environment, I recognise that my interactions with others helped shaped my identity as a nurse.

1.1.2: Professional influences on the choice of topic and methodology

My interest in the relationship between collaborative working and collaborative learning intensified following my registration as a nurse in 1987 and subsequent employment in various practice development-related positions. I have worked in a variety of clinical and academic settings and across several specialties, including cardio-thoracic surgery, palliative care, elderly care and forensic mental health settings. During this time, I developed an awareness of how various professional groups collaborated and was intrigued by dynamics within relationships, communication inside and across groups and the subsequent effect on collaborative work.

Following my transition into nursing education, I came to recognise that formal education plays a crucial role in equipping professionals for collaborative work and questioned the classroom's function in this process. As a lecturer on the pre-registration undergraduate programme, I became increasingly aware of the critical role that colleagues in academic and clinical contexts play in the preparation of student nurses. I was especially interested in the social contexts of teaching and learning, as well as the transfer of knowledge between academia and practice and vice versa.

My research was oriented toward social constructionism, as evidenced by the topic itself, the data collection methods, data analysis and participant groups. Decisions about the methodology of a study can be tied to the researcher's mode of thought (Murshed & Zhang, 2016). Developing insights through interactions with others enabled me to acknowledge diverse views, feelings, concerns, beliefs and ideas and encouraged me to confront my own way of thinking. My preference for being present with students and actively involved in the design and implementation of collaborative classroom pedagogies drew me to a social constructionist perspective. These factors combined to

provide a methodologically consistent approach that reflects a broader social constructionist bent.

1.1.3: Academic reasons for undertaking an EdD

People may be inspired to pursue doctoral study for external or internal reasons (Templeton, 2016). I was not driven by career advancement and consider my motivation for pursuing an EdD to be intrinsic. According to Hegarty (2011), such motivation comes from the work itself and the individual's enjoyment of it. I pursued an EdD for three reasons. Firstly, I assumed the EdD method was more practice-oriented than a typical PhD and would enable me to improve a specific aspect of my work. Secondly, I sought to further my professional growth, via the development of transferable scholarly skills such as critical reading and writing abilities that would aid me in my work as a lecturer. Finally, Armstrong et al. (2017) suggest that solo labour could be linked to a typical PhD. However, because the first two years of the EdD are cohort-based, I was drawn to possibilities of cultivating my intellectual curiosity and learning with others.

I now turn to my philosophical positioning, theoretical and conceptual frameworks and the literature supporting the thesis.

Section 1.2: Philosophical positioning, theoretical and conceptual frameworks and the literature supporting the thesis

1.2.1: Social constructionism: my way of viewing the world

The previous section has provided insights into the ways I view my world. As I journeyed into my study, I acknowledged the role social constructionism played in my investigation of constructionist pedagogies in nurse education. In the context of my study, social constructionism is relevant as a worldview for three interrelated reasons:

1. It promotes an understanding of the nature of knowledge and why people have different interpretations as well as the manner in which they may be constructed.

2. It offers a framework for understanding how individuals learn. In particular, it demonstrates how collaborative working skills may be developed through social and psychological processes assisted by constructionist pedagogical elements.

3. It offers a guide to investigating my topic, by suggesting choices about methodology, methods and data analysis.

Perceptions and perspectives are inextricably intertwined in this investigation. This is because perspectives on constructionist pedagogies (or points of view) are formed by perceptions about constructionist pedagogies. Rock (1985) favours this interpretation and suggests that perception refers to how individuals think about things and may or may not be related to knowledge. For me, constructionist pedagogies substantially contribute to students' preparedness for practice. This is informed by my perceptions of constructionist pedagogies, moulded by my beliefs, which are themselves shaped by my personal and professional experiences. As a result, I see perspectives as a source of justifiable beliefs regarding constructionist pedagogies.

A social constructionist perspective helps to provide an explanation of how and what may shape student nurses' and nurse lecturers' perceptions of constructionist pedagogies. According to social constructionism, no one sees or experiences the world in the same way (Gergen & Gergen, 2008). Gergen (1985) and Crotty (1998) contend that an individual's perception of their reality is historically and culturally specific, as well as location and time dependent. As outlined above, my perceptions of constructionist pedagogies are based on my personal experience of being a nurse, a lecturer and a learner. Thus, I accept that I may, or may not, share the same perception of

constructionist pedagogies with student nurses (SNs) and other nurse lecturers (NLs).

Interaction is a critical component of constructionist pedagogies, and dialogue in particular is frequently utilised (Kim & Wilkinson, 2019; Mercer, 2010; Reznitskaya & Gregory, 2013). Social processes encompass a range of modalities of social interaction, including cooperation, conflict, competitiveness, accommodation and assimilation, and each is influenced by the actions of others (Coetzee et al., 2018; Johnson et al., 2007; Gergen, 2015). As a result of the link between social processes and individual thought, participants build on one another's ideas to facilitate comprehension and/or perception formation.

Berger and Luckmann (1966) and Gergen (1985) suggest that, irrespective of how well-founded or supported a perspective is, whether it continues to be sustained or abandoned is dependent entirely on social processes. As a result of the constant dynamic associated with negotiating knowledge, social constructionists accept that perspectives can be temporal and can change over time (Gergen, 1978). Gergen and Gergen (2008, p. 21) posit that the differing perspectives tempt others "into a posture of curiosity and respect for others". This is congruent to this study because constructionist pedagogies provide various contexts for students to share, explore and challenge their own assumptions: perspectives on constructionist pedagogies may change accordingly.

Additionally, Gergen and Gergen (2008) suggest that understanding is not only dependent on where and when people live, but that world views are also influenced by interactions with others, both past and present. Moreover, because individuals live in existing cultures, they have already acquired pre-existing conceptual frameworks and categories (Burr, 2015). In this study student nurses and nurse lecturers were members of existing groups and were thus already familiar with the ways of those groups in terms of operation, hierarchies and language. Burr (2015) claims that, through individual and collective interaction, the traditions of those cultures are

shared: this subsequently may result in understanding. This is significant for this study, since one of the primary functions of constructionist pedagogies is to encourage knowledge exchange among student nurses, specifically regarding nursing traditions and culture.

Social constructionism is therefore highly relevant to my study since its fundamental ideas allowed me to connect a range of theories of social learning. Sociocultural historical theory, the zone of proximal development (ZPD), scaffolding, and situated learning all incorporate a variety of social constructionist concepts, such as the role of others (Chaiklin, 2003; Gergen, 2015; Lave & Wenger, 1991; Van de Pol et al., 2012; Vygotsky, 1978).

The primacy associated with the role of others to learning is crucial in constructionist pedagogies and may include student interaction with peers, lecturers or others, both within and outwith the university environment. These interactions, together with others from the past and present, lead to a shared understanding of their world. It is through reflection on those understandings that students attach meaning and so negotiate their comprehension of the world. Lave and Wenger's (1991) theory of situated learning, which outlines the role of old timers and newcomers, is an example of the role of people, past and present, in passing on the language and culture associated with a group.

A further reason for adopting social constructionism was because it helped to shape the way in which I investigated my topic: this is discussed in Chapters 5, 6 and 7. Social constructionist research supports reflexivity and is thus amenable to various research approaches (Burr, 2015). The guidance offered by the literature on social constructionism therefore provided the permission, confidence and range of tools to investigate constructionist pedagogies in a way that was both enjoyable and interesting. As this research was concerned with collaborative learning and the development of collaborative working skills, personal involvement in the data collection process was important to me. This is in line with Parahoo's, (2016) assertion that it is only by sharing, engagement and interpretation that the researcher

can obtain insights and understanding of their own world and that of their participants and/or colleagues. Furthermore, because dialogue is viewed as a critical mechanism through which the social world is constructed, research methods that foster participation through discussion are commonly used in the field (Gergen, 2015). Bryman (2016) echoes this, stating that the closeness of the relationship and interaction between the researcher and the participant may enhance the quality of the information gathered, by providing meaning and context to the data collected. Semi-structured interviews, focus groups, visual research methods and an appreciative inquiry (AI) approach were used in this study.

1.2.2: The theoretical and conceptual framework underpinning the thesis

Grant and Osanloo (2014) suggest that the theoretical framework should be clarified at the start of the student's journey, providing the 'blueprint' that supports and guides the entire thesis. As discussed above, social constructionism was a natural choice for a theoretical framework as it provided a strong orientation towards the underpinning philosophical principles. This is represented in Figure 2.

Figure 2: Theoretical and conceptual framework
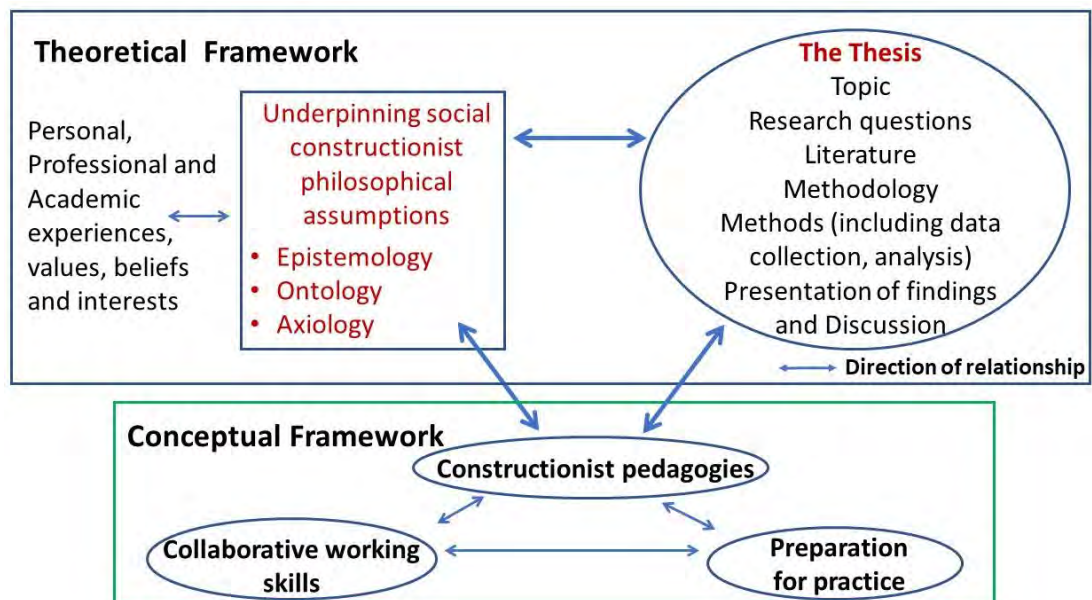
The theoretical framework encompasses several strands that provide plausible explanations that link my past, to my current study, and helped me think about my topic and how it might be investigated. Figure 2 also shows how my epistemological, ontological, and axiological perspectives are shaped in tandem with my personal, professional, and academic contexts. The alignment of the constructionist viewpoint on every part of the thesis, including the research processes I undertook, is also demonstrated. The theories that underpin this study include:

- those that are unambiguously associated with social constructionism generally, such as those put forward by Berger and Luckmann (1966), Burr (2015), Cunliffe (2008) and Gergen (1978, 1985, 2008, 2015)

- those aligned to collaborative teaching and learning theories such as: social constructivist and constructionist pedagogies which focus on the social context of learning (Vygotsky, 1978), scaffolding (Wood et al., 1976) and situated learning (Lave & Wenger, 1991)

- those aligned to research methods, such as appreciative inquiry (Cooperrider & Whitney, 2005) and visual methods (Banks & Zitelyn, 2015; Wall et al., 2006, 2012, 2013) and interviews and focus groups, reflexive data analysis (Braun & Clarke, 2006, 2013, 2020) and content analysis (Bryman, 2016; Elo & Kyngäs, 2008).

Figure 2 also illustrates the links between my theoretical and conceptual frameworks. While the theoretical framework draws on previously examined theories, the conceptual framework offers my perspectives on the relationships between constructionist pedagogies, collaborative working skills and the preparation of student nurses for practice. I now set out my conceptual framework in more detail.

My conceptual framework reflects my perceptions of the relationships between key concepts addressed in the research. Through reviewing literature and my own experiences, I made a presumption that the following relationships exist:

1. between teaching, learning and development; and

2. between constructionist pedagogies, collaborative working skills and the preparation of student nurses.

Therefore, it is reasonable to use collaborative working skills as the lens to explore perceptions of the role of constructionist pedagogies in preparation for practice. The link between working effectively with others, such as service users and their families, or colleagues within and outwith nursing, is firmly embedded in *Future Nurse: Standards of Proficiency for Registered Nurses* (NMC, 2018e) (thereafter referred to as *Standards of Proficiency for Registered Nurses*) and *The Code*: *Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates* (NMC, 2018a) (thereafter referred to as *The Code*). These standards specify the knowledge, skills and attitudes that each student must meet before entry to the register. *The Code* (NMC, 2018a) establishes a set of non-negotiable professional behaviours for all undergraduate student nurses, and registered nurses. There are numerous references to collaborating with service users, their significant others, colleagues and others involved in the delivery of healthcare. Examples include: the need to work collaboratively (2.1); recognise and respect the contribution that people can make to their own care (2.2); act in partnership (3.3); share information with other healthcare professionals or agencies (5.4); communicate clearly (7); work cooperatively (8); and share skills, knowledge and experience for the benefit of people receiving care and colleagues (9). As *The Code* (NMC, 2018a) informs practice, it is also relevant to this study as it provides further evidence of the emphasis placed on collaborative working and, therefore, the need to support the development of collaborative working skills.

Effective collaboration has been continuously emphasised as a critical component of professional practice in healthcare-related policies, initiatives, standards, and advice developed by government agencies, professional organisations, and higher education institutions (Scottish Government, 2016, 2017a & 2017b). Publications include the *Scottish Government's National*

Clinical Strategy for Scotland (2016), *Realising Realistic Medicine* (Scottish Government, 2017a), the *Nursing 2030 Vision: Promoting Confident, Competent and Collaborative Nursing for Scotland's Future* (Scottish Government, 2017b) (thereafter *The Nursing 2030 Vision*). All reference the dynamic healthcare landscape created by changing demographics such as the growing elderly population, health inequalities, technological advancements, the impact of climate change and financial constraints. Moreover, the blurring of historical boundaries between settings, services and professional responsibilities has led the development of various educational-based efforts to address those issues. The *Nursing 2030 Vision* (Scottish Government, 2017c) and *Transforming Nursing, Midwifery and Health Professions' (NMaHP) Roles: Pushing the Boundaries to Meet Health and Social Care Needs in Scotland* (Scottish Government, 2017c), provided guidance on managing various roles to a range of professional groups.

Whilst collaborative working skills are generally regarded as skills that can help a person work well with another person, the term collaborative working skills is used to embrace a sub-set of inter-connected skills including: assertiveness, communication, compassion, confidence, conflict-negotiation, critical thinking, decision-making, diplomacy, knowledge, negotiation, problem-solving, reflection, self-awareness, self-regulation and technical skills (Chan, 2013; Wong, 2018; Skills Development Scotland, 2018; Von Colln-Appling & Giuliano, 2017). The multifaceted nature of collaborative working skills is consistent with the diverse demands of nursing practice, highlighting the importance of their development in pre-registration nurse education. It is therefore reasonable to assume that attention to collaboration is of relevance to both student nurses and nurse lecturers.

Using the defining qualities of constructionist pedagogy, Table 1 below summarises the relationship between constructionist pedagogies and collaborative working within healthcare environments. This framework will be discussed in greater detail in Chapter 2. However, its positioning at this point serves to further illustrate the parallels between constructionist pedagogy and

practice. For example purposes, I have used the term 'multidisciplinary team.' This could also apply to multidisciplinary groups brought together in practice, such as nurses, or service users and nurses. It is therefore expected that strengthening collaborative working skills in the academic setting will contribute to effective collaboration practices in future roles.

Table 1: Elements of constructionist pedagogies and examples of their relationship to collaborative working in practice

Constructionist pedagogies *(elements detailed in figure 4, p 70)*	Collaborative working in health care
Knowledge is socially constructed between students, their environments and other people	Issues around care delivery are constructed, through negotiation, by members of the multidisciplinary team
Students and others are intentionally brought together (face-to-face)	Members of multidisciplinary team are intentionally brought together to provide caring services for people
There is an interactive element as a design feature	Members of the multidisciplinary team have to interact through dialogue or observation
There is an expectation that participants will work and / or learn together	There is an expectation that members of the multidisciplinary team will work together
Tasks / activities are preset and specifically designed for group engagement	Holistic care delivery requires specific contributions from each discipline. There is an inbuilt understanding that each discipline is pursuing the same goal.

Focusing on the development of collaborative working therefore provides an opportunity to explore the relationship between theory and practice. Although not always linear, I view engaging in constructionist pedagogies as practise for practice and believe that students might potentially transfer collaborative working skills learned in the classroom to the workplace and vice versa.

1.2.3: Writing in the First and Third Person

Fulbrook (2003) asserts that writing in the first person should celebrate confidence about personal learning. Reflexivity is a crucial element of my research and it is therefore important that I articulate the rationale for my own views, actions and decisions. Within chapters, as I critically appraise my

position, I move between the first and third person. I want to promote transparency throughout my work and accept that being vulnerable and open to criticism is fundamental to critical engagement. By identifying my perspectives, I want my thesis to reflect, justify and defend my personal learning and the connections I have made throughout my journey. This accords with Webb's assertion (1992) that not to write in the first person can be regarded as "deceptive and biased" (Webb, 1992, p.747).

By giving my personal position, I am not implying that I disagree with others' viewpoints or that they are unimportant or irrelevant. Rather, I have articulated my personal perspective and explicitly stated how I generated meaning from my learning; I consider my research design to be social constructionist in the sense that it is qualitative, comparative, descriptive, interpretive and exploratory in character. Others may disagree, arguing that a researcher should adhere to the most dominant approach. I justify the usage of this language by stating that my research design is social constructionist in terms of the topic and methods used. According to Lindgren and Packendorff (2009), taking a social constructionist stance challenges taken-for-granted assumptions, and using a pluralistic research design approach may be equally important for the formation of new avenues of study as well as the continuous construction of cumulative knowledge. Structuring my research around an eclectic synthesis of previously recognised stand-alone research designs allows me to describe and celebrate my approach, and is therefore appropriate.

In the sections above, I have discussed the theoretical and conceptual frameworks underpinning the thesis and have explained how social constructionism has informed and impacted on the construction and investigation of this study. I now turn to the literature used to support my thesis.

1.2.4: Selecting and reviewing the literature

This chapter has laid out my position in the research. It has detailed how my past experiences, present role as a nurse lecturer and my vision for the future have influenced this study. The way the literature supporting my thesis was searched, sourced, appraised and managed was inextricably linked to the social constructionist orientations that underpin my thesis. Firstly, after reviewing the evidence on literature search strategies, there appeared to be an over-emphasis on locating literature exclusively within the literature review chapter(s) of theses. I, however, sought to weave literature throughout my thesis. As a result, several independent literature searches were conducted for various areas of the thesis, each using a different search strategy. Additionally, as my thoughts evolved, the process of locating, sourcing and assessing material was an iterative one that continued throughout the study. This is consistent with the methodological approach taken in the research.

Second, an eclectic range of literature increased my understanding of the issue, which was not confined to research or empirical-oriented sources such as peer-reviewed academic publications. In accordance with my social constructionist viewpoint, one type of literature (such as that informed by qualitative research methods or conducted in a specific country) is not inherently superior to another. I chose literature to which I attributed significance. For Burr (2015), social constructionism is anti-essentialist and anti-realist, because conclusions are context-dependent and reliant on authors' interactions with their historical, cultural, and social contexts. Findings are context-dependent, so may not be generalisable, absolute or reproducible. Additionally, because people's perspectives are constantly changing and evolving, by the time the research is finished, attitudes may have shifted. The same concepts, I believe, may be applied to other forms of literature, including government policies, textbooks, and professional regulations, such as those linked with the NMC. It was for those reasons that a wide range of literature, including policy documents, regulatory guidance,

opinion articles, theoretical papers, government, professional and academic websites and textbooks, were used to inform this study.

As I immersed myself in the literature, I gained a cumulative understanding of prior work, which helped to contextualise the topics (Randolph, 2009; Bryman, 2016). Accessing a wide range of literature provided insights into the key issues and contributors, terminology and vocabulary. By gaining an appreciation of how others appraised and modified the work of contemporaries, I discovered how and why those theories evolved. This gave me the confidence to change concepts. I modified Boote and Beile's (2005) methodology by extending it beyond the literature review to incorporate all sources of literature and for each section of my thesis. Coverage, synthesis, methodology, significance and rhetoric were all covered under the framework (Boote & Beile, 2005). This adjusted structure served as a guide for selecting material to include, as well as an aide-memoire and a tool for self-evaluation as I progressed.

Research and policy documents pertaining to nurse education, as well as websites from government, regulatory and professional organisations, were used. A range of textbooks (edited and non-edited) that I regarded as part of the scholarly literature and which introduced or extended theories, ideas or concepts in my area of interest were accessed. Oliver (2013) discusses the benefits of adopting academic textbooks for doctoral study, claiming that some textbooks are not acceptable for evaluation because their material is usually less appropriate. I accessed texts that I regarded as foundational works, such as those by Vygotsky (1978), Lave and Wenger (1991), Freire (1993) and Cooperrider and Whitney (2005), as well as texts that received multiple citations in the literature around collaborative pedagogies such as Dillenbourg (1999) and Slavin (1995). Given the frequency with which those names were cited by other authors, it was obvious their work was ground-breaking in my area. General textbooks relating to research methodologies and methods, along with more specialised aspects of research, such as AI, visual methodologies and data analysis were also included as, combined,

they provided an overview or presented procedural and practical examples to guide my thoughts and actions.

Section 1.3: Structure of the Thesis

At this stage it is helpful to give a brief overview of the structure of the thesis. Together, **Chapters 2, 3 and 4** form the literature review and critique the reading undertaken throughout the study. This includes work before, during and after the data was collected, as the thesis took shape. **Chapter 5** is the methodology chapter and covers research methods and data collection; **Chapter 6** focuses on data analysis and **Chapter 7** on research quality. **Chapters 8 and 9** take the reader through the findings, firstly exploring the notion of learning through interaction and then focusing on constructionist pedagogies and the development of collaborative skills. **Chapter 10** considers the ways in which the findings might be taken forward and **Chapter 11** offers concluding thoughts at the end of the research process.

Section 1.4: Summary

This chapter has established my position in the research, highlighting the inter-connectedness of personal experiences, professional roles and academic motivations in shaping the research perspective. The adoption of a social constructionist paradigm for this study has been explained and key theoretical and conceptual frameworks introduced, including the interrelatedness of constructionist pedagogies and the development of collaborative working skills in the preparation of student nurses for practice.

My reflexive stance is a recurring theme throughout this thesis. This indicates a desire on my part to be transparent about how my understanding was formed so that others may make sense of my works. Writing in the first person enables me to articulate my thoughts more effectively. A departure

from the traditional approach to searching and selecting literature has been provided.

I now turn to the literature that underpins the thesis. Chapter 2 is the first of the literature review chapters and examines the institutional and professional background to the BSc programme that is at the heart of this research.

Chapter 2: Literature Review - Setting the Scene

Section 2.0: Introduction

The next three chapters offer an in-depth review of the underpinning literature for the thesis and have been divided as follows:

Chapter 2: Setting the scene;

Chapter 3: Underpinning theoretical constructs of sociocultural theory and constructionist pedagogies; and

Chapter 4: Constructionist pedagogies and collaborative working skills.

Each distinct section serves a specific purpose in guiding the reader through the theoretical foundations and practical applications associated with the existing literature, contributing to a more comprehensive understanding of the research context. This chapter unfolds in a sequenced process. Chapter 2 frames the undergraduate BSc programme, introducing the concept of pedagogy and alluding broadly to learning theories. Chapter 3 then offers a deeper exploration of learning theories, focussing on sociocultural learning theory within the realm of constructionist pedagogies. Further narrowing, Chapter 4 explores interaction within constructionist pedagogies, specifically the nuanced role of dialogue. This sequential approach allows for a layered exploration, unravelling intricacies step by step and revealing the complexities of the theoretical perspectives of the role of constructionist pedagogy in undergraduate nurse education.

The previous chapter provided an overview of the thesis, including a detailed breakdown of important elements that contextualise and establish the framework for the subsequent sections. The key concepts necessary for a nuanced understanding of the research were also outlined. In Section 2.1, the importance of the dual role of the NMC and Approved Education Institutions (AEI) to undergraduate nursing education will be outlined. Section 2.2 focuses on the development of the BSc undergraduate nursing

programme where key areas such mastery and proficiency, cumulative development, pedagogy and teaching and learning will be illuminated. As this research explores the role of constructionist pedagogies in the development of student nurses, Section 2.3. defines constructionist pedagogy and outlines its position along with other pedagogical approaches used in the BSc programme. More specifically, as in this research constructionist pedagogies are regarded as a subset of collaborative pedagogy, their inter-relationship and subsequent relationship to collaborative learning will be highlighted. Collaborative pedagogies utilise teaching methods that promote collaboration among students, fostering an environment where students actively engage with each other to construct knowledge. The section then explores the theory-practice divide and demonstrates that a proactive approach, such as employing collaborative pedagogies, enhances the connection between theory and practice. This helps student nurses to integrate knowledge seamlessly between academic and clinical settings, preparing them for their professional roles.

Section 2.1: The role of the Approved Education Institutions and the Nursing and Midwifery Council in the BSc pre-registration nursing programme

In the United Kingdom (UK), the NMC regulates nurses and midwives, aiming to safeguard the public's health and well-being by maintaining a register of nurses and midwives. The NMC protects the public interest by establishing and maintaining standards for education, training and conduct, as well as offering mandatory guidance to those responsible for designing and developing education programmes (NMC, 2018b). The NMC is required, by law, to establish standards that determine the programme content, learning outcomes and assessment criteria for pre-registration nursing programmes (Department of Health, 2001). The term 'pre-registration nursing education' is used to describe the programme undertaken by a nursing student in the UK. Student nurses must successfully complete an NMC approved pre-

registration programme to meet the *Standards of Proficiency for Registered Nurses* (NMC, 2018e) and gain registration with the NMC.

When I began this study, the focus was on the education of pre-registration nursing students centring on the 2012 BSc programmes for Adult and Mental Health Nursing at a Scottish University (UWS, 2020). At that point, whilst the *Standards for Pre-Registration Nursing Education* (2010a), the *Standards for Competence for Registered Nurses* (2010b) and *The Code* (2015) underpinned the BSc programmes, it was known that a review process was underway. While my doctoral supervisory team was aware that certain aspects might undergo modifications, they also acknowledged that a focus on collaborative working and, consequently, collaborative learning within undergraduate nursing programmes was likely to persist and it was therefore decided to proceed with the study. Furthermore, because both sets of standards and NMC codes are aligned, the research findings have been anchored to contemporary guidance. Chapter 2, Section 2.2 contains further information on the relationship between the NMC's guiding documents, collaborative working and constructionist pedagogies, as well as an explanation of why this focus was chosen. All this shows that the topic of my study remains relevant to the current context within which nurse education takes place.

Nurse education is undertaken within higher education institutions, each providing distinctive pre-registration nursing programmes. AEIs are those which partner with practice placement and work-based learning providers and have demonstrated to the NMC their competence to deliver an NMC approved programme. Within a framework of uniform prerequisites, AEIs have flexibility to develop innovative approaches which should reflect the learning environment and culture where the student may be studying and working, as well as the needs of local service users (NMC, 2018a, UWS, 2020).

Within the institution that is the focus of the current study, The *Undergraduate Programme Specification* (UWS, 2020) sets out the local

interpretation of the *NMC Standards for Education and Training* (NMC, 2018b; 2018c, 2018d & NMC, 2018e) and details the main components of the programme. The *Undergraduate Programme Specification* (UWS, 2020) is also supported by a range of documents, structures, processes and systems that enable The *Undergraduate Programme Specification* (UWS, 2020) to be operationalised. Documentation includes the Programme Handbook, module handbooks, programme flows and module descriptors. For the sake of clarity within this thesis, 'the programme' will refer collectively to *the Undergraduate Programme Specification* (UWS, 2020) and all mandated structures, systems, and processes supporting the BSc Programme, as outlined above. The study intentionally excludes the hidden curriculum, consistent with the specific emphasis and predefined boundaries of study for the research.

All pre-registration nursing curricula offered by this AEI have equally weighted theory and practice components. Students must complete 2320 hours in each area of study throughout the course of the programme which, with its interlinking functions, operates between academia and practice learning environments; both contribute significantly to the way in which students are prepared for registration. In practical terms, this collaboration entails planning placements, monitoring students and ensuring that clinical experiences meet the *Standards of Proficiency for Registered Nurses* (NMC, 2018e). The practice learning experiences are designed to provide a range of clinical learning opportunities that promote the development of knowledge and skills necessary for delivering safe and efficient care as registered practitioners (NMC, 2018b, 2018c & 2018d). The importance of learning in the clinical context is widely recognised, as it allows students to practise skills in a real-world setting and also contributes to the development of professional identity (Browne et al., 2018; Jackson, 2016).

Section 2.2: The development of the BSc Programme

The BSc programme is influenced by the AEI (UWS), underpinned by the Curriculum Framework (UWS, 2021, 2022a & 2022b), its *Regulatory Framework for Academic Programmes and Awards (2023/2014)* (UWS, 2022c3), the NMC and a range of supporting documents (2018a, 2018b, 2018c, 2018d & 2018e) which are referenced in the *Undergraduate Programme Specification* (UWS, 2020). This dual governance structure reflects the duties of the NMC and educational institutions in determining the curriculum, standards, and outcomes of nursing education. It also ensures that programmes are comprehensive and cover a wide spectrum of topics and skills, preparing nurses to be versatile and competent healthcare professionals capable of addressing the diverse needs of patients and healthcare systems safely and effectively.

2.2.1: Philosophical perspectives underpinning the BSc programme

Both the AEI and the NMC have philosophical stances that impact the BSc programme. These are now explored by reviewing the information contained in a number of the guiding documents cited above. This provides a contextualised understanding of the fundamental principles underlying teaching and learning approaches, as well as the incorporation of collaborative pedagogy (including constructionist pedagogies) within the educational framework. This serves to enhance the importance of this research topic.

The purpose, referred to as the 'why' of the curriculum by Priestley (2019), is to prepare a student nurse for professional practice as a registered nurse. In the BSc programme, students are considered prepared for professional practice when they have met the programme requirements of their formal education and the specific requirements set out by the NMC.   To achieve this, the BSc programme must therefore be structured to offer learning opportunities that encompass those proficiencies specified in platforms 1-7 of the *Standards of Proficiency for Registered Nurses* (NMC, 2018e), plus the

communication and relationship management skills and nursing procedures outlined in the Annexes (NMC, 2018b, 2018c & 2018d). Student nurses must also practise in line with the requirements of The Code (2018a). Both the *Standards of Proficiency for Registered Nurses* (NMC, 2018e) and *The Code* (2018a) therefore provide the broad detail of the content that should be required. The seven platforms are:

1. Being an accountable professional
2. Promoting health and preventing ill health
3. Assessing needs and planning care
4. Providing and evaluating care
5. Leading and managing nursing care and working in teams
6. Improving safety and quality of care
7. Coordinating care

Each of these platforms has a set of standards, also known as proficiencies. Every year, student nurses are assessed against those standards to see if they have met them. The requirements are defined at different levels and students must demonstrate that they have met the standard at the required level of proficiency for their stage of study. Within some educational settings this degree of proficiency might be considered to be 'mastery' however, within the BSc programme, mastery and proficiency appear to be synonymous. The following section explores this further.

2.2.2: Mastery and proficiency and cumulative development

In the context of the BSc programme at UWS, lecturers and students use the term 'proficiency' rather than mastery. Perhaps this is because the NMC refers to *Standards of Proficiency for Registered Nurses* (NMC, 2018e). Use of the term 'proficiency' appears to be a practical choice, since it corresponds to professional standards and associated annexes that outline the knowledge and skills a newly registered nurse should possess at the beginning of their professional career in order to practice effectively and safely. Indeed, the term mastery is not used within any of the documents associated with the

Standards for Education and Training (NMC; 2018b, 2018c & 2018d) nor guiding documents from UWS such as *the Curriculum Framework 2022* (UWS, 2022a). This could suggest that 'mastery' is understood by the NMC to imply a higher level of expertise, perhaps beyond the scope of initial pre-registration, undergraduate education.

Although the term is not used directly, it could be argued that a mastery-based framework is applied within the BSc programme. This is based on the idea that, before moving on to the next stage of the programme, nursing students need to demonstrate proficiency at a particular level (Lipsky et al., 2019). Gonzalez and Kardong-Edgren (2017) suggest that this deliberate approach to learning and skill development builds a solid foundation by improving the understanding necessary for continued progress. This is reflected in the fact that the standards associated with each of the platforms, within the practice component of BSc programme, can be assessed at different levels. Bondy's Taxonomy (1983) is used to guide assessment of student performance. This ranges from dependent through to independent, with the complexity of these proficiencies increasing each year; a student may be deemed proficient at various levels congruent with their stage of the programme. For example, a student may be considered proficient at the dependent level at the end of their first year, or proficient at the independent level at the end of their final year.

This progression emphasises the notion that proficiency is closely related to cumulative development, as it illustrates the increasing skills developed during the programme. The concept of cumulative development is integral to the programme and entails the integration of theoretical knowledge, personal knowledge and practical experience. The integration occurs as students continuously refine and adapt their skills in response to new situations and challenges, perhaps as a result of exposure to varied clinical placements. This approach mirrors incremental progress, where knowledge and skill enhancement occur in small, sequential steps, with each learning opportunity or real-world application contributing progressively to the overall

improvement of the skill set. This is consistent with Dewey's (1938) view that learning should be a dynamic, evolving process intertwined with authentic tasks that supports learners in their continuous development.

Cumulative development further includes the capacity to apply skills in diverse contexts. This is because the incremental progression contributes to a more thorough and nuanced understanding of each skill, enhancing adaptability and proficiency across different situations or settings. This sustained progression of knowledge and skills illustrates a commitment to long-term growth, acknowledging that proficiency in a skill is a journey that may take time. This is also mirrored in Lave and Wenger's (1991) concept of legitimate peripheral participation, where the capacity to apply skills in diverse contexts enables them to become more central to the community over time.

Unlike the NMC guiding documents which pertain exclusively to pre-registration nursing education, the *UWS Curriculum Framework* (UWS, 2022) relates to all curricula within UWS (irrespective of discipline or topic) and adopts the following curriculum design principles: student-centred; flexible and hybrid; simple and coherent; authentic; inclusive; and sustainable. Thus, both the NMC and UWS documents (including the *Standards of Proficiency for Registered Nurses* (NMC, 2018d) and *The Code* (NMC, 2018a) are underpinned by particular philosophies that, in turn, shape the BSc programme. For the purpose of this thesis, the term 'philosophy' pertains to the underlying beliefs, values and principles that serve as the guiding principles for decision-making for the BSc programme. These philosophies influence the choices made regarding what is taught, how and why. Sockett (2013) suggests that the philosophical orientation embraced by an educational institution has a pivotal role in shaping its perception of the purpose and objectives of education. In the case of the BSc nursing programme, the philosophical perspectives of both institutional and professional bodies are in harmony; this congruence is of the utmost significance, given the mutually beneficial nature of their collaboration and is

clearly detailed in the *Undergraduate Nursing Specification* (UWS, 2020). This unity aims to promote consistency in the underlying beliefs, values and ethical standards that help to guarantee that nursing students receive a consistent message and education in line with both the institution and the NMC's key underpinning principles. Furthermore, this collaboration aims to facilitate a smooth transition for nursing graduates into the professional arena. Jackson (2016) refers to this as the development of pre-professional identity which is "an understanding of and connection with the skills, qualities, conduct, culture and ideology of a student's intended profession" (Jackson, 2016, p. 926). Because students are not confronted with contradictory ideas and conventions, there is less chance of misunderstanding and graduates may quickly integrate into the workforce, where they can readily apply the knowledge, values, and concepts they learnt during the programme (Jackson, 2016). However, as Section 2.2.3 will demonstrate, the smooth integration of theory into practice may not always be possible. This will be explored further in the forthcoming sub-section titled 'Theory-Practice Divide'.

The BSc Programme at UWS is guided by the principles specified in strategic and policy documents of the NMC and UWS, notwithstanding the absence of explicit designation as 'philosophical' (NMC, 2018a, 2018b, 2018c, 2018d, 2018e; UWS, 2021, 2022a, 2022b & 2022c). These principles, which include student-centredness, the use of evidence-based pedagogies, a commitment to inclusivity and the acknowledgment of diversity, as well as a sensitivity to the cultural dimensions inherent in the learning environment and a focus on incorporating real-world activities and assessment, serve as an example of how the institution and the professional body align. For example, 'authentic' is a design principle in the *Curriculum Framework* (UWS, 2022b). This is described in the following way, "Using real-world learning activities and assessments to best prepare students for the complex and ever-changing professional world and society in which they live and work" (UWS, 2022b, p.5). As directed by the NMC, the BSc programme also focuses on providing authentic learning activities and assessment which offer students

opportunities to engage in activities that have real-world relevance and significance.

Although the NMC does not offer precise guidelines, it establishes programme criteria that are in accordance with encouraging authentic experiences. These include an appropriate range of placement experiences (NMC; 2018c, 1.4,1.8 & 2018d, 3.1, 3.3), which aim to ensure students have the necessary learning opportunities to meet *the Standards of Proficiency for Registered Nurses* (NMC, 2018e) and therefore gain entry onto the register. The equal weighting of theory to practice hours and the planned pedagogical method of sequencing practice to theory and theory to practice promotes the credibility of nursing education (NMC, 2018d). This helps ensure that students not only gain theoretical knowledge but also have opportunities to use, situate and enhance that knowledge in actual clinical environments. The NMC indicates that a range of learning and teaching strategies should also be used (NMC, 2018d). Within the BSc programme and classroom setting, this includes the use of collaborative pedagogies, including constructionist pedagogies. In nurse education, constructionist pedagogies create learning environments that mirror the intricacies and difficulties of real-world healthcare practice. As several constructionist pedagogies (such as group work, classroom-based discussions and high-fidelity simulation) place a strong emphasis on communication, problem-solving and teamwork, it is anticipated that their use prepares nursing students for the real-world in their future roles as healthcare professionals.

The tactical approach above, which aims to effectively prepare students for the complex and dynamic professional environment and society in which they live and work, aligns with a range of theoretical perspectives such as situated learning (Lave and Wenger, 1991), social interaction (Daniels, 2007), student-centredness and student-driven approaches, authentic classroom tasks (Dewey, 1938) and democracy (Dewey, 1916, Freire, 1993).

Lave and Wenger's (1991) perspective on situated learning highlights the importance of learning within the context of authentic, real-world situations.

They contend that rather than taking place in solitary classroom settings, learning is most successful when it occurs in an environment where the knowledge and skills are applied or to be applied. The theory of situated learning (Lave & Wenger, 1991), emphasises that learning is a social process that occurs as individuals actively engage in authentic activities within a community of practice. Moreover, Lave and Wenger (1991) claim that people learn by participating in meaningful, situated activities alongside more experienced practitioners (which may include other students). It is through these interactions that students gradually become integrated into the community, developing their expertise and identity within that context. This key idea that learning is not an isolated event but, rather, a continuous process that occurs as individuals engage with real-world problems, tasks, and challenges is realised within the BSc programme. Therefore, constructionist pedagogies implemented in the classroom are comparable to situated learning. This is explained by the fact that constructionist pedagogies in the classroom reflect the characteristics of a community of practice and help professional integration by moving beyond aspects like clinical placements, specific learning hours and a structured sequencing from theory to practice. Their use helps students stay exposed to real-world problems, and provides additional opportunities to develop and practise their skills in readiness for practice, aiding their development into future professional roles.

Analysing the idea of situated learning put forward by Lave and Wenger (1991) and, in particular their use of the word 'learning' and taking into account the previous debate on cumulative development, it is obvious that there is an interwoven relationship between learning and development. The following section offers a more detailed exploration of the terms 'learning' and 'development.'

2.2.3: Conceptualising learning and development in the context of this study

According to Misra (2021), the notion of 'learning' is a contested area for reasons of complexity, multidimensionality, context dependency, theoretical diversity, cultural influences, technology improvements and philosophical differences. The underlying definition used in this thesis is Vygotsky's (1978) explanation of the relationship between learning and development, in that development usually follows learning, and development in turn influences and helps to shape later learning. Vygotsky (1978) asserts that "Learning is not development, however, properly organized learning results in mental development and sets in motion a variety of developmental processes that would be impossible apart from learning" (Vygotsky, 1978, p. 90).

Säljö (1979) conducted a study centred on perspectives of learning which provides a helpful perspective on understanding the relationship between learning and development, and how this relationship might be consistent with Vygotsky's (1978) viewpoint and the idea of cumulative development. To achieve as great a degree of heterogeneity as possible, 90 adult students (full or part-time), were selected and two criteria were used: age (between 15 and 73 years) and formal education (between 6 and 17 years). Participants were interviewed and asked what they meant by learning. The research discovered significant variations in how people viewed their own learning. Their responses could be divided into five categories, as explained below.

Firstly, Säljö (1979) found a 'taken for granted' perspective on learning, which was characterised as a growth in quantitative knowledge. Here, learning was equated with discrete units of information, where the task of the learner is perceived as that of "getting all the facts into your head" (Säljö, 1979 p. 446). The second interpretation of learning was that of memorising, which consists of retained information that can be replicated when required. In contrast to the first two accounts, the third perspective is that students reflect on their learning experiences and organise them into themes. According to Säljö (1979), this refers to the point at which students reach a stage where they go

beyond simple explanations and begin to include various qualifications and distinctions when discussing what they have learned. Rather than providing a broad or general overview, they delve into the intricacies of the topic, considering various perspectives, exceptions, or finer points. This reflects a depth of understanding that goes beyond surface level knowledge. Säljö (1979) identifies three primary themes that emerge:

1. Students become aware of the influence of the context of learning and become 'cue-conscious'. Learning is defined as the acquisition of knowledge and skills that can be retained and applied as needed. This is when learners adapt their learning to various kinds of demands such as what they think they may need in order to pass an assessment, for example.

2. The next distinction classified as a theme is between learning for life versus learning in school. The argument contends that school-based learning has mainly become conventional and routine, governed solely by institutional norms. This criticism is based on a sense of artificiality, implying a lack of inherent connection to external real-world conditions. Here learning can be defined as producing sense or abstracting meaning where learning entails relating subject matter components to one another and to the real-world.

3. The third theme relates to how the students in the study thought about the nature of the learned content. Learning is defined as perceiving and comprehending reality in a new way. Understanding and real learning are juxtaposed in this scenario with rote learning, in which the knowledge is considered more complex. Here knowledge is viewed as more complex than mere facts; it can represent a perspective, a reinterpretation of existing knowledge or of a foundational principle. Instead of prioritising the facts, these are considered subordinate to what truly should be learned: the context. This shift towards a more comprehensive understanding corresponds with cognitive development, indicating a progression from mere memorisation of superficial concepts to a more holistic understanding and practical implementation of knowledge.

In the context of pre-registration nursing education, Säljö's (1979) ideas are relevant in two ways. Firstly, they provide valuable perspectives on education seen through the lens of adult learners, a demographic pivotal to the pre-registration nurse education landscape. Secondly, the diversity of viewpoints uncovered in the research mirrors the intricate nature of the learning process, suggesting that these varied perspectives may hold relevance within the unique setting of nursing education. For example, an interpretation of Säljö's (1979) account of learning offers a spiral trajectory, showing that learning and development could be linked. Beginning with basic stages that require memorisation and replication, students advance to a higher level of understanding. This comprehension includes contextual awareness, critical viewpoints on institutionalised learning and, ultimately, a meaningful application of knowledge. Learning is a component of development, and Säljö's (1979) research depicts the complexities of this relationship, recognising that not all learning experiences necessarily lead to development, and the outcomes of learning may vary between individuals.

From the preceding discussion, it is clear that certain aspects of learning and development can occur within the academic setting and that choice of pedagogy has a significant impact on the character of these processes. For example, teacher-centred pedagogies may prioritise quantitative or memorisation-based learning. This technique frequently emphasises information transfer from the teacher to the learner, with a focus on measurable outcomes. In the context of nursing, students study topics such as anatomy, physiology, pathophysiology, pharmacology and nursing theories which may be regarded as factual or scientific concepts and delivered in a more formal classroom setting. Here, the knowledge and skills are learned as part of a typically conscious and deliberate process where individuals gain explicit knowledge or skills via purposeful activities, such as formal education (for example, via lectures).

Conversely, alternative pedagogies, like student-centred approaches such as collaborative pedagogies, could also be seen to support both learning and

development; collaborative pedagogies may, for example, enable students to apply those scientific ideas to more real-world contexts (Oermann et al., 2016). This is because those pedagogies are thought to be more authentic and seek to contextualise learning and development to the real-world.

Constructionist pedagogies go beyond memorisation, for example, and frequently promote active participation, critical thinking and collaborative learning. Koch et al. (2021), used role play simulation to teach nursing students how to provide culturally sensitive care to transgender patients. In their study, learning and development were clearly linked, as the focus was on the acquisition of knowledge as well as skills development. Student nurses were provided with theory pertaining to the use of culturally sensitive language and how to recognise biases, prejudices and assumptions. Using role play, students were then asked to simulate an assessment with a transgender patient. The study found that students learned how to be more culturally sensitive (by using appropriate language) and inclusive in situations where standards rules and policies might be inadequate (such as restricted visiting times). In addition, via active participation in constructionist pedagogies, students not only fostered the development of interpersonal skills, such as working more effectively as a team, but also felt more confident engaging in difficult conversations about insensitivity with colleagues. The study's findings revealed that this confidence stemmed from collaborative learning which, by encouraging students to explore topics from multiple perspectives and to practise through role play, fostered a more nuanced comprehension than mere surface-level knowledge of key concepts.

Development may also be perceived as a broad concept that encompasses different aspects of personal growth and maturation and may refer to growth in cognitive, affective, social, moral, physical and psychomotor dimensions (Dewey, 1938; Vygotsky, 1978; Basit et al., 2023). In relation to undergraduate nurse education, according to Browne et al. (2018), this entails establishing core nursing principles and beliefs such as compassion, patient-centred care and ethical behaviour, where students are urged to

internalise these beliefs and form a professional identity that is compatible with the nursing profession. A randomised controlled study by Basit et al. (2023) demonstrated how empathy and altruism skills were developed by second year nursing students through role play. This provides further evidence of how these aspects of development can be nurtured in an educational setting. The idea of development in nursing education therefore goes beyond the simple learning of knowledge to include the internalisation and application of important concepts, supporting nursing students' overall development.

Additionally, as development can be understood as a progression that takes place over a period of time it can be seen to be linked to the concept of proficiency and professional socialisation (Browne et al., 2018). These concepts also find support in Lave and Wenger's (1991) theory of situated learning, which revolves around the idea of legitimate peripheral participation. Here, development encompasses changes in an individual's identity and skill set. As per Lave and Wenger's (1991) theory, individuals typically commence their journey as peripheral members within a community of practice and advance towards full engagement as they acquire proficiency. In the case of nursing students, this journey encompasses not only the acquisition of knowledge and skills but also a transformation in their identity as they transition from being novices to becoming proficient at the stage commensurate with the stage of their programme.

Whilst Lave and Wenger's (1991) viewpoint on situated learning emphasises the importance of social interactions and real-world contexts where learning is embedded in the fabric of everyday life, Dewey's (1938) perspective is from within educational institutions. Dewey (1938) advocated for a balance between experiential learning and formal education, believing that the classroom should provide a structured environment for students to engage with real-world problems and experiences. Dewey (1938) emphasised the importance of connecting classroom knowledge to practical applications, thus making learning more relevant and meaningful.

The work of Lave and Wenger (1991), Wenger (1998), Vygotsky (1978) and Dewey (1938) is highly relevant to nurse education in the UK as the theories support the creation of effective educational environments that prepare nursing students to meet the demands of the healthcare profession. Although each places a different emphasis on social interaction, the necessity of creating a link between classroom knowledge and real-world application is clear. This congruence is especially important for pre-registration undergraduate nursing education, as constructionist pedagogies play a key role in helping students apply what they learn in the classroom to real-world healthcare situations. Whether learning occurs in the workplace or in educational institutions, the ultimate goal is to provide students with the skills, knowledge and adaptability required for successful entry into the nursing profession. Constructionist pedagogies are critical to accomplishing this goal because they provide a framework that transcends the site of education, emphasising experiential learning that equips students with the necessary skills and knowledge to navigate the opportunities and demands they will face in their nursing careers. Incorporating these principles into nurse education programmes aligns with the evolving landscape of healthcare and ensures that nursing students are well-prepared to contribute meaningfully to a range healthcare environments.

The next section considers the key concept of pedagogy.

Section 2.3: The BSc programme and pedagogical approaches

The concept of pedagogy is complex and diverse, holding pivotal significance in influencing the academic journey of undergraduate nursing students. In the following section, the pedagogical approaches embraced in the BSc programme are explored, particularly those related to collaborative and constructionist pedagogies. The contested and multifaceted concept of pedagogy is explored, highlighting that it encompasses more than mere teaching and learning. This is significant, as the research focuses on the

development of undergraduate nursing students and the role played by constructionist pedagogies, which are a form of collaborative pedagogy. Interpretations of the theory-practice divide are explored, as well as the potential impact on the development of learners as they learn to navigate the nursing landscape.

2.3.1: Exploring pedagogy

I now provide an overview of the concept of pedagogy, demonstrating its complexity in relation to the nature of knowledge, what is taught and how students learn. The context for this is the BSc programme and collaborative pedagogies. With a focus on constructionist pedagogies, the relationship between collaborative pedagogies and collaborative working are explored.

Pedagogy is a crucial aspect in determining the success of a programme's delivery. Whilst Priestley (2019) maintains that pedagogy is what defines the 'how' of the curriculum, Mackintosh-Franklin (2016) suggests it provides educators with a road map for organising teaching and augmenting student learning and programme growth. This is because the pedagogical approach taken by educators in the institution under consideration in this project is directly related to *the Undergraduate Programme Specification* (UWS, 2020). This guiding document can be viewed as the concrete manifestation of educational philosophy which embodies the values, principles, and goals that educators aim to achieve in their teaching practices. This serves a dual purpose. Firstly, it emphasises the interdependence of the philosophical underpinnings and, secondly, it provides guidance for putting those underpinnings into practice. This is significant, because the *Undergraduate Programme Specification* (UWS, 2020) contains important decisions about the knowledge, skills, and expertise that are deemed vital for student success. From this perspective, pedagogy is seen as much more than simply teaching and learning, for it is deeply shaped by the underlying philosophical beliefs and concepts that guide and inform the way education is approached and conducted.

According to Loughran (2013), pedagogy is a major educational construct that has been defined, interpreted and applied in a variety of ways in the educational literature but is frequently used narrowly and synonymously with teaching and learning. However, as Biesta (2011) and Frierson and Su (2023) contend, pedagogy encompasses a much broader and deeper comprehension of human development, culture and society than the European notion that it is primarily concerned with teaching and learning. In their recent work, Frieson and Su (2023) contend that pedagogy recognises and makes use of people's innate desire to learn, their social interactions, cognitive capacities, emotions and cultural contexts, to create meaningful learning experiences. This far exceeds the notion that pedagogy is simply the transmission of information and is, therefore, consistent with Dewey's (1938) assertion that students are naturally curious and interested in the world around them and that, when genuinely interested, they are more likely to be intrinsically motivated to explore and learn about a particular topic. Moreover, it also aligns with Dewey's (1938) perspective on experiential learning, because connecting what they learn in the classroom with their everyday lives can help foster intrinsic motivation and make learning relevant and meaningful to students.

In the light of ongoing scholarly discourse and the differing perspectives presented by theorists including Biesta (2011) and Frieson and Su (2023), the interpretation of the term 'pedagogy' within the context of the BSc programme at the University of the West of Scotland (UWS) predominantly revolves around the practice of teaching and learning. However, it is essential to note that the *Undergraduate Programme Specification* (UWS, 2020) embraces a broader understanding of pedagogy, which will now be discussed.

As detailed above, pedagogy can be described in different ways, yet the core idea is that pedagogy is the practice of intentionally applying educational concepts in order to deliver effective learning experiences. Within the BSc Programme, the unequivocal objective is to actively guide student nurses in

fulfilling the prerequisites for registration. It is for this reason that this thesis firmly adopts Horsfall et al.'s (2012) definition of pedagogy in nurse education: "considerations on the nature of knowledge; what is taught, how it is taught; what is learning; and, how students and teachers learn" (Horsfall et al., 2012. p. 930).

The idea that pedagogy is more than just a set of techniques for teaching is strongly supported by Horsfall et al.'s (2012) definition. This concept highlights the crucial connection between philosophical foundations, instructional methods, content delivery, the process of student learning and their cumulative impact on the learning experience. Moreover, it firmly acknowledges the imperative to embrace multiple perspectives concerning the nature of knowledge, its importance in education and role in the teaching and learning process. Some may define knowledge in terms of factual or declarative information (Eraut, 2000), while others, for example Wenger (1998) and Dewey (1938), may conceptualise knowledge as something obtained via experiential learning.

The differing conceptions of knowledge highlighted above can therefore influence how educators design programmes, pedagogical methods and assessment strategies. Because of this, the BSc programme design takes into account a broad viewpoint that considers both theoretical knowledge and its practical application, making it compatible with the many ways that people perceive and acquire knowledge or learning preferences. Within the *Undergraduate Programme Specification* (UWS, 2020), for example, learning outcomes are divided into two categories: 'Knowledge and Understanding' and 'Practice-Applied Knowledge and Understanding'. This classification highlights that the programme is informed by various sources of evidence. For example, the NMC promotes nursing education and practice that incorporates the best available evidence and research; the programme is also expected to instil a strong sense of ethical responsibility in students and to prompt them to act according to ethical values and principles. Ethical principles such as autonomy, beneficence, non-maleficence and justice

underpin nursing education, ensuring that students develop a moral compass for their professional practice. It is understood, however, that these ethical guidelines may need to be developed and implemented with flexibility in order to be applied to a variety of situations and circumstances in the context of healthcare practice. This acknowledges that for students to gain and apply different types of evidence, a diverse set of teaching approaches are required. In the case of the BSc programme, these different approaches are outlined not only in the module descriptors for each module but are also embedded throughout other systems, structures and processes associated with the programme. In essence, the BSc programme places significant emphasis on not only acquiring theoretical or declarative knowledge but also on applying that knowledge in practical ways to prepare for professional roles.

Nurse education places strong emphasis on both critical thinking and clinical judgement. This is reflected in *The Code* (NMC, 2018a) and the various standards associated with the NMC programme (NMC, 2018b, 2018c, 2018d, & 2018e). Nurses must be able to analyse complex clinical situations, make informed decisions and adapt to changing patient conditions (NMC, 2018e). Moreover, as nurses play a vital role in patient education, an understanding of how people learn, retain information and make decisions is crucial for effective patient education. Yet, as Collier-Sewell (2023) contends, the nature of knowledge is that it may not always be universal or objective and may be culturally and contextually situated and thus not necessarily applicable or valid for everyone or in all contexts. Nurses need to use approaches based on evidence, such as checking, chunking and teach-back methods (Epstein, 2023; Selling et al., 2022) to ensure that patients comprehend and apply healthcare information. All these aspects are identified within the *Undergraduate Programme Specification* (UWS, 2020), within the learning outcomes sections.

Deciding what content to teach and how it is taught is therefore a crucial decision and is clearly connected to perspectives on the nature of

knowledge. This involves selecting subject matter and topics that align with educational goals. The choice of what to teach is influenced by cultural, historical and philosophical factors (Collier-Sewell, 2023). Recognising that knowledge can be shaped by culture and context emphasises the importance of a nuanced and inclusive approach to education. It highlights the need to teach and learn in a way that considers various cultural and contextual influences on knowledge, enabling students to develop a more thorough and flexible understanding.

The addition of a further component to the notion of pedagogy increases its complexity. In Horsfall et al's. (2012) definition, the incorporation of 'what is taught' in the definition further promotes the complex nature of pedagogy. According to Priestly (2019), curriculum structure directs curriculum content. This is comparable in the pre-registration programme, where the NMC (2018b) specifies that the broad content to be presented must cover all domains in order to ensure the proficiencies and outcomes are reached. This relates to platforms 1-7 of the *Standards of Proficiency for Registered Nurses* (NMC, 2018e) and the communication and management skills and nursing procedures set out in the Annexes of that document. Furthermore, they state that this must be done while adhering to the principles of *The Code* (2018a). *The Code* (NMC, 2018a) and the *Standards of Proficiency for Registered Nurses* (NMC, 2018e) both outline the knowledge and skills expected of registered nurses in varied care environments. These standards, which are in line with public expectations, direct nurses in providing safe and compassionate care. However, it is the AEI's ultimate responsibility to interpret and decide on the particular content and delivery methods.

While some educational experts, such as Priestly (2019) contend that the curriculum determines pedagogical methods and content, it is evident that within pre-registration nursing education both aspects influence each other. The relationship between the two is dynamic and responsive, with each influencing and shaping the other to ensure that students receive a

comprehensive and meaningful educational experience. For example, as educators implement the programme, they may refine their pedagogical approaches based on the needs and responses of students and staff. Within the BSc Programme, this is evidenced by the institution's quality assurance programme which actively seeks feedback from both students and teaching staff.

A further element of Horsfall et al's. (2012) definition pertains to the requirement to understand how students learn. Educators must therefore be knowledgeable about both the theory of learning and the practical components of teaching (Mukhalalati and Taylor, 2019). Moreover, an understanding how learning occurs can also inform strategies for motivating and engaging students. According to Jones (2009), this is because effective teaching involves establishing a positive and stimulating learning environment that fosters intrinsic motivation and active engagement with the subject matter. This is also supported by Dewey (1938), who argues that the key to motivating students lies in aligning educational experiences with their innate interests and natural curiosity. In nurse education, this means connecting theoretical knowledge to the practical realities of healthcare. This is supported by a study by Jackson et al. (2014), which found that nursing students are more motivated to learn when they see how their knowledge and skills will apply to their future role in patient care or when their academic performance is linked to assessments or achievements in their educational programme.

Loughran (2013) asserts that the teaching and learning relationship refers not only to the complex interplay between the teaching strategies and the learning theories but also between the teacher and student. This further reinforces Dewey's (1938) and Lave and Wenger's (1991) view that teaching is not just about the transmission of knowledge from teacher to student. According to Frieson and Su (2023), pedagogical strategies can vary greatly, depending on the specific needs of the learners, the lecturer's expertise, the nature of the subject matter being taught and the context in which the

learning takes place (classroom setting, online learning, skills lab or one-on-one tutoring). Collaborative learning and social interaction are integral components of socio-cultural theory that emphasises both the student-teacher relationship and a student-centred approach. This will be the focus of Chapter 3, where socio-cultural learning theory will be explored.

Above, it has been shown that pedagogy extends beyond mere teaching and learning through an exploration of the intricate characteristics of pedagogy, and its multifaceted nature in relation to knowledge, curriculum content and pedagogical approaches. I now turn to collaborative pedagogies and constructionist pedagogies in the field of nursing education.

2.3.2: The role of pedagogy in nurse education: Collaborative and constructionist pedagogies

As demonstrated above, pedagogy is of vital importance to the field of nurse education and it embraces more than approaches to teaching and learning. According to Mackintosh-Franklin's (2016) study, however, only 42% of pre-registration nursing curriculum documents explicitly mentioned pedagogy. Moreover, according to Beatty et al. (2009), teachers are not always aware of the fundamental connection that exists between philosophy, educational tenets and their methods of instruction. Dyson (2018) contends that this might be because nurse educators are mostly drawn from clinical practice and prioritise clinical expertise and knowledge over pedagogical design. This section considers the role of collaborative pedagogies, particularly constructionist pedagogies, within the BSc programme. Whilst collaborative pedagogies are one of many used in the BSc programme, their position alongside constructionist pedagogies will be shown. This graphical depiction (Figure 3) sets out the interconnections and differences between diverse instructional methodologies, thereby offering a clearer perception of the ways in which different pedagogies contribute to the overarching educational strategy.

While this study focuses on classroom-based constructionist pedagogies, I recognise that what occurs in the classroom is only one small piece of the jigsaw that determines preparation for practice. Constructionist pedagogies fall within the family of collaborative pedagogies. By way of illustration and from my perspective, Figure 3 positions constructionist pedagogies within the range of pedagogical approaches used within the BSc programme. Teaching and learning are complex, and the examples in the boxes are intended to be illustrative rather than suggestive of hierarchical domination.

Figure 3: Positioning of constructionist pedagogies within the BSc Pre-registration Nursing education programme
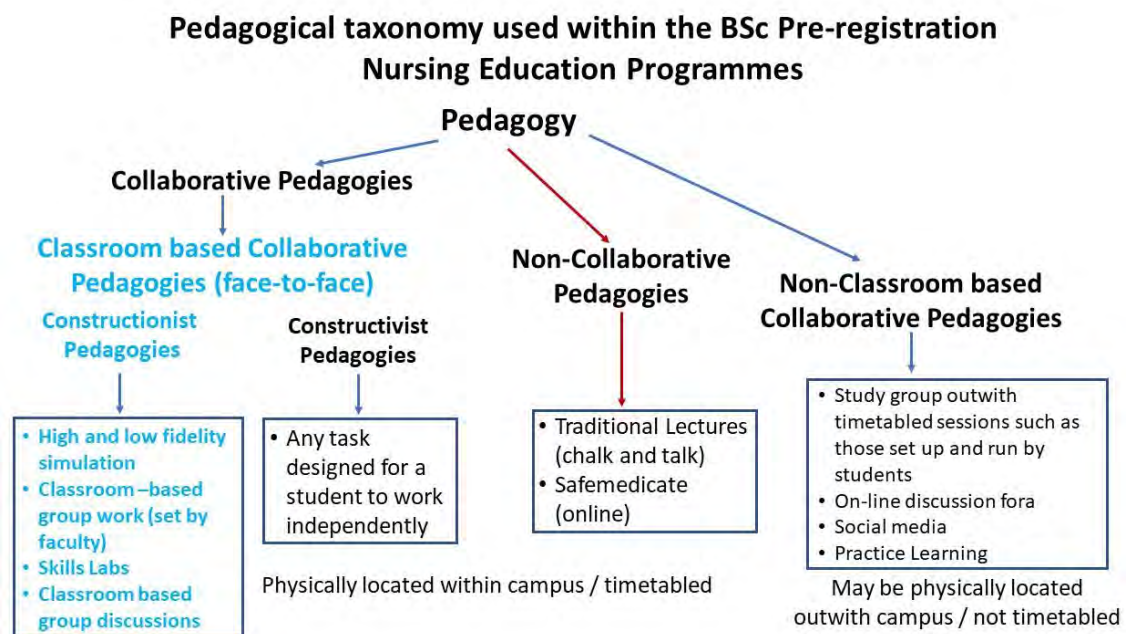
Constructionist pedagogies, as depicted in Figure 3, are considered a subset of collaborative pedagogies in this thesis.

Collaborative pedagogies have unique design and philosophical characteristics. According to Stenberg, et al. (2022) they encompass the pedagogical approaches used by educators to foster student engagement in collaborative learning experiences. The relationship between collaborative pedagogies and collaborative learning is that the pedagogies provide the framework and methods for facilitating learning. According to Tolsgaard et

al. (2016), this is because collaborative pedagogies support active engagement, knowledge construction and skill development among students through their collaborative interactions.

The definition provided by Smith and McGregor (1992) suggests that collaborative learning is an overarching term for a "variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, or meanings, or creating a product" (Smith and McGregor, 1992 p.11).

In unpacking this definition, it appears that collaborative learning is about a number of different but interrelated elements which include: people (students and/or teachers) jointly working together; students learning together; and students working towards a mutual goal. Jackson et al. (2014) note that working in groups allows students to create learning partnerships with one another, to negotiate with peers to reach an endpoint or consensus, and to develop networking and supportive relationships.

Markowski et al. (2020) offer an insightful perspective on collaborative learning in their systematic review and qualitative synthesis of the literature on peer learning. The latter is viewed as a broad term that encompasses all learning encounters, be they informal, moderated or structured. These interactions typically occur among individuals within similar groups, particularly students. The research conducted by Markowski and colleagues (2020) sheds light on the multifaceted nature of collaborative learning and the significance of peer interactions. Collaborative learning therefore describes a situation (or set of situations) in which particular forms of interaction among people are expected to occur to generate learning. Collaborative pedagogies may include group work such as project work including assignments, group discussions, scenarios including role play, gaming, simulation (high and low fidelity) and clinical skills laboratory work (Gagnon & Roberge, 2012; Jackson, et al., 2014; Martin, Friesen & De Paul, 2014; Tolsgaard et al., 2016; Blakeslee, 2020; Koch et al., 2021; Basit et al., 2023).

Nursing has specific requirements for advanced collaborative skills and the ability to engage productively with those who hold divergent viewpoints or come from diverse backgrounds and disciplines. Numerous reviews have pointed out the effectiveness of collaborative pedagogies in preparing student nurses for collaboration in healthcare environments, including simulation (Oermann et al., 2016; Blakeslee, 2020; Currie et al., 2021), formative and summative assessment (Steinberg et al., 2021) and group discussions (Kalu et al., 2023). Furthermore, there is substantial evidence to suggest that collaborative learning fosters the progress of numerous aspects of student development. These include the development of critical thinking, technical and theoretical skills (Blakeslee, 2020; Zhang & Cui, 2018); self-confidence (Ortiz, 2016; Tolsgaard, et al., 2016; Zhang & Cui, 2018); professional development (Markowski et al., 2020; Netwali et al., 2018; Zhang & Cui, 2018; Kalu et al., 2023) and communication skills (Baghcheghi, et al., 2011). These findings reflect the value of collaborative pedagogies and learning in the educational and professional development of students, promoting their readiness for collaborative practice.

Yet, working and learning together can be problematic and this has been widely reported. This is detailed in the work of Davies (2009), Jackson et al. (2014) and Le et al. (2018) who suggest that mere physical proximity of students does not automatically imply active participation or learning. A multiplicity of group dynamics is at play, encompassing issues such as social loafing concerns, the difficulties presented by introverted students or, conversely, by those with dominant personalities, competence levels in terms of interacting with others and the influence of cultural differences (Davies, 2009; Coetzee, 2018; Koch, 2021). It is also noteworthy that certain cultural backgrounds may prioritise individual accomplishments over collaborative group efforts, potentially influencing the congruence between learning preferences and collaborative endeavours (Davies, 2009). Additionally, collaborative learning may present difficulties for both lecturers and students, due to its time-intensive nature. This may become apparent when considering the amount of time lecturers are expected to devote to

preparation and the possible compromise between comprehensive content teaching and collaborative learning activities (Jackson et al., 2014; Le et al., 2018).

Collaborative learning in the classroom may be seen as a form of situated learning. While the original concept of situated learning (Lave and Wenger,1991) is often associated with authentic, real-world contexts outside the classroom, the principles of situated learning can also be applied within educational settings. In the classroom, collaborative learning creates a situated environment where students interact with the subject matter, their peers and the lecturer. The learning experience becomes contextually embedded, and students are encouraged to apply their knowledge in problem-solving situations, mirroring the principles of situated learning. So, while situated learning is often linked to real-world, workplace scenarios, the collaborative nature of learning within a classroom can embody many of the principles of situated learning, emphasising the importance of context, social interaction and active participation in the learning process.

In a similar vein to that of situated learning, Wenger's (1998) research, which explored the concept of Communities of Practice (CoP) can also be related to collaborative pedagogies. Whilst CoPs are generally considered a social learning concept rather than a specific classroom pedagogy, elements can be integrated into educational settings to enhance learning experiences. A CoP is characterised by three interrelated dimensions: mutual engagement, joint enterprise, and a shared repertoire (Wenger, 1998). These dimensions highlight the collaborative and social nature of learning within a community, emphasising the importance of shared goals, active participation and a common body of knowledge. The dimension of 'mutual engagement' encapsulates the interactions between individuals, leading to the construction of collective meaning regarding issues or problems. 'Joint enterprise' denotes the collaborative effort of multiple individuals in pursuit of a common goal. Finally, the term 'shared repertoire' refers to the vocabulary and resources that are used by all group members to facilitate learning and

negotiate meaning. The purpose of these dimensions is to foster connections among CoP group members, with an emphasis on knowledge exchange, collaborative efforts and shared objectives. This highlights the collaborative nature of the CoP concept, demonstrating its relevance to the dynamics of collaborative learning.

In summary, collaborative pedagogies are included in the repertoire of pedagogy used within the BSc programme, can take place within or outwith the classroom setting and can be regarded as being either constructionist or constructivist in design. Collaborative pedagogies foster interactive learning environments where students actively engage with each other and have been shown to support the development of a range of skills. Students benefit from diverse perspectives, constructive feedback, and collective knowledge construction, preparing them for collaboration in healthcare.

2.3.3: Theory–practice divide

In recent times, there has been a heightened emphasis on the integration of collaborative pedagogies in undergraduate nurse education. This section explores a critical aspect within this discourse: the theory-practice gap, promoting an understanding of the role of collaborative pedagogies by identifying and analysing the challenges and discrepancies that may exist between theoretical knowledge and its practical application.

The increased use of collaborative pedagogies within the pre-registration BSc programme arose from a range of interrelated issues, summarised into the following five areas (Allen, 2010; Duane & Satre, 2014; Dyson, 2018; Horsfall et al., 2012; Mackintosh-Franklin, 2016):

1. The need to ensure that the nursing workforce is equipped with the right skills to respond to the changing landscape of healthcare;
2. The requirement for professional recognition and for nursing to be seen as both a competing yet equal force with other professional groupings;
3. Nursing, like any other healthcare profession, involves a large number of practitioners, making collaboration essential;

4. The need for nurse education to adapt and develop, in parallel with the broader changes being introduced to Higher Education (such as enhanced academic rigor and innovations in teaching and learning); and

5. The response to the internal struggles within the profession itself to address the gap between theory and practice.

The fifth reason above is explored here. Addressing the theory-practice gap is interesting because it can help create a mindset amongst lecturers and students that they are part of an integrated nursing programme. This integration is critical for recognising the interdependence of theory and practice in nursing education, highlighting how both elements work together to prepare well-equipped nurses. Furthermore, according to Dyson (2018) and Greenway et al. (2019) students encounter challenges when attempting to transfer university-acquired knowledge into practical clinical settings. It is also apparent that real-world practice of nursing is significantly more complex than can be entirely covered in conventional classroom-based teaching. Nuances and variables emerge when interacting with individuals in real-world healthcare settings, which cannot be fully addressed through traditional didactic teaching methods (Dyson, 2018). The use of constructionist pedagogies has the potential to push or encourage students to apply classroom learning in real-world contexts, building a greater awareness of their role as nurses within the broader healthcare context.

This research explores constructionist pedagogies and their role in preparing students for professional practice, with a particular focus on the development of collaborative or teamworking skills. Acknowledging the issues around the theory-practice gap provides a crucial lens through which to better understand the role of constructionist pedagogies in preparing students for professional practice.

The term theory-practice gap is a metaphor commonly used within nurse (and other professional) education in the UK (Gallagher, 2004; Greenway, et al., 2019; Monaghan, 2016) to articulate the existence of a disparity between the theoretical knowledge students learn in the classroom and their ability to

effectively apply that knowledge to clinical settings. The 'real-world' in this context refers to the application of theoretical knowledge provided in the classroom to actual situations, patients and challenges that nurses encounter in their daily practice. The term (theory-practice gap) is also used within the *Undergraduate Programme Specification* (UWS, 2020). In the context of this document, it explicitly refers to embedding practice learning experiences along with modules with an explicit theoretical component (as opposed to stand alone theory and practice-based modules) because it "helps narrow the theory practice gap" (UWS, 2020). The implication here is, firstly, that those authoring *the Undergraduate Programme Specification* (UWS, 2020) were acutely aware of the existence of a gap and, secondly, that there is a requirement that it be addressed. Moreover, there is also the implicit suggestion in the comment that there may be additional ways to help address the theory-practice gap.

While the *Standards for Education and Training* (NMC; 2018b, 2018c, 2018d) refrain from explicitly using the term 'theory-practice gap', their emphasis on providing guidance to AEIs is indicative of a recognition of the potential challenges posed by such a gap. In essence, the NMC is urging AEIs to integrate both theoretical and practical components into students' learning experiences, a strategic move aimed at addressing and mitigating any potential theory-practice gap in nursing education. Moreover, the interpretation of this guidance, as reflected in the response mentioned earlier and within the *Undergraduate Programme Specification* (UWS 2020), reinforces the idea of the existence of a gap. The consistent use of this terminology by both the NMC (2018b) and the AEI (UWS, 2020) strengthens the perception that there is a recognised gap that needs attention to promote the integration of theory with practice.

In their 2019 study, Greenway et al. (2019) investigated the theory-practice gap concept within pre-registration nursing education in the UK. They observed that there is no consensus on its precise definition, characteristics or consequences. Their investigation, however, provided the following working definition: "The gap between the theoretical knowledge and the

practical application of nursing, most often expressed as a negative entity, with adverse consequences" (Greenway, et al., 2019 p. 1).

This definition signifies that there is a recognised gap between what nursing students learn in theory (for example, in classrooms or textbooks) and how that information is applied in real-world clinical situations. This gap is often regarded negatively since it can result in adverse events or consequences, such as moral distress or cognitive dissonance (Greenway et al., 2019). Moral distress occurs when an individual is aware of the ethically or morally right course of action but feels constrained from following it due to various external factors, such as institutional policies, hierarchies or peer pressure (Gibson et al., 2020; Sastrawan et al., 2018). According to Gibson, et al. (2020) moral distress typically involves a conflict between a nursing student's moral values or beliefs and external constraints, leading to emotional distress and a sense of moral compromise.

By contrast, cognitive dissonance is a psychological phenomenon characterised by the presence of tension or unease in an individual as a result of harbouring contrasting beliefs, values or attitudes (Williams et al., 2021). The study by Williams et al. (2021), found that student nurses may experience cognitive dissonance when encountering practices in placement. This study, which explored falls prevention and the use of evidence-based strategies, found that students seeing falls prevention strategies in the hospital environment were more likely to support strategies observed, even if there was little evidence supporting their effectiveness. This implies that the students experienced discomfort or conflict between their theoretical knowledge of evidence-based practice and the practices they encountered during their clinical placements. In other words, the students experienced cognitive dissonance as a result of observing practices that were not totally consistent with established facts, yet they opted to endorse these practices anyhow. This study's findings align with Wenger's work on Communities of Practice (Wenger, 1998), where the concept of mutual engagement encapsulates interactions leading to the construction of collective meaning. In this context, students observing falls prevention strategies in the hospital

environment and subsequently supporting them despite limited evidence suggests a form of mutual engagement, indicating a shared understanding and endorsement within the clinical community, even when it conflicts with established facts and evidence-based practices.

It is, however, important to note that there may be potential benefits emanating from the perceived theory-practice gap. For example, the tensions between theory and practice may be helpful in terms of challenging permanent staff and in that instance, students can be seen as change-agents (Williams et al., 2021) because they are primed to be exposed to the latest evidence. This is also supported by the study by Waters et al. (2018) which found that students who initiated discussions and challenged registered nurses in practice about practices where there was limited evidence helped to change beliefs or practices. The study also found that staff gained a sense of personal satisfaction because they actually enjoyed the teaching and the reciprocal learning gained when students periodically became teachers.

Another potential benefit is that the discussions with registered nurses in practice (where there are tensions caused by cognitive dissonance) within a situated learning environment enable students to contextualise and make sense of theory. This is because learning is best understood in the context of social participation and engagement in authentic activities (Lave and Wenger, 1991). By discussing and encountering situations where theory and practice may not align, students are prompted to reflect on, and reconsider, their understanding of particular aspects of nursing practice. These discussions may enable students to place theoretical knowledge in a practical context, helping them understand and make sense of the theory. This is discussed further in Chapter 3 with the assistive function on the ZPD.

While these advantages might be seen as indirect, it is crucial they are not used as a justification for perpetuating the theory-practice gap. This is because the programme design strongly demands the integration of theoretical and practical components, with the explicit goal of ensuring that

students are thoroughly prepared to deliver safe and effective patient care rooted in both sound theoretical knowledge and practical skills.

According to Greenway et al. (2019), the ambiguity in terminology used around theory and practice arose from the need to provide a functional definition of the concept of the theory-practice gap. This may be because spatial imagery was largely relied upon in the vocabulary used to convey the relationship between theory and practice (Gallagher, 2004). In this analysis, it is suggested that a number of metaphors are used to describe the theory-practice gap. Gallagher (2004) categorised those metaphors, with the first being related to a construct or a building. Most commonly this is a bridge which can be built to span or link theoretical and practice components or buildings. Unlike the bridge metaphor, Gallagher (2004) considers the chasm or dichotomy metaphor. In this, the theory-practice gap represents a substantial and possibly insurmountable separation between the theoretical knowledge taught in educational institutions and its real-world application in clinical practice.

A further metaphor is the blending or combination metaphor where Gallagher (2004) proposes that the gap is caused by the inability of various components to gel. The idea of blending refers to the smooth integration of each component, and as a result, the changes brought about by integration are inseparable. Combination metaphors with a fusing or welding quality are also present. It is recognised here that theory and practice can be easily identified and combined to create a lasting link.

An additional category identified by Gallacher (2004) is a metaphor that suggests the gap is related to size and can be controlled intentionally or unintentionally by human actions. In the case provided above in relation to the *Undergraduate Programme Specification* (UWS, 2020), it is suggested that the gap could be reduced by connecting and making explicit the linkages between theory and practice by embedding practice placement experiences with the theoretical components.

In summary, the debate over the existence of a theory-practice gap in nursing education is characterised by diverse perspectives, with several metaphors used to illustrate the potential disparities. The articulation of the theory-practice gap takes various forms, reflecting the complexities and challenges in translating theoretical knowledge into practical use within the dynamic healthcare environment. The *Undergraduate Programme Specification* (UWS, 2020) (which underpins the BSc programme), explicitly acknowledges the theory-practice gap and defines the goal of "reducing the theory-practice gap". Furthermore, both the NMC and The *Undergraduate Programme Specification* (UWS, 2020) highlight the significance of integrating theory and practice, demonstrating a commitment to delivering a harmonised learning experience for student nurses.

2.3.4: Constructionist pedagogies

Having discussed collaborative pedagogies and the theory-practice gap, the following section positions constructionist pedagogies within the current study. Firstly, sub-section 2.3.4.1 provides a definition of constructionist pedagogy. Defining this term is crucial for establishing a common understanding ensuring clarity, precision, and preventing misunderstandings or misinterpretations. The primary aim of undergraduate nurse education is to equip student nurses with the necessary skills to allow them to integrate into healthcare teams upon entering their role as registered nurses. The importance of collaborative working to and beyond nursing practice, embracing the larger healthcare landscape, is emphasised in sub-section 2.3.4.2, specifically the crucial role of incorporating opportunities to develop collaborative working skills into nursing education. Highlighting this perspective provides essential context for the exploration of collaborative working within the framework of the current study. In the realm of nursing education, a diverse array of pedagogies is employed, however, the collective impact of constructionist pedagogies on nurse education remains uncharted. Sub-section 2.3.4.3 explores the methodologies used for the investigation of constructionist pedagogies. Despite substantial research in

this domain, there exists a notable gap concerning their influence on the development of collaborative working skills. This section lays the groundwork for the present study to bridge this gap, contributing to a more comprehensive understanding of the role played by constructionist pedagogies in undergraduate nurse education.

2.3.4.1: Defining constructionist pedagogies

Figure 4 depicts my concept of constructionist pedagogies, which now serves as the foundation for my research. It was created after reviewing the literature pertaining to collaborative pedagogies and reflecting on specific pedagogical practices at my place of employment. This encapsulates my position regarding education and learning in the context of constructionist pedagogies, which are founded on a variety of philosophical claims that impact their design and delivery.

Figure 4: Constructionist Pedagogies: Defining characteristics
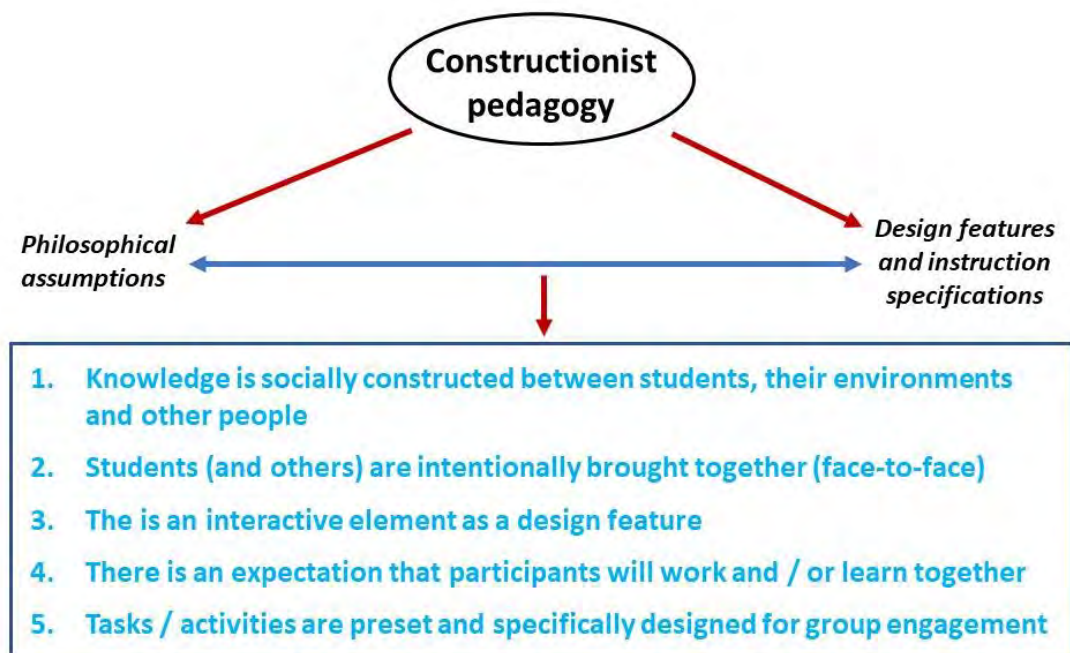
This definition of constructionist pedagogy is predicated on five elements, all of which must be present regardless of the label that has been attached to it. Examples of constructionist pedagogies are provided in Figure 5. This conceptualisation of constructionist pedagogy aligns with the foundational

principles articulated by Lave and Wenger (1991), Wenger (1998), Dewey (1938) and Vygotsky (1978). Firstly, rooted in social constructionism and social constructivist theory, the foundation of constructionist pedagogies is the belief that social interactions play a significant role in the construction of knowledge through shared experiences and collaborative involvement, rather than learning being solely an individual activity. Secondly, deliberate face-to-face encounters among students are orchestrated purposefully within the university setting. This intentional gathering fosters a social environment conducive to collaborative learning. Thirdly, to coincide with the interactive nature of knowledge construction, an interactive dimension is woven into the fabric of the pedagogy. Fourthly, an interdependence principle dominates, with individuals expected to collaborate and learn from one another. This is consistent with Vygotsky's sociocultural ideas, emphasising the importance of social contact in cognitive development. This also aligns with Wenger's (1998) concept of a shared repertoire which emphasises the importance of a community's collective knowledge and practices. As individuals collaborate, they contribute to and draw from this shared repertoire, enriching their learning experiences. Lastly, the fifth element encapsulates the incorporation of predefined tasks expressly crafted for group participation within constructionist pedagogies. By incorporating tasks that are relevant and applicable to real-world situations, constructionist pedagogy aligns with Dewey's (1938) vision of connecting educational activities with the lived experiences of students.

While I recognise that those five elements may appear prescriptive, there is a functional benefit, in that I required a framework within which to situate and focus my study. Defining constructionist pedagogies in this way acknowledges the relationship between teaching and learning, while also highlighting the importance of considering the philosophical foundations and instructional design aspects inherent in this pedagogy. Furthermore, because this study focuses on the collaborative aspect of learning, the link between how individuals learn and how they are taught is critical if the findings are to be used to inform practice.

Figure 5 shows examples of constructionist pedagogies that include all the above features and are considered in this study. The range also reveals the interplay between the five elements, reflecting the similarities and distinctions across the pedagogies. This is similar to a family in which each of the constructionist pedagogies are siblings who appear and act differently but share common traits with each other and their parents.

Figure 5: Examples of constructionist pedagogies considered in this study
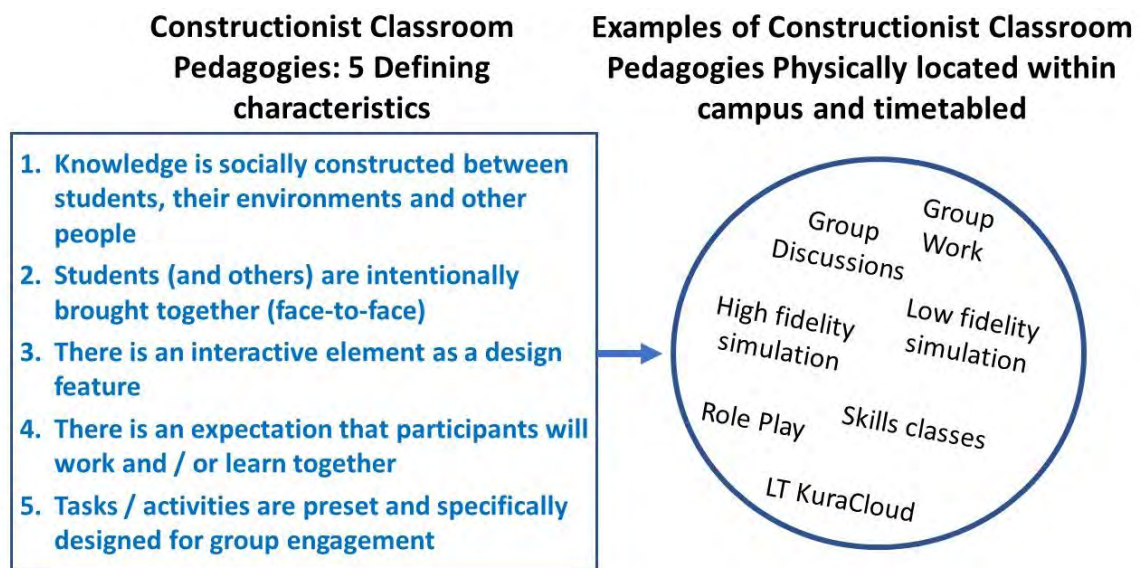
While the argument over whether to study alone or in groups continues (Nokes-Malach et al., 2015), it is likely that certain skills cannot be developed as effectively in isolation. Interaction with others engages cognitive mechanisms including recollection of previously learned knowledge which may develop social interaction skills (Nokes-Malach et al., 2015; Kalaian & Kasim, 2017). Constructionist approaches are more likely than traditional lecture-style approaches to develop communication, conflict resolution and assertiveness skills (Griffiths, 2018; Labrague & McEnroe-Pettite, 2017; Seren & Ustun, 2008). Additionally, different skills can be developed by varying the combination of components of the physical environment and preset tasks. Simulated environments around venous cannulation or female catheterisation, for example, may aid the development of hard skills (Ravik, et al., 2017; Ross, 2012). On the other hand, classroom-based group work

involving discussion of the management of emphysema may aid in the development of soft skills such as communication (Scager, et al., 2016).

While constructionist pedagogies enhance the development of student nurses, the influence of multiple constructionist approaches on skills development remains uncertain. I turn now to a discussion on the cumulative impact of constructionist pedagogies.

2.3.4.2: The cumulative impact of constructionist pedagogies to skill development

Alongside other pedagogical approaches, constructionist pedagogies play an important part in helping students to meet the *Standards of Proficiency for Registered Nurses* (2018e). The volume of literature on the topic of pedagogies suggests this is a relevant area of interest within nurse education, as evidenced by a scoping review of pedagogical practices in undergraduate nurse education (Simmonds et al., 2020). This established that the development of skills resulting from the cumulative impact of a wide range of pedagogies over multiple and diverse learning environments prepares students for practice. The study found that different pedagogical practices helped student nurses to develop different types of skills. In recent years, researchers have shown increased interest in disentangling and researching collaborative pedagogies. The systematic review carried out by Zhang and Cui (2018), which examined literature published between 1985 and 2018 using PubMed, CINHAL and Google Scholar, yielded 1,817 articles on collaborative pedagogies. This finding draws attention to the important contribution that collaborative learning makes to the education of student nurses.

More locally, within my own institution, a number of completed doctoral studies focused exclusively on the constructionist pedagogy of simulation within the undergraduate programme. Dow's (2013) thesis explored simulation and its role in preparing undergraduate midwives for practice, and Crowley (2013) investigated adult student nurses' experiences over an extended period of time. Like my colleagues, I believe this is an area of

inquiry that will be beneficial to both student nurses and the educators who support them in their preparation for practice. Because of the contextual particularities associated with the research-related approaches chosen, this study adds to their work by providing different localised viewpoints that may be used to inform and shape future pedagogical approaches.

Previous research in pre-registration nursing education has identified evidence-based connections between constructionist pedagogies and skills development that links theory to practice (Burgess & Medina-Smuck, 2018; Wong, 2018; Griffith, 2018; Ruth-Sahd, 2011; Suikkala et al., 2016). Yet, while Simmonds et al. (2020) asserted that a variety of educational approaches are utilised concurrently in nursing education, my search for published literature explicitly on the cumulative contribution of several classroom-based constructionist pedagogies yielded limited results. This is not to undermine the contribution of the literature to the topic, which revealed that individual pedagogies contributed differently to specific aspects of development. There was, however, a dearth of material on the cumulative effect of repeatedly exposing students to, and combining, different constructionist pedagogical approaches.

The lack of studies on the cumulative influence of pedagogies throughout entire programmes could be attributed to a variety of factors. These include conceptual, methodological and budgetary constraints, such as determining what and how to measure, as well as the timeframe and funding for measurement. Whereas prior research overlooked the cumulative effect of constructionist pedagogies on skills development within a particular programme (and from the viewpoints of student nurses and nurse lecturers), a considerable body of work has been published on constructionist pedagogies. The literature has highlighted the variety of types and methodologies used to investigate constructionist pedagogies. Specific constructionist pedagogies have been explored in research; for example, Gagnon and Roberge (2012) and Cason et al. (2015) focused exclusively on group work. Several other investigations compared one constructionist

pedagogy to a 'non' constructionist pedagogy. Baghcheghi et al. (2011) examined the development of communication skills in student nurses, using both group and traditional learning techniques, whilst Wiggs' (2011) study compared the outcomes of collaborative testing to those of traditional examinations. Other investigations, such as those conducted by Ravik et al. (2017) and Butler et al. (2009), examined two similar constructionist pedagogy approaches. In the study by Ravik et al. (2017), students trained in peripheral vein cannulation practising on either a latex arm or on each other's arms. Butler et al's. (2009) study used low-fidelity simulation (static manikin) and high-fidelity simulators (human patient simulator) in a fluid and electrolyte scenario. These varied investigations contribute to a nuanced understanding of the diverse applications and outcomes of constructionist pedagogies in skills development within nursing education.

Certain types of constructionist pedagogies appear to have garnered more attention than others. While some authors believe that simulation research is limited (Ross, 2012; Blakeslee, 2020), a review of the literature for this study revealed that simulation had received more attention than, for example, group discussion. Simulation, such as venous cannulation, venepuncture and basic life support, is frequently related to the development of psychomotor skills (Ravik et al., 2015; Ross, 2012). When compared to other forms of pedagogy, such as classroom-based group work, the capacity to witness behavioural changes may be considered easier to quantify and study (Shin et al., 2015). According to Jamaudin et al. (2022) and Pires et al. (2017), softer skills, such as interpersonal skills, sympathy, empathy and compassion, may be more difficult to measure because of the intangible nature of skills. Differences in the research efforts related to various pedagogies may be attributed to factors influencing the objective measurement or lack thereof of the impact of constructionist pedagogies.

While simulation may differ from other constructionist pedagogies in terms of physical environment, interaction and task elements, it shares a number of characteristics with them. These include the form of student engagement

and the expectation that students will learn and collaborate. Simulation research has concentrated on a variety of specific aspects, including satisfaction, skill development, patient safety and skill transfer from classroom to practice (Butler et al., 2009; Najjar et al., 2015; Shin et al., 2015). Given that my research focuses on the overall cumulative impact of constructionist pedagogies, it is plausible to assume that there are some parallels between simulation and other constructionist pedagogies.

As highlighted by Stenberg et al. (2022), the primary objective of pre-registration nursing education is to equip student nurses for professional practice, facilitating the transfer of theoretical knowledge to real-world scenarios. Constructionist pedagogies are a well-established component of this university's pre-registration nurse education programme. Nevertheless, there exists a gap in understanding the cumulative impact of these pedagogies on preparing student nurses for collaborative practice, as perceived by students and nurse lecturers within the programme. As a result, it is necessary to conduct research in this field in order to determine the outcomes of the curricula taught.

Furthermore, whilst some constructionist pedagogies, such as simulation, necessitate more resources than others, evidence of the combined effect of a variety of constructionist pedagogies would be valuable to nurse educators and budget holders. This is especially important given that the NMC (2023) has increased the use of simulation from 300 hours to 600 hours. This may aid in the development of effective educational strategies to maximise learning and the subsequent development and transfer of knowledge and skills from theory to practice. Students, academic staff, AEIs and regulatory bodies, such as the NMC and NHS Education Scotland, may find this reassuring.

Another motive for investigating the subject is to increase student engagement, which is a high priority in my place of employment and outlined in the Quality Enhancement and Standard's Team (UWS, 2022/23). This study provided opportunities to establish and deepen relationships between

students and faculty. Thus, this research provided an opportunity for students and lecturers to examine the role of constructionist pedagogies in skill development in connection to practice. Together, students and faculty can contribute to curriculum development and thereby create a repertoire of pedagogies that best prepare student nurses for practice.

Section 2.4: Summary

Chapter 2.0 'Setting the scene' serves as a comprehensive overview of intricately detailing essential elements that contextualise and lay the foundation for subsequent sections. Section 2.1 outlined the pivotal dual role of the NMC and AEI in undergraduate nursing education. Section 2.2 focused on the BSc nursing programme's development, shedding light on crucial aspects like mastery, proficiency, cumulative development, pedagogy and teaching-learning dynamics. With a research focus on constructionist pedagogies, Section 2.3 defined these approaches and positions them within the BSc programme's pedagogical landscape. The relationship between constructionist and collaborative pedagogies, along with their connection to collaborative learning and collaborative working, was explored. Additionally, the section explored the theory-practice divide, showcasing how a proactive approach, such as employing collaborative pedagogies, addresses the divide between theoretical knowledge and practical application for student nurses, preparing them for their professional roles. Notwithstanding the considerable amount of research conducted on constructionist pedagogies, a discernible deficiency in the nursing literature was discovered with regard to their cumulative effects on the development of skills. Given the role of constructionist pedagogies in the BSc programme, justification was provided to carry out research on the cumulative impact of multiple constructionist pedagogies on skills development in nursing students.

Chapter 3: Literature Review - Underpinning theoretical constructs of sociocultural learning theory and constructionist pedagogies

Section 3.0: Introduction

This chapter explores the relationship between sociocultural theory, constructionist pedagogies, collaborative pedagogies and skill development. The following sections outline the links between Vygotskian learning theory, social constructionism and constructionist pedagogies, within the university setting and in practice. The first situates sociocultural theory in relation to the process of learning; it then goes on to address the relationship between mental functions, mediation and cultural tools and learning and skill development. I then turn to the zone of proximal development (ZPD) and its relevance to constructionist pedagogies. The generative, assistive and potential elements of ZPD are explored using Chaiklin's (2003) tripartite paradigm. The role of the more knowledgeable other (MKO), as well as individual and group ZPDs are considered. Finally, as the study focuses on the development of undergraduate nurses, the role of constructionist pedagogies in fostering transfer of knowledge and skills between theory and practice is provided.

Section 3.1: Sociocultural learning theory

3.1.1: Learning theories

A range of educational theories underpin the nursing curriculum (Horsfall et al., 2012; Mackintosh-Franklin, 2016). Bates (2016) suggests that learning theories help explain how learning occurs and, whilst these have been debated over time, Lave and Wenger (1991) posit that all are based on assumptions about the learner, the world and their relations. Whilst I acknowledge the contribution of alternative learning theories such as

behaviourism, humanism and constructivism, the frame of reference for this study is constructionist pedagogies and the preparation of student nurses for practice. It is therefore appropriate to explore the preparation of student nurses through a Vygotskian lens and sociocultural theory is an appropriate theory to adopt. This is because this theory of learning shares several underpinning concepts associated with social constructionist perspectives which are applied to constructionist pedagogies. For example, social constructionism emphasises the importance of cultural and historical settings, celebrates relationships and the contributions of others and accepts diverse forms of social interaction in the production of knowledge to learning and development (Chaiklin, 2001; Daniels, 2007; Gergen, 2015; Vygotsky, 1978).

Although Vygotsky has been criticised for not completely defining numerous terms within his theories (Clarà, 2017), his theoretical frameworks have been changed, developed and applied to situations other than those for which they were originally intended (Lantolf, 2009; Lave & Wenger, 1993; Smagorinsky, 2018a). Whilst Vygotskian theory was not developed specifically for nursing education, many of its underlying principles have been reinterpreted and applied within nurse education contexts. Similarly, although originally centred on child and adolescent development, the principles underlying sociocultural theory and learning and development are equally applicable to adults (Clapper, 2015; Wass & Golding, 2014). This is because many individuals, including myself, believe that the process of learning is influenced by the sociocultural milieu in which people live and work. Numerous pedagogies in nurse education are philosophically and instructionally connected to Vygotskian principles, including the constructionist pedagogies that are the subject of this study (Blakeslee, 2020; Butler et al., 2009; Ravik, et al., 2015 & 2017).

3.1.2: Sociocultural learning theory

Vygotsky's sociocultural theory is multifaceted and inter-connected and can be summarised as follows: firstly, knowledge is socially constructed through interaction with others, oneself and the environment; and, secondly, cultural

tools are used to mediate between the external and internal planes in order to develop higher mental functions (John-Steiner & Mahn, 1996).

Primacy is placed on the role of people around the learner and how they influence the learner's perception of the world (Lave & Wenger, 1991; Pritchard & Woollard, 2010). Gergen (2015) asserts that social constructionism holds the view that the world is understood through mental categories that are acquired through social relationships. Lantolf (2009) posits that as individuals live and grow, information from their past is added to current knowledge and experiences, which are then transformed into new personal knowledge and understanding. Vygotsky (1978) asserted that those knowledge constructs are formed first on an interpersonal level between people through mediation using cultural tools, before becoming internalised at the intra-psychological or individual level (Vygotsky, 1978). Internalisation occurs when knowledge gained via interaction and sharing with others is actively transferred from the outside to the inside of the mind, where it is reconstructed (Gredler, 2009). The connection between cultural tools, mediation and internalisation is explored in more detail within the section 'Cultural Tools'.

This dynamic interdependence between social and individual processes of Vygotskian theory contrasts with cognitive constructivism learning theory, as suggested by proponents such as Piaget and Bruner (Pritchard & Woollard, 2010). Piagetian-inspired theory, for example, purports that knowledge is, firstly, individually constructed and that thinking precedes language: culture and social interaction play only peripheral roles (Cobb, 2005; Robbins, 2015). By emphasising the individual, cognitive constructivists such as Piaget assert that learning occurs due to mental processes, including thinking, perception, memory and reasoning, that are related with the passage through universal stages (Lourenço, 2012). According to Cobb (2005), these differing mental processes are influenced, firstly, by internal (biological and mental stages of development) and then by external factors, such as current understanding and past experiences. Whilst the term constructivism and derivations such

as cognitive or social constructivism, are commonly used in the literature, neither theory denies the contribution of others to cognitive development (Lourenço, 2012; Pritchard & Woollard, 2010). For example, both theories require the input of others and both require the information to be internalised for learning to occur. However, perhaps it was this dissimilar emphasis placed on social interaction which led to Vygotsky being labelled as a social constructivist.

3.1.2.1: Mental functions

Attention, sensory perception and memory are regarded as lower mental functions or skills and were seen as natural or innate by Vygotsky (Meshcheryarov, 2007). Higher mental functions, such as connected thinking, logical memory and reasoning (Meshcheryarov, 2007), however, are grounded in social activity, mediated by social meanings, and are voluntarily controlled. Vygotsky (1978) contended that lower and higher mental functions are inextricably linked. For example, interaction with the social environment permits the use of lower mental functions, which facilitates the development of higher mental functions such as reasoning, language use and abstraction (Meshcheryarov, 2007). While certain higher mental processes, such as critical thinking, emerge directly because of the development of lower mental functions, others such as attention, perception and memory, function at both levels (Gredler, 2009). Critical thinking, regarded as a higher mental function, entails the use of information and experience to guide decision-making and problem-solving (Papp et al., 2014; Sullivan, 2012). This is pertinent to this research since critical thinking skills are seen as necessary for collaborative working and are cultivated through constructionist pedagogies (Dyson, 2018).

3.1.2.2: Cultural tools

The concept of cultural tools is another element embedded in Vygotskian theory: these can be classified as technical tools (also referred to as artefacts) and psychological tools (Vygotsky, 1978). In today's context, technical cultural tools may include books, media, computers, software,

music and art. According to Vygotsky (1978), technical tools can be used to bring about changes in other objects. A wound dressing, for instance, can be regarded as a technical tool that could bring about changes to a wound. Moreover, according to Meshcheryarov (2007) technical tools can impact on psychological processes. This occurs when an external stimulus, such as an object, provides a way of completing or comprehending a psychological task. The content of written text in a patient's vital signs chart (such as blood pressure measurement, heart rate, respiratory rate and temperature) may cause psychological changes in the student as she/he interprets its significance in relation to the patient's physiological status. The technical tool is included among the external stimuli but the response to the stimulus is internal. The meaning of the chart recordings was unknown to the student at an earlier stage of her/his education, however, as learning progresses and through combining lower and mental functions, she/he develops the ability to connect the recordings to meaning.

Psychological cultural tools, considered as internal tools and including signs, symbols, speech and language (Robbins, 2005), are used to direct the mind and behaviour (Wertsch, 2007). According to Wertsch (2007), it is through the process of mediation that the link between social and historical processes and an individual's mental processes are developed. Cultural tools and mental functioning are therefore inextricably linked as posited by Vygotsky (1978) and although the following quote pertains to children, as explained previously, the concept is equally applicable to adults:

> Every function in the child's cultural development appears twice:
> first, on the social level, and later on the individual level; first,
> between people (interpsychological), and then inside the child
> (intrapsychological). This applies equally to voluntary attention,
> to logical memory, and to the formation of concepts. All the
> higher functions originate as actual relations between human
> individuals (Vygotsky, 1978, p. 57).

Higher mental functions, developed through social interactions, have a significant impact on the development of mental abilities and, as a result, learning (Vygotsky,1978). According to Lave and Wenger (1991), individuals construct cultural habits of mind, such as beliefs and values, through interaction with others using cultural tools. Nursing can be considered a community with its own set of cultural tools, which are used to facilitate student nurses' development throughout their programme as they prepare for practice. Knowledge and therefore its culture, is passed down through and with others during collaborative learning.

Furthermore, Sawyer and Stetsenko (2018) suggest that Vygotsky also indicated that, while culture can be transmitted using culturally mediated tools, individuals can also influence their environment through changing the culture. Valsiner (2000) refers to this as the bi-directional transfer model, which is predicated on the premise that all participants in the knowledge transfer process actively transform cultural messages. As constructionist pedagogies make use of at least one cultural tool, these are used by student nurses to mediate their own understanding of a particular concept, moving from the interpsychological to the intrapsychological. Technical tools, such as a sphygmomanometer or thermometer, can be used in the classroom to teach students how to measure blood pressure or temperature. Similarly, psychological cultural tools, such as language, can be used to help students develop a working knowledge of the terminology associated with a particular condition. This is significant for this study because the use of cultural tools, both technical and psychological, is what gives constructionist pedagogies their foundation.

Section 3.2: The Zone of Proximal Development

3.2.1: Definition and overview of the ZPD

The ZPD offers an explanation of how people develop new knowledge and skills and brings together the main tenets of Vygotsky's sociocultural theory

(Daniels, 2007; Eun, 2019; Kozulin et al., 2003). It is based on the premise that a person can learn only a certain amount without assistance (self-discovery) from another person who is more knowledgeable and skilled. It has been defined by Vygotsky as:

> the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers (Vygotsky, 1978, p. 86).

John-Steiner and Mahn (1996) describe the ZPD as a transitional area of knowledge and understanding that is just beyond what a learner has control over. Mediation, facilitated by cultural tools such as interactions with others, takes place within the space occupied by the ZPD. The key point is that to reach new development, assistance is required: without social interaction new learning and subsequent development cannot occur (Chaiklin, 2003).

The lens of this study is on collaborative working skills, which are used to investigate how elements of constructionist pedagogies help prepare students for practice. To accomplish this, it is vital to position what I consider to be a skill. This is where I now turn.

3.2.2: Exploring skill

The term 'skill' is a complex concept and its definition is contested as a result of diverse perspectives across disciplines, contexts and even countries (Green, 2011; Cinque, 2016; Lamri & Lubart, 2023). Classifications, such as technical and non-technical skills, hard and soft skills, job specific or transferable skills, cognitive or motor / psychomotor skills permeate the nursing literature (Oermann et al., 2017, Pires et al., 2017, Jamludin, et al., 2022; Widad & Abdellah, 2022). The phrases soft and hard skills are used in this study, as this is UWS's terminology and, thus, directly associated with the setting where the research took place.

In addition to contested terminology, there is also debate over exactly what skills involve: solely motor ability, cognitive or social dimensions, or all (Lamri & Lubart, 2023; Pires et al., 2017). The hard skill required for activities like 'keepy ups' with a football, crucial for professional football players, may not hold the same significance in nursing. Keeping the ball up in the air without it touching the ground can be seen as a way to develop control and coordination. By working on ball control, overall performance on the field may improve, from decision-making to accuracy when taking a shot at goal. This example illustrates the difficulty in attempting a precise delineation of skills, showing that although the emphasis is on developing individual motor abilities, it may also foster teamwork and decision-making capabilities. This highlights the interdependence and inter-connectedness of motor, cognitive, and social skills.

Terms such as competency, performance, aptitude, mastery, proficiency, talent, ability and expertise are used interchangeably in the literature (Green, 2011; Nabizadeh-Gharghozar et al., 2021; NMC, 2018e; Rigby & Sanchis, 2006) and debate continues on which skills are most important in nursing. For Basit et al. (2023), empathy is one of the most important skills of the nursing profession, yet according to Pires et al, (2017), the healthcare system itself may contribute to the idea of a hard skill/soft skill hierarchy. This is because hard skills, such as taking a blood pressure or inserting an intravenous line, are often tangible and easier to measure (Oermann et al., 2016; Skills Development Scotland, 2018). Procedures such as these have specific steps and outcomes that are visible and can be assessed objectively. Notably, Leonardsen et al. (2020) also found that the importance attributed to various hard skills actually varies between specialties, such as general adult and intellectual disabilities nursing, suggesting that distinct skill sets exist in various areas of nursing.

Dyson (2018) also highlights the significance of developing soft skills in parallel with hard skills within the pre-registration nursing programme requirements. This emphasis on the interplay of hard and soft skills

illustrates the intrinsic link between the two, highlighting how they contribute synergistically to a student's overall effectiveness and developmental outcomes. This relationship has been acknowledged by the NMC and reflected in the *Standards of Proficiency for Registered Nurses* (NMC, 2018e), which recognised the need for a balanced approach that combines hard and soft skill development. For example, Annex A of the *Standards of Proficiency for Registered Nurses* (NMC, 2018e) focuses exclusively on the development of soft skills relating to communication and relationship management. Annex A specifies the communication and relationship management skills that a newly registered nurse must be able to demonstrate at the point of registration. Moreover, the NMC views the communication and relationship management skills as underpinning both the proficiencies outlined in the 7 platforms and the procedures, outlined in Annex B. Indeed, the proficiencies outlined in the 7 platforms and the procedures cannot be fulfilled unless the skills outlined in Annex A are met. This highlights the NMC's (NMC, 2018e) recognition of the substantial importance of soft skills, emphasising the need for their development.

The meta-skills outlined by Skills Development Scotland (2018), Scotland's national skills body, also underpin the undergraduate curriculum. Skills Development Scotland (2018) advocates for the development of soft skills in the publication entitled *Skills 4:0 A Skills Model to Drive Scotland's Future* (Skills Development Scotland, 2018). Meta-skills are defined as timeless, higher order skills that create adaptive learners and promote success in whatever context the future brings. The skills model introduced by Skills Development Scotland (2018) strives to ready students for future success, aiming to achieve this by providing recommendations to policymakers and educational bodies (including UWS and the NMC). The expectation is that they will develop educational programmes that emphasise the development of these necessary skills.

These meta-skills have been categorised into three headings: self-management, social intelligence and innovation (Skills Development

Scotland, 2018). Each meta-skill encompasses lower-order skills that act as foundational skills, serving as the essential building blocks for more advanced and complex skills. These are presented below:

Self-management: Focussing, Integrity, Adapting, Initiative

Social Intelligence: Communicating, Feeling, Collaborating, Leading

Innovation: Curiosity, Creativity, Sense-making, Critical-thinking

(Skills Development Scotland, 2018)

Meta-skills are overarching skills that go beyond foundational or lower-order skills and involve the ability to control and adjust lower-order skills. This enables an individual to integrate and use a variety of skills in multiple contexts, resulting in a more comprehensive and adaptable skill set over time (Skills Development Scotland, 2018). Moreover, similar to the skills set out in Annex A (NMC, 2018e), there are many interrelationships and dependencies between these skills as each supports the development of a range of other skills.

According to Skills Development Scotland (2018), the explicit aim of defining soft skills is to increase societal acceptance and respect of their value and to promote the idea that they can be developed through education. Moreover, in recognising the future-oriented need for skill development, both Skills Development Scotland (2018) and the NMC (NMC, 2018b, 2018c & 2018d) acknowledge that meta-skills cannot be achieved by one organisation alone. As workplace learning is highly valued by both organisations, it therefore becomes increasingly clear that the classroom plays a crucial role in helping students nurture and develop soft skills. This is because, according to Adam and Taylor (2014), the classroom setting offers a potential platform for meaningful and focused learning, ensuring that students not only gain theoretical knowledge but also actively cultivate and apply the soft skills required in the workplace. This is relevant to this study, which focuses on how classroom-based constructionist pedagogies may help students build

their teamwork skills in academic contexts so they are prepared to navigate the workplace.

In this study, Le Boterf's (2000) definition of skill has been adopted: a skill refers to an individual's ability to accomplish tasks by utilising appropriate resources, including those acquired through training and previous experience. This definition has been chosen because of its applicability to the BSc programme as it:

- facilitates application across various levels and domains without specifying hard or soft skills which acknowledges the guidance from the NMC and Skills Development Scotland, (2018);
- emphasises the use of appropriate resources (which can refer to other people and cultural tools);
- incorporates the active use of past experiences and emphasises training and practise. This alignment suits the dynamic and evolving nature of diverse learning environments in pre-registration nurse education and;
- fits with the generic framework put forward by Lamri and Lubart (2023) which has been adopted in this study.

Whilst Le Boterf's (2000) definition of skill may be challenged for its lack of precision in terms of skill levels (such as mastery, proficiency, efficiency or effectiveness) and the absence of a differentiation between hard and soft skills, the definition remains relevant because of its synergy to this study.

As shown above, the skills identified by Skills Scotland (Skills Scotland, 2018) may be regarded by some as values, traits, attributes or dispositions; depending on perspective, however, they may also be regarded as skills. Despite debates or uncertainties around the precise definition of a skill, or what may or may not be a skill, use of the term 'skill' may convey a sense of importance and seriousness. This aligns with the expectations from the NMC and AEI that associated provision should be taken seriously, and actively developed. According to Oritz (2016), Makarem et al. (2019) and the NMC (2018e), a confident nurse is essential for successful nursing leadership.

Confidence should therefore be developed in student nurses because, when applied to practice, it may act as an inspiration, motivating and guiding the healthcare team, as well as promoting good communication and coordination to achieve high-quality care delivery. As a result, labelling confidence as a 'skill' may inspire a more serious attitude, coinciding with the idea that its development should be nurtured.

The question of whether compassion is a skill, learned trait or an intrinsic trait, is also a matter for debate, as suggested by Nathoo et al. (2021). They state that education can enhance the traits which underpin compassion, only if the nurse has the natural ability to care in the first place. In a similar vein, nurse educators may believe that compassionate care education improves students' ability to identify when patients are suffering and increases their understanding of the necessity of acting to relieve the suffering only if they possess the fundamental traits necessary to exhibit compassion (Durkin et al., 2019). Coffey et al. (2019), conducted a systematic analysis of the effects of compassionate care education on nurses and concluded that these programmes primarily enhance the capacity for compassion of both qualified nurses and students. They also note that a number of systemic issues, such as a lack of funding, time, and support, a workplace's culture and team dynamics may impede the adoption and long-term viability of compassionate care delivery. This implies that, with appropriate attention to these systemic issues, there is potential for fostering and enhancing compassionate care skills among healthcare professionals.

Ultimately, the classification of compassion, confidence, self-regulation and knowledge, for example, as skills is subjective and contingent on individual perspectives and definitions of what qualifies as a skill. Lamri and Lubart (2023) and Green (2011) assert that skills inherently encompass generic components. The models provided serve as the backdrop for the definition and positioning of skills in this study. Lamri and Lubart's (2023) model encompasses five components, addressing the organisation and structure of a skill, whilst Green's (2011) model has three components that can be seen

as the intended functions or purposes of a skill. These fundamental disparities in the perception of skills further highlight the contested nature of the concept.

The adoption of Lamri and Lubart's (2023) framework on the generic components of skills aligns robustly with the study's perspective on development and its significance in my role as a nurse lecturer. This alignment is further substantiated by publications from the NMC (NMC: 2018a, 2018b, 2018c, 2018d, 2018e) and Skills Development Scotland (2018). Green's (2011) framework also draws on social constructionism; in the context of my study, this is helpful for understanding how skills develop. It is possible to trace how the three interdisciplinary perspectives of economics, psychology and sociology are connected to the study and the constant dynamic is evident in the main theories chosen to underpin the thesis, such as social constructionism (Gergen, 2015) and sociocultural learning theory (Vygotsky, 1978).

The generic skill components approach proposed by Lamri and Lubart (2023) promotes the understanding of the structure and composition of any skill, by positing that all skills can be understood in terms of five distinct components: knowledge, active cognition, conation, affection, and sensory-motor abilities. A deeper understanding of the nature of skills and their development can be gained by examining these components and their interactions. To take each in turn:

1. Knowledge consists of internal knowledge, like memory, as well as external facts or knowledge, such technical, job-related knowledge.
2. Active cognition includes information processing, such as perception, attention, and judgement. Active cognition includes contextual and environmental processing that result in judgements and decisions.
3. Conation is the component that describes motivations or inclination to take action, or the 'will' or 'willingness' to act.
4. Affection is the ability to empathise with and control emotions in order to build and maintain relationships with others.

5. Sensory-motor abilities refer to the ability to control and coordinate movements. This includes the ability to perceive, interpret and respond to sensory input, as well as the ability to plan and execute movements. Examples of sensory-motor abilities include balance, coordination and fine motor skills.

According to Lamri and Lubart (2023), each component exists independently but needs to be associated with others to create the necessary skill. This means that, in order to demonstrate a high level of proficiency in a specific skill, all five components may be necessary at a high level. Alternatively, for a different skill, components may be required at different levels. For example, if applied in the context of a year 3 student and in relation to the skill of compassion, may require a high level of proficiency in the components of knowledge, active cognition, conation and affection and a lower level in sensory-motor abilities. However, when it comes to technical skills like venepuncture, a high level of proficiency in all components may be required.

Lamri and Lubart's (2023) model is consistent with the notion of a cumulative development of skills. They claim that although each component of a skill is independent, they must be inter-connected in order to constitute the entire skill: each component's level of proficiency therefore contributes to the overall proficiency of a skill. This is an important aspect in this study which focuses on the role of constructionist pedagogies in the development of student nurses as they prepare for practice. The insistence on the independence of different components implies that the development of skill is not consistent and may differ, contingent upon the particular skill under consideration. For example, in relation to communication skills, a student may perform at a higher level on all components except sensory-motor abilities as they have difficulty pronouncing certain terminologies or their use of body language is limited. Conversely, when measuring blood pressure, a first year student may perform at a lower level of proficiency in all but the conation component. However, when students are provided with opportunities to practise, it is anticipated that they will develop each component of the skill in a holistic and integrated manner. This supports the

concept of cumulative development, in which the advancement of each component, regardless of its level of difficulty, contributes to the overall transformation of the skill. The recognition of diverse combinations serves to strengthen the notion that skills grow in tandem, with every element contributing uniquely to the formation of proficiency within the skill.

Lamri and Lubart's (2023) model is useful as it emphasises the crucial role of context in the development and use of skills. In this study, 'context' refers to the role of constructionist pedagogies and preparation of student nurses for practice within the constraints of specific frameworks mandated by the AEI and the NMC. Additionally, exploring skill components, such as knowledge, active cognition, conation, affection and sensory-motor coordination offers insights into what constitutes a skill. This model may therefore help delineate the multifaceted nature of skills within specific educational and professional contexts. The component of affection, for example, may help others appreciate why, in nursing, compassion is regarded as a skill.

Using the skill of collaborative working for illustrative purposes, I now turn to the perspectives from economics, psychology and sociology within Green's (2011) framework. Green (2011) asserts that skills are productive in terms of economic value. The development of collaborative working skills can be seen to offer economic benefits at both individual student nurse and collective professional perspectives. At an individual level, student nurses need to comply with the *Standards of Proficiency for Registered Nurses* (NMC, 2018e) to gain entry onto the register and receive associated financial remuneration. Similarly, AEIs must demonstrate that students have progressed in order to receive government funding, progression being determined through compliance with the requisite standards. In addition, resource efficiency is linked to effective collaborative working, as ineffective collaboration can result in needlessly large financial costs (Finn, et al., 2010; Green and Johnson, 2015; McInnes et al., 2015).

As in Lamri and Lubart's (2023) model, Green (2011) also contends that skills are expandable, in the sense that they may be strengthened through

learning and development. This pertains to the psychological or cognitive dimension of Green's (2011) perspective of a skill and is reflected in several ways across the BSc degree (see Chapter 2, sections 2.2.3 & 2.2.4). For example, in the concepts of learning and development, mastery and proficiency, there is an explicit spiralling within the curriculum (UWS, 2020a & 2020b) that aims actively and progressively to develop skills.

The concept of the spiralled curriculum was first put forward by Bruner (1960) and, according to Harden and Stamper (1996), consists of several key features: topics, themes or concepts which are revisited on several occasions during the programme; there is an increasing level of difficulty with perhaps added components that offer a fresh learning opportunity; and new learning is related back and linked directly to learning in previous phases. By revisiting these concepts throughout the programme using a range of constructionist pedagogies, students are offered different approaches to understand a concept and have several opportunities to reinforce their understanding for more secure retention.

Another illustration of the expandable nature of skills is the use of Bondy's Taxonomy (Bondy, 1983) to guide and support assessment in practice (*Undergraduate Programme Specification*, (UWS, 2020)) and which has already been discussed in Chapter 2, section 2.2.3. The theory of situated learning (Lave and Wenger 1991) is a third example, explaining how students develop skills that enable them to move from dependent to independent or from novice to expert (Benner, 2004). Frequent exposure to different constructionist pedagogies, combined with episodes of practice, provide students with opportunities to practise and refine skills with others, receive and provide coaching and feedback with/from others, and reflect. Here, students observe practice from the periphery and, as their knowledge and skills develop, so their participation in practice develops incrementally.

The third key feature of Green's (2011) model is that skills are socially or disciplinary determined and constructed. As such, skills are influenced by existing power and social structures and therefore reflect the social milieu of

the time: they are temporal and subjective. For example, the NMC's *Standards of Proficiency for Registered Nurses* (2018e) and the Skills Development Scotland model (Skills Development Scotland, 2018) both emphasise which particular skills should be prioritised. This illustrates how skills can be perceived within a particular discipline or from a national perspective. Further, Liu-Farrer et al. (2021) also argue that the way in which 'skill' is named depends on the context of its use. In relation to collaborative working skills, greater emphasis is now placed on healthcare professionals working closely together. Along with other skills, such as reflection, critical thinking and compassion, collaborative working skills seem to be dominant within healthcare. As illustrated in Chapter 1, (section 1.2.2) the value of collaborative working skills is clearly reflected in national healthcare policy (Scottish Government, 2016, 2017a, 2017b); professionally by the NMC's *Standards of Proficiency for Registered Nurses* (NMC, 2018e) and *The Code* (NMC, 2018a); embedded in the curriculum; and their development facilitated through constructionist pedagogies. Clearly, collaborative working skills are highly sought after and the nursing profession is devoting significant efforts to develop them so that student nurses become effective and useful members of society.

A systems-based perspective, exemplified by models such as those put forward by Lamri and Lubart (2023) and Green (2011), moves beyond the conventional idea of skills as abstract entities. Both frameworks focus on understanding how skills may evolve within specific contexts (such as discipline-specific), considering them not as static entities but as integral parts of interactive and evolving systems and take into consideration various factors like culture, power dynamics, disciplinary preferences and social norms. This approach enables the viewing of skills as components of a more extensive system of learning, which is crucial for comprehending how skills can be effectively developed, practised, and applied. This perspective is particularly relevant to pre-registration nurse education. Collectively, both frameworks provide a realistic or practical way of viewing skills and their development. This is because both frameworks recognise the connections

between individual skills, neither model privileges either hard and soft skills and both acknowledge context (for example, they take account of AEI and NMC mandated recommendations) and agree that skills can be developed cumulatively.

3.2.3: The Zone of Proximal Development: Relating teaching to learning and development

According to Smagorinsky (2018b), despite making few references to it in his work, the ZPD is commonly associated with Vygotsky and sociocultural theory. Having contextualised skill within my study, I now explore the contribution the ZPD makes to my understanding of the relationship between constructionist pedagogies and the development of collaborative working skills. This will bring together elements associated with constructionist pedagogies, (outlined in figure 4, p. 70) along with the psychological dimension embodied in the definition of skill. This highlights how elements of constructionist pedagogies may help in the preparation for practice.

The ZPD is considered from three angles in the following sections: generative; helpful; and potential. This framework was influenced by Chaiklin (2003), who used similar headings to investigate aspects of the ZPD. However, under each topic, I have addressed different viewpoints to explain my conceptualizations of the ZPD and its relationship to constructionist pedagogies in my study.

3.2.3.1: Generative aspect of the ZPD

According to Chaiklin (2003), Vygotsky was concerned with lifelong developmental processes rather than short-term learning characterised by skills and knowledge. Like Chaiklin (2003), Smagorinsky (2018a) criticises the popular notion of the ZPD, suggesting that Vygotsky's conception of ZPD was more complex: "It [the ZPD] has a developmental, cultural, social, and future orientated character that cannot be reduced to isolated learning episodes in the classroom" (Smagorinsky, 2018a p. 71).

As my study examines the concurrent use of multiple constructionist pedagogies over the course of a programme, it demonstrates that the development of collaborative working skills is a continual process. Moreover, as explained above in the definition of skill, development is not exclusively focused on what goes on in one classroom but, rather, as a continuous process, grounded over several different situations and within various contexts, such as different physical environments alternating between theory and practice. Additionally, my sampling technique, discussed in Chapter 5, recognises the fact that skills growth occurs over time because I chose Year 3 student nurses as my participants. The rationale for this was based on the expectation that their skills were more developed than those who had not spent as much time on the programme.

Smagorinsky's (2018a) viewpoint, which maintains that skill development is future-focused and closely linked to responsiveness, flexibility, and adaptability, is consistent with the positions of Skills Development Scotland (2018), the NMC (NMC; 2018b, 2018b, 2018d), and Scottish Government (Scottish Government, 2016, 2017a & 2017b). These characteristics are critical, on a personal level for student nurse and, collectively, for the profession generally (NMC, 2018b, 2018d & 2018e). The development of collaborative working skills is an integral aspect of the educational experience of every student, as described above in relation to Bondy's Taxonomy (Bondy, 1983). This is crucial to this study, because nurse education enables the ideals of continuous development to be embedded in the curriculum and reflected in the pedagogic and evaluation strategies for both the theoretical and practical components of the programme.

Additionally, the influence of cultural and social circumstances on skill development confirms my view of its future orientation. I acknowledge the contribution of the broader context of nurse education and accept that student nurses are not prepared in a single classroom. Rather, opportunities for skill development are concentrated in two fundamentally distinct areas: academia and clinical practice. Students attend at least nine placement

areas and this, combined with the academic settings, ensures that students encounter diverse settings and interaction experiences. So, whilst constructionist pedagogies expose students to a diverse range of situations and social interactions, it is their experience with all those combinations and dynamics that has the potential to inform their skill development.

3.2.3.2: The assistive aspect of ZPD

The assistive aspect of the ZPD is significant for my study because it acknowledges the role that collaboration and social processes play in the development of collaborative working skills. Vygotsky (1978) initially referred to the ZPD in relation to the development of children via adult guidance or more competent peers. Whilst recognising that differences between child and adult learning exist, the conceptualisation of the ZPD within sociocultural theory is applicable across age groups, as evidenced within literature commonly associated with nursing and nurse education. Situated learning and community of practice theory are both underpinned by Vygotsky's sociocultural theory (Chaiklin & Lave,1993; Lave and Wenger, 1991; Sayer, 2014; Smith, Hayes & Shea, 2017).

Vygotsky's (1978) reference to a more capable peer was problematic in the context of this study because it has connotations of competency. As this research focuses on the role of constructionist pedagogies and adults, my interpretation of the concept of the more knowledgeable other (MKO) aligns to the interpretation in the following quote, "The MKO is any individual that has greater understanding or a higher skill level than the learner, with respect to a concept, process or task" (Yarbrough, 2018, p. 5).

In relation to this study, the designation of a MKO is extended to another who has exposure to, or experience of, a particular event or phenomenon, or someone who simply has a different perspective on a particular issue.

Different interpretations of the assistive aspect of the ZPD can be found in the literature (Clarà, 2017; Chaiklin, 2003; Lave and Wenger,1991), demonstrating the complexity and value of the interactive component of

constructionist pedagogies to the development of collaborative working skills. For Clarà (2017), the ZPD can be regarded from two perspectives. The first relates to the MKO and their role in the assessment of maturing psychological functions. According to Chaiklin (2003), this was Vygotsky's intention and the purpose of collaboration. This perspective places a premium on interaction exclusively in terms of the MKO analysing the learner's psychological maturity functions and identifying what needs to be done to provide support.

The second perspective put forward by Clarà (2017) is that the ZPD is a specific type of interpsychological relationship between the learner and the MKO. The focus here is on skilled assistance or support and is based on the bi-directional contingent social interaction between both. Miri et al. (2017) refer to this as dynamic assessment, as it employs dialogue and observation to ascertain which processes have matured and which have not yet reached their full potential. According to van de Pol et al. (2012), scaffolding is most effective when assistance is tailored to the learner's needs, as this allows them to succeed in an activity they would not have been able to perform otherwise. They then extend thinking in this approach, suggesting that, in addition to the teacher firstly assessing a student's understanding before providing support, three processes are required. Each of those procedures is concerned with the degree of control that can be exercised with the assistance of MKO. The first is contingency: providing help that is tailored to the needs of the learner. The second is fading, where assistance is reduced as the student gains increasing control over the activity. The goal of scaffolding is the third process, in which the learner assumes complete responsibility for the activity.

Lave and Wenger (1991) argue that the cognitive methods to scaffolding discussed above are overly rigid and offer two further interpretations of the ZPD. Smagorinsky (2018a) concurs with Lave and Wenger (1991), arguing that the traditional cognitive basis for learning and development is frequently concerned with unquestioning acceptance of information directed by others in

the social environment and neglects to account for historical and cultural aspects of interaction. Lave and Wenger (1991) put forward cultural and collectivist explanations of the ZPD. The first of those is a 'cultural' explanation, whereby a consolidated understanding of the task in hand can only be reached when the student has merged the theoretical or academic interpretation with the everyday interpretation of the task (Lave & Wenger, 1991). Within a nursing skills laboratory, students practise aseptic technique by placing the sterile field, a specified area free of pathogens, on a trolley. A trolley may not, however, be available to a student nurse performing an aseptic procedure in a patient's home. The student must transfer and apply academic knowledge associated with the sterile field to this real-world problem and decide on the most acceptable course of action in this situation. This could entail spreading the sterile field across a bed, kitchen table or floor. This, in the context of my research, refers to the development of flexible and responsive approaches based on critical thinking skills, as a result of exposure to contexts or situations both inside and outside the university setting, and serves to demonstrate the reciprocal relationship between everyday and scientific concepts.

Lave and Wenger's (1991) second interpretation of the ZPD focuses on the 'collectivist' or 'societal' understanding of the relational processes connected with social transformation. Rather than implying that learning is contingent on specific pedagogical structures and that internalisation is dependent on learners' acceptance of established norms, values and behaviours, Lave and Wenger (1991) argue that knowledge is formed because of the student's (newcomer's) participation in the community in which they are situated. In this instance, the student and community are seen to progress in tandem. This dynamic process involves cycles of reproduction, whereby newcomers and old timers come to exist in a changing shared practice. This focuses on co-participation, where there are disputes and tensions between both groups as they work to build a new shared understanding. In this study, my conceptualisation is that the classroom setting is the community of practice and I do not always envisage students as newcomers and lecturers (as

MKOs) as the old timers. Rather, as Meyer and Smithhenry (2014) propose, there is a collective engagement which is intertwined with scaffolding as each other's learning is supported through their individual ZPDs.

This is of significance to my research because it demonstrates how numerous constructionist pedagogies could be used to create a dialogic framework (Wegerif, 2008) in which students can build and practise their dialogic skills through a range of different types of talk. In terms of preparing students for practice and developing collaborative working skills, these opportunities may assist students in maintaining an open, critical, and constructive attitude toward the exploration, confrontation and negotiation of various ideas. When viewpoints diverge, as they frequently do in the real-world of clinical practice, students may be better equipped to reach consensus because they are able to contrast their positions through argumentation.

The ZPD within groups

The ZPD within groups is another example of the cultural concept of scaffolding. In this study, constructionist pedagogies always involve groups of students, and the pre-determined tasks are tailored to group work. Significantly, this shows how the specific elements of constructionist pedagogies contribute to the scaffolding of one another's development. The concept of a group ZPD allows students to expand their skills beyond their individual capacities (Guk and Kellogg, 2007; Nyikos and Hashimoto, 1997; Miri et al., 2017) and is based on the idea that when people participate in group activities, they pool their mental resources and increase both the group's and an individual's voyage through the ZPD.

As an illustration, Nyikos and Hashimoto (1997) studied how a group of international students from a Foreign Language Education and Applied Linguistics programme developed their understanding through collaborative group work. One of the most important findings of this research was that, without the strong social component, the ability to learn, both individually and in a group, was severely limited. Their research revealed that all participants,

regardless of their level of expertise, learned due to the interactive approach. By assuming a questioning role in their quest for clarification and negotiation of meaning, the novices profited from the more experienced. More experienced students benefited from the challenge of being pushed to deliver responses in a logical and clear manner that could assist less experienced students in making their own breakthroughs.

While Nyikos and Hashimoto (1997) focused on learner-to-learner scaffolding, the study by Miri et al. (2017) found that a group ZPD occurs on two levels: the lecturer-student interface and the student-student interface. They explored this process by categorising participants as primary or secondary interactants, hypothesising that when a lecturer and student interacted, they were both considered primary interactants. However, because the contact occurred in a social environment, it benefited other students who had access to this dialogue. They were classified as incidental interactants and were also moved through their ZPD due to group participation. Additionally, when the lecturer engaged other students, they transitioned from secondary to primary interactants, allowing them to advance within their ZPD.

One of the key features in the constructionist pedagogies used in this study is the expectation that students will work together (see Figure 4, p. 70) and according to Miri et al. (2017), group labour contributes to the formation of an interpsychological development zone. As individuals take turns, this cumulative effect not only advances them through their own ZPD, but also advances the entire group through its ZPD. Additionally, when learners connect with one another and irrespective of whether students participated verbally or nonverbally, engagement provides opportunities to practise interactive collaborative working skills (Miri et al., 2017). As a result, collaborative working in the classroom mimics collaborative working in clinical practice, and is another way that the interactive aspects of constructionist pedagogies can help students to prepare for practice.

3.2.3.3: Potential aspect of constructionist pedagogies in relation to the ZPD

Several potential aspects of constructionist pedagogies have already been discussed above in relation to the generative and assistive aspects of the ZPD. I now turn to affordances associated with various elements of constructionist pedagogies and how, through transfer, development through the ZPD is facilitated. This expands on Lave and Wenger's (1991) cultural and collectivist interpretations of the ZPD, which are based on what Vygotsky (1978) refers to as merging scientific concepts with everyday concepts and acknowledges the contribution of social interaction. Preparing students for practice, in the context of my study, is synonymous with development and involves facilitating the merging of both scientific and everyday concepts; transfer is therefore inextricably linked to development. Whilst Barnett and Ceci (2002) suggest there is little agreement on the nature of the underlying mechanisms associated with transfer, I take the perspective that some interpretations offer more plausible explanations than others.

Valsiner (2000) claims that cognitive development is always directional because it is oriented between two anchor points: the place of origin and the point of future orientation. Valsiner (2000, p. 43), suggests that within the ZPD, where development is taking place, skills that are in the process of being formed are only 'half-ready'. This is the moment at which scientific and everyday concepts have not yet been merged. These half-ready skills are targets for both student effort and pedagogical intervention, and here is where learning and teaching intersect. Students must be able to recollect knowledge from previously established skills and transfer that to promote the development of emerging new skills. Constructionist pedagogies facilitate this process of transfer. This is supported by Merrill (2002), who posits that learning is facilitated when prior knowledge is engaged as a foundation for new knowledge. Merrill (2004) uses the term 'knowledge' broadly here to refer to both knowledge and skill, as well as to both the knowledge and skill to be taught and the knowledge and skill acquired by the learner. Transfer triggers this fusion which allows half-ready skills to be fully developed as they

are applied to practice, thus demonstrating concordance with Lave and Wenger's (1991) cultural perspective of the ZPD.

Perkins and Salomon (2012) propose a three-bridge model of transfer which provides an account of how cognitive development is triggered. This is accomplished through three distinct but connected processes known as detect, elect and connect. To begin, the learner must identify a possible relationship with prior knowledge, then choose to pursue it and, finally, they must establish a connection (Perkins & Salomon, 2012).

Several characteristics of constructionist pedagogies facilitate the construction of schema which may potentially trigger transfer by connecting concepts. Barnett and Ceci (2002) constructed a transfer taxonomy based on a range of inter-connected contextual factors that illustrate the complexity of transfer along a continuum from near to far, with far transfer being more difficult than near transfer. These include physical, functional, knowledge, temporal, modality and social contexts. Chapter 4 considers the role of social interaction separately and will do so in relation to the development of collaborative working skills. This is a more helpful way to organise the review as it illustrates the way social interaction triggers learning and the development of collaborative working skills.

In relation to constructionist pedagogies, each of those six contexts provide opportunities to cross the three bridges and facilitate skill development. Transfer for instance, may be easier if physical contexts of learning are similar. A student may find it is easier to transfer learning from a clinical skills classroom which has been set up to mimic a ward. The functional context refers to how the skill is positioned, and the mind-set evoked by the student (Barnett & Ceci, 2002). If the purpose of the learning session in class relates to wound assessment, students may be more likely to transfer this to practice if they view it as being useful to practice. The knowledge domain, on the other hand, refers to the knowledge base to which the skill or procedure is to be applied. If what is being learned in class relates to the research process, this may not be considered as near transfer in relation to clinical practice.

However, if knowledge is related to the management of sepsis, this may be regarded as near transfer as students may perceive the knowledge as being directly applicable to practice. From a temporal aspect, it may also be regarded as being easier to transfer if their clinical placement occurs immediately after a theory block and takes place in an acute surgical or medical ward. This is because memory is associated with transfer and the time interval between the learning event and its application impacts on transfer (Barnett & Ceci, 2002).

Whist Barnett and Ceci (2002) describe the difficulty in transfer as being relating to near and far, Salomon and Perkins (1989) distinguished level of difficulty in relation to high-road and low-road transfer. Accordingly, high-road transfer requires more effort and is therefore more difficult than low-road transfer. Salomon and Perkins' (1989) conceptualisation suggest that high-road transfer is dependent on deliberate episodes of reflection involving thoughtful abstraction of something from a previous context to a new context. Low-road transfer, on the other hand, is dependent on practise in varied and extensive contexts. According to Salomon and Perkins (1989), when confronted by a new situation, if the stimulus characteristics resemble those in the past, learning is triggered more easily. This also fits with Barnett and Ceci's (2002) idea of the physical, knowledge and functional contexts associated with transfer.

This study explores the contribution of multiple constructionist pedagogies which, when considered individually and collectively, provide opportunities for transfer. This is because participation in a variety of constructionist pedagogies exposes students to different contexts and cultural tools (both technical and psychological), allowing them to mediate between the external (social) and internal (psychological) and, as a result, to internalise new formations. Furthermore, as John-Steiner and Mann (1996) point out, not only are new psychological processes formed because of learning new skills, but through the processes of mediation and internalisation they also result in the mastery of existing skills. In relation to my study, this suggests that

frequent involvement with constructionist pedagogies may facilitate continual refinement of collaborative working skills.

Gangé, (1965, quoted by Royer, 1979) considers lateral and vertical transfer. Lateral transfer is described by Royer (1979) as the ability to generalise over a wide range of contexts with roughly the same level of complexity. As an example, when dealing with conflict between students, one may use similar heuristics as when managing conflict with a practice assessor. Thus, students can solve different but similar problems of equal complexity when they have learned to solve one of them. Vertical transfer occurs when the acquisition of one skill or piece of knowledge subsequently results in the acquisition of a higher skill (Gangé, (1965, quoted by Royer, 1979). Problem solving, conflict management, and reflection skills are all related to critical thinking abilities, which are regarded to be higher-level skills (Papp et al., 2014). When a student knows those skills, they may be able to acquire the principles of critical thinking skills more quickly than a student who does not.

Section 3.3: Summary

The chapter has explored the complex relationship between sociocultural learning theory, constructionist pedagogies and skill development. With a particular emphasis on several key concepts embedded in Vygotskian theory, the chapter explored the coalition between social and psychological processes. The relationship between mental functions, mediation, cultural tools and learning and skill development, were explicated. As this study focuses collaborative working skills, the term skill was defined and explored and justification given for selecting Le Boterf's (2000) definition of skill and models put forward by Lamri and Lubart (2023) and Green (2011). The contested definition of what skills are important, has been discussed and the rationale to follow the guidance of the NMC and Skills Development Scotland (2018), acknowledging the inter-connectedness of both hard and soft skills made.

Sociocultural theory and constructionist pedagogies place a premium on the role of others and social interaction. The zone of proximal development (ZPD) and its importance to constructionist pedagogies were investigated via the lens of the ZPD's generative, assistive and potential components. Additionally, the role of the more knowledgeable other (MKO) was explored in relation to individual and group ZPD. Social engagement, supported by constructionist pedagogies' affordances, facilitates the construction of schema that may potentially induce transfer via concept linkages. It is through these transfer processes that direct and activate psychological strategies that allow for the formation of linkages between previously taught and new skills and knowledge.

Transfer may be more successful if students are exposed to practising skills repeatedly in different contexts. The more opportunities for students to collaborate, the more likely they are to develop collaborative working skills. Thus, multiple constructionist pedagogies that combine a variety of activities and modes of engagement enable students to transfer past knowledge and skills in order to develop collaborative working skills.

With a particular focus on class talk, Chapter 4 discusses the importance of constructionist pedagogical aspects in the development of collaborative working skills.

Chapter 4: Literature Review - Constructionist pedagogies and collaborative working skills

Section 4.0: Introduction

The study's primary aim was to explore the role of constructionist pedagogies in the development of undergraduate nursing students. Chapter 4 is divided into 4 sections and examines the role of constructionist pedagogies in preparing student nurses for practice. Section 4.1 considers the reforms within nurse education that precipitated the pursuit of student-centred approaches, including constructionist pedagogies. Alongside an expanded use of constructionist pedagogies, the BSc programme added a range of measures targeted at fostering the development of skills: these are also considered in Section 4.2. An essential characteristic of constructionist pedagogies is the presence and emphasis on interaction. In the context of education, particularly within the framework of constructionist pedagogies, there is a strong focus on fostering interactive engagement between students, lecturers, and the learning environment. Section 4.3 examines the role of the interactive component associated with constructionist pedagogies in the development of collaborative working skills. Critical thinking skills enhance collaborative working by fostering a range of skills such as problem-solving, communication, and decision-making within a group or team. Finally, the synergy between critical thinking and collaborative working skills is explored Section 4.4.

Section 4.1: Reform in Higher Education and the proliferation of constructionist pedagogies

This chapter reviews key literature pertaining to constructionist pedagogies and collaborative working skills. It begins by exploring the policy background to the changing pedagogical focus.

The use of pedagogy in the UK has shifted dramatically during the past three decades. This is demonstrated by the abundance of literature on collaborative pedagogies, which advocates for a shift from a primarily lecturer-centric model toward a more learner-centred approach to education (Allen, 2010; Derbyshire & Machin, 2011; Freire, 1993; O'Neal et al., 2016).

When considering collaborative pedagogies, it is essential to recognise that not all instructional approaches align with a constructionist philosophy or design, as delineated in Chapter 2, Figures 3 and 4 (p. 59, p. 70). Constructionist pedagogies, inspired by thinkers such as Dewey (1916), deviate from what Freire (1993) referred to as the 'banking concept,' providing a more liberatory approach to education. The 'banking concept' characterises the conventional instructional method where lectures serve as the predominant mode of knowledge transmission, and predetermined information is transferred from the lecturer to the student. Within this paradigm, the lecturer holds absolute authority, functioning as the active depositor of knowledge. Drawing on Dewey's (1916) educational philosophy, constructionist pedagogies challenge this traditional model by redefining the roles of both teacher and student. In the traditional "sage on the stage" scenario (King, 1993, p.30), the student is relegated to the role of an empty receptacle, a passive recipient or notetaker tasked with cataloguing and categorising information (Morrison, 2014). In contrast, constructionist pedagogies reflect a transformative shift in students' roles, from passive recipients to active participants in the teaching and learning process. The teacher's role is re-imagined as a "guide on the side" (King, 1993, p.30), aligning with Dewey's (1916) emphasis on experiential and participatory learning in a democratic educational setting.

The purpose of Table 2 below is to highlight several philosophical distinctions between what King (1993) refers to as the Guide on the Side and Sage on the Stage pedagogical approaches. Synthesising key literature, it compares and contrasts the differences between constructionist pedagogies and the traditional lecturer-centric model of education. Numerous terms refer to pedagogies that integrate the features stated in the first column. Dyson (2018) uses the term critical pedagogies, while Allen (2010) prefers collaborative pedagogies. Constructionist and critical pedagogies are based on similar philosophical and design notions and I therefore consider them to be interchangeable.

Table 2: Comparisons between learner-centric and traditional lecture models of education

Critical pedagogies	Banking system
Dialogic	Monologic
Student as active	Student as passive
Teacher as co-constructor	Teacher as holder of knowledge
Teacher as facilitator	Teacher as controller
Democratic relationship between lecturer and student	Autocratic relationship between lecturer and student
Interaction between students and students and lecturers	Interaction only between lecturer and student
Student shares responsibility for what is learnt	Student is told what to learn
Student-centred learning	Teacher-centred teaching
Equalising of power between lecturer and student	Unequal power between lecturer and student
Encourages critical thinking	Does not encourage creativity and critical thinking
Lecturer and student learn together	Student is the learner

(Information adapted from Dyson (2020), Freire, (1993), King (1993), Lyle (2008), Morrison (2014), Slavin, (1980).

Several factors have contributed to the increased use of constructionist pedagogies in nursing education. Changes in nursing education, according

to Mackintosh-Frankin (2016), were unavoidable as they were forced by internal pressures in higher education. For Dyson (2018), the integration of nursing education into higher education necessitated changes to conform to the academic standards and emphasis on research and more comprehensive educational experiences characteristic of higher education institutions. Others believe that changes were precipitated by criticisms of traditional nurse teaching approaches (Allen, 2010; Dyson, 2018; Gallagher, 2004).

According to Culyer et al. (2018) and Dyson (2018), nurse education needed to evolve to meet shifting healthcare needs resulting from social, political, economic and technological developments. While traditional nurse education pedagogies (such as content and knowledge retention and technical skill acquisition) remain relevant, Horsfall et al. (2012) and Dyson (2018) argue that they are no longer the primary emphasis of nurse education. Indeed, Allen (2010) had argued that future nurses' ability to collaborate would be hindered if they relied on the banking system. This is because democratic approaches to nursing education promote the development of higher order thinking abilities such as critical thinking, decision-making, and problem-solving, all of which are associated with working collaboratively (Dyson, 2018; Wong, 2018). For instance, in a democratic educational environment, students are encouraged to actively participate in their learning process. This involvement goes beyond passive reception of information and encourages students to engage and reflect critically with the material. Active participation fosters critical thinking by prompting students to analyse, question, and evaluate information. As these skills are embedded in the *Standards of Proficiency for Registered Nurses* (2018e), overall, this highlights the beneficial contribution of constructionist pedagogies in preparing students for practice. I now turn to the relationship between constructionist pedagogies and the development of collaborative working skills.

Section 4.2: The BSc (2020) Pre-registration programme and collaborative working skills

As outlined in Chapter 2, effective collaboration has been continuously emphasised as a critical component of professional practice in healthcare-related policies, initiatives, standards and advice developed by government agencies, professional organisations, and Higher Education institutions (Scottish Government, 2016, 2017a and 2017b).

Collaboration is a goal for the entire healthcare system and its significance is extensively recognised in the literature, which highlights the advantages of interprofessional collaboration in clinical practice, research and education (Petit Dit Dariel & Cristofalo, 2018; Green & Johnson, 2015; McInnes et al., 2015). Green and Johnson (2015) assert that collaboration helps organisations, professional associations and institutions to accomplish more than they could alone. Positive outcomes associated with collaborative work result in improved clinical decision-making, increased patient safety, care quality and job satisfaction (Barton et al., 2018; Chang et al., 2009). However, interpersonal concerns like inadequate team communication, as well as organisational issues including professional boundary conflicts and dominance, can hinder constructive collaboration (Petit Dit Dariel & Cristofalo, 2018).

From 2013, nursing became an all-graduate profession, with a degree becoming the minimum outcome award for pre-registration nurse education programmes. According to Ali and Watson (2011), the award of a degree is viewed as a way of ensuring that nurses' skills and knowledge are appropriate for future practice. Students who complete the BSc nursing programme earn both an academic (BSc) and professional (Registered Nurse) qualification, reflecting the integration of these different components. This integration is also reflected in programme design, which incorporates both theory and practice components that nurse lecturers contribute to and deliver (Dyson, 2018). The way in which theory and practice are integrated in the programme design is a crucial aspect of this research, and

understanding the perspectives of both students and nurse lecturers on the theoretical component is a central focus of the study.

The *Standards of Proficiency for Registered Nurses* (NMC, 2018e) in pre-registration nursing programmes mirror those for registered nurses. Use of the same academic and practice standards establishes expectations for both students and registered nurses, and informs teaching, learning and assessment. Through interactions with registered nurses in both practice and academic settings, student nurses will acquire insights into their role in collaborative working and develop the necessary collaborative skills. The students in this study are uniquely qualified to comment on their preparation for practice because of their familiarity with collaborative working, garnered through their experiences in various learning situations.

Alongside teaching and learning modifications, the sequencing and scheduling of theory and placement components and the range and role of others involved in supporting practice were revised in the 2010 BSc programme (NMC, 2010a; Roxburgh, 2014). In contrast to the previous model, known as Project 2000, clinical placement experiences and theory are distributed evenly throughout the curriculum, rather than in blocks separated by many months of academic learning and practice placement. These measures were designed to maximise knowledge and skill development. According to Dyson (2018) and Horsfall et al. (2012), this was because, collectively, they provide a wider range of learning contexts and opportunities to develop and transfer skills from theory to practice and vice versa.

Section 4.3: The role of interaction in the development of collaborative working skills

As the aim of the study is to explore the role of constructionist pedagogies in preparing students for practice, this section examines the interactive component, which is a collaborative learning feature associated with constructionist pedagogies in the development of collaborative working skills.

I regard knowledge and skills for practice as synonymous with what Higgs and Titchen (1995) refer to as non-propositional craft knowledge. Figure 6 below depicts Higgs and Titchen's (1995) proposal that professional practice knowledge occurs and operates in three connected contexts.

Figure 6: Types of knowledge and internal influences on knowledge generation
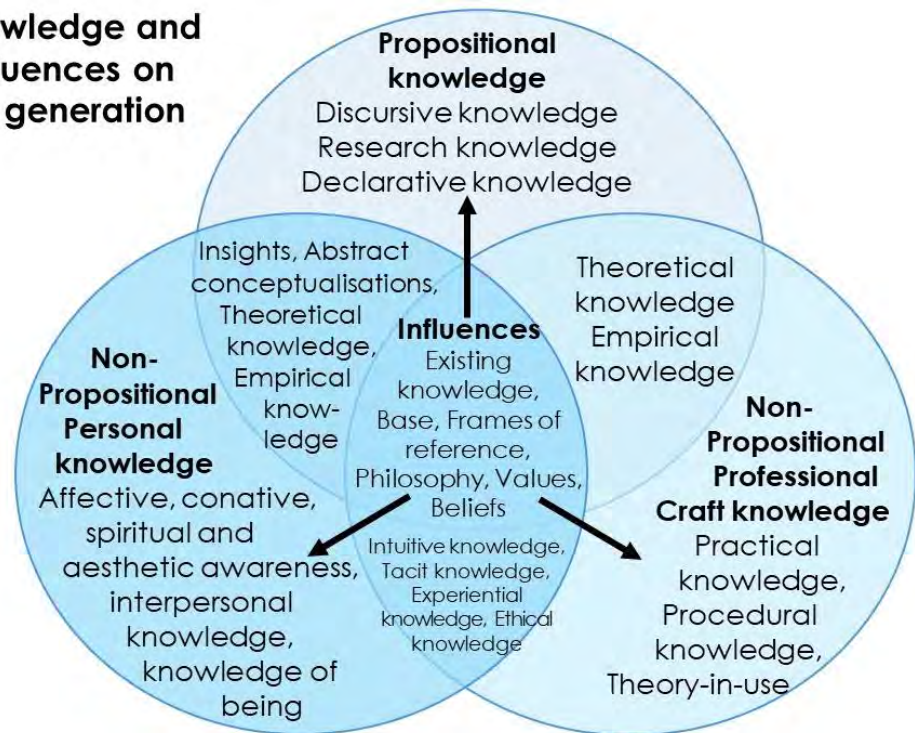
Higgs & Titchen (1995, p. 526)

According to this model, propositional or declarative knowledge is derived from facts and theories and may refer to knowing facts, information, or concepts. This is characterised by content that is delivered in a systematic and deliberate manner, perhaps using a set of learning outcomes to guide the session (Eraut, 2000). Non-propositional personal knowledge is derived through life experiences and interacting with and learning from people in various contexts. It also incorporates knowledge held by the community and culture in which the person lives and works. According to Higgs and Titchen (1995), non-propositional craft knowledge is acquired through professional experience and knowledge of how to perform something. This framework also emphasises the importance of personal knowledge, which aligns with

my social constructionist viewpoint. This emphasis on personal knowledge implies that, in addition to more explicit declarative and craft knowledge, individual experiences and viewpoints play an important role in the learning process.

The opportunity to cultivate craft knowledge, including learning how to collaborate, can be transferred across various contexts. This transferability aids in nurturing a collaborative mindset, characterised by inclusive thinking with others. It is through this progressive process of embracing an openness to diverse perspectives, backgrounds, and contributions, that students can subsequently employ these collaborative skills in practice.

Eraut (2000) suggests that the fundamental distinction between propositional and non-propositional (or non-formal) learning is the level of the intention to learn. In non-propositional craft learning, the acquisition of knowledge occurs independently of conscious attempts to learn. Additionally, Eraut (2002) suggests this might not be made explicit to students and may be regarded as a less direct or implicit way to support the development of collaborative working skills. Students may be asked, for example, to work collaboratively on a project pertaining to the management of a person with Type 2 diabetes. This may involve preparing and delivering a presentation to a group of peers. While the content is not directly related to the development of collaborative working skills, the processes associated with constructionist pedagogies, such as interaction, add value in terms of assisting student nurses to develop a range of skills that are considered relevant for effective collaboration. Students may learn communication and conflict-resolution skills, for example, when they work together. These skills can then be applied to different situations, in practice or when they return to the university. The social interaction inherent in constructionist pedagogies allows the synthesis of these various forms of knowledge. This sharing of diverse viewpoints contributes to a more comprehensive understanding of the topic. Social interactions, for example, provide opportunities for students to share their perspectives and interpretations of the subject matter. The process of sharing with others may also encourage students to articulate their understanding, challenge or support each other's ideas, and collectively

construct a shared understanding. Dialogue is one type of social interaction that is widely connected with constructionist pedagogies, and it is to this that I now turn.

4.3.1: Interaction and dialogue

Social interaction is a notable feature of constructionist pedagogies and the most critical for my study. Within the confines of this thesis, it is not possible to discuss all of the characteristics of constructionist pedagogies in detail. Social interaction is highlighted because it is a critical component of other characteristics of constructionist pedagogies, such as working together towards meeting shared goals. This is illustrated in Figure 7, which conveys the relationship between interactivity and the development of collaborative working skills.

Figure 7: The interactive element of constructionist pedagogies (CPs) and connections to dialogue, critical thinking and collaborative working skills
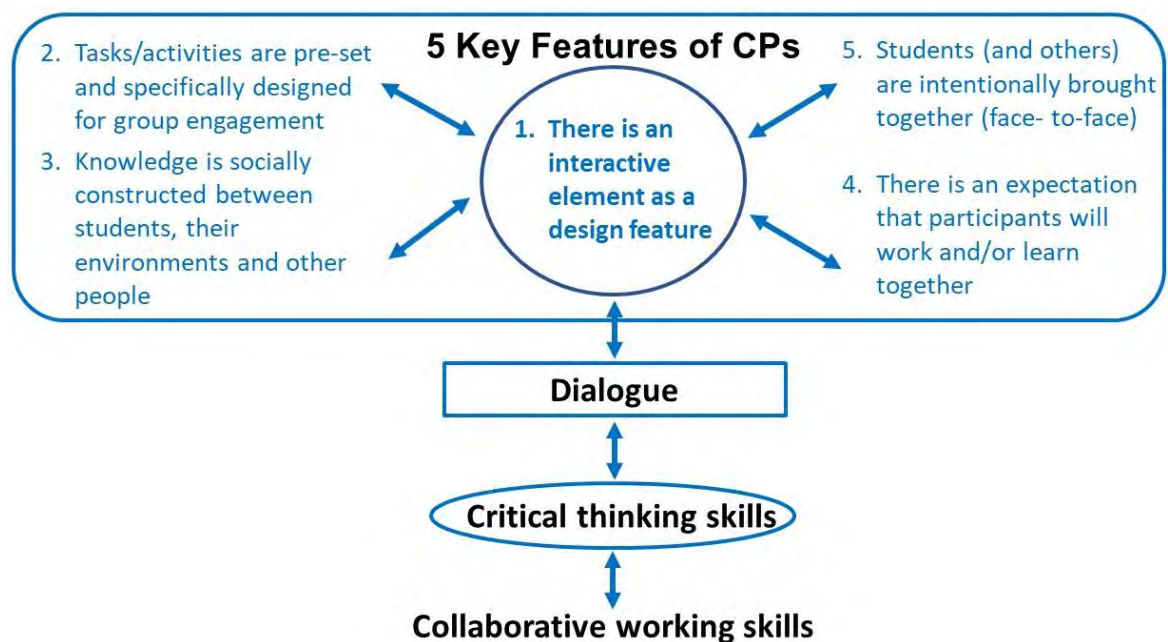
In respect of interaction, the focus is on dialogue, for the following reasons. To begin, interaction and dialogue feature prominently in social constructionism and sociocultural learning theory (Gergen, 2015; Gredler, 2012; Kozulin et al., 2003; Lave & Wenger, 1991; Littleton & Howe, 2010;

Smagorinsky, 2018a & 2018b; Vygotsky,1978). Secondly, in this study, dialogue is central to all constructionist pedagogies used in pre-registration nurse education. Whilst some constructionist pedagogies, such as simulation and skills classes, also deploy observation and the use of cultural technical tools, dialogue features prominently (Davies & Wilson, 2020; Ravik, et al., 2015; Tolsgaard et al., 2016). Thirdly, dialogue is prominent in nursing practice and is often a fundamental aspect of collaborative working (Clark, 2014; Foronda et al., 2016; Von Colln-Appling & Guiliano, 2017).

Dialogue, according to Clark (2014), is used to gather information, provide direction and instruction, as well as for casual and professional interaction with patients, carers and members of the multidisciplinary team. Dialogue is also connected to the development of critical thinking skills (Dyson, 2010; Horsfall et al., 2012): professionally, the development of those skills is highly sought (NMC; 2018a, 2018b, 2018e). Critical thinking is regarded as a pre-requisite for effective collaborative working and is also considered a meta-skill because it underpins the development of a range of other skills such as decision-making, reasoning, reflection and self-regulation (Papp, et al., 2014; Sullivan, 2012). Critical thinking skills and their relationship to collaborative working skills will be discussed later in section 4.4.

4.3.2: Dialogue in constructionist pedagogies

In constructionist pedagogies, dialogue takes many forms, has many purposes, and is essential for encouraging learning and skill development. In this section, the term 'class talk' will be used synonymously with dialogue. This helps to locate where teaching and learning takes place, highlighting the social processes involved with constructionist pedagogies and emphasising the importance of creating a more learner-centred space. There is no agreed definition of dialogic teaching (Alexander, 2018). Freire (1993), for example, refers to problem-posing, Wegerif (2008) to dialogical pedagogy and Kuiper (2012) to interpretive pedagogies, whilst others refer to the concept of classroom talk as collaborative reasoning (Reznitskaya et al., 2009; Kuhn, 2018). Vygotsky (1978) considers speech, which includes dialogue (or social

speech), to be a psychological tool linked to thinking. As a result, it facilitates and promotes cognitive development. Given the importance of dialogue in constructionist pedagogies, it stands to reason that participating in them should impact on development.

Regardless of the terminology employed to refer to class talk, the terms indicate a deviation from the prevailing discourse and provide opportunities for the development of various skills that are advantageous in preparing students for practice. Lyle (2008) and Lefstein (2010) posit that class talk may still be characterised by an initiation-response-evaluation model (IRE) mentality. However, the increased use of constructionist pedagogies may indicate there is a clear move in nurse education to create spaces for multiple voices that challenge the traditional power relations between students and lecturers (Dyson, 2018; Boyd & Markarian, 2011). The role of class talk in constructionist pedagogies in assisting in the development of skills is supported by the findings of a quasi-experimental study by Lee (2018), who explored the development of core competencies among students who attended either team-based learning or lecture-style classes. In this study, core competencies were regarded in much the same way as the NMC *Standards of Proficiency for Registered Nurses* (NMC, 2018e) as the knowledge and skills nursing students must demonstrate at the point of registration. Lee's (2018) study found the interaction element associated with the pedagogy strengthened core competences including communication.

The function of class talk can be determined by the type of constructionist pedagogy. Just as the task, participants or the physical environment where the constructionist pedagogies take place may differ, so can the nuances associated with class talk. Class talk, in simulation for instance, may take a different form than class talk in group work. Moreover, as the study by Ravik et al. (2017) demonstrated, differences in the types of interactions between two simulated learning modalities can differ. In the study by Ravik et al. (2017), students practised peripheral vein cannulation on either a latex arm or each other's arms in a clinical skills centre. This study revealed that class

talk was used for several different purposes, including to seek or give support, correct performance and to problem-solve when difficulties were encountered. The study also revealed that some aspects of class talk were used similarly and differently with both modalities. Seeking and giving support, for example, were employed more frequently in both modalities in comparison to other functions. Students practising on the latex arm, on the other hand, spent more time discussing the various stages because they could suspend training on the latex arm without endangering the client. Students training on the latex arm scaffolded their own and their peers' comprehension, since they were able to act on instructions and feedback during the activity (Ravik et al., 2017). As can be seen, through the alternating roles of students between learner and more knowledgeable other, this constructionist pedagogy created space for speaking, listening and, therefore, thinking, learning and development.

The numerous approaches to 'class talk' both highlight and celebrate the variability of types of talk that are available for pedagogical purposes and will be further discussed below. Positioning class talk within the context of constructionist pedagogies illustrates their significant role in promoting learning and skill development. This is evident in the study by Ravik et al. (2017), which presented several ways in which class talk could be categorised. In my study, the fact that there are various forms of class talk is important, as nurses use a range of talk repertoires within everyday nursing practice. Constructionist pedagogies give students opportunities to practise and therefore develop skills, in particular talk, in anticipation of clinical practice. This is illustrated in a quasi-experimental study conducted by Baghcheghi et al. (2011) which explored the development of communication skills and compared collaborative learning and traditional lecture approaches. Their study showed that students in the collaborative learning group demonstrated better communication skills, especially when interacting with patients in clinical settings, than those students who were taught using the traditional approach.

The way class talk is viewed is influenced by individual viewpoints and interests. A researcher's perspective, according to Mercer (2010), can represent their allegiance to specific epistemological frameworks, disciplinary traditions or research paradigms. According to Alexander (2018), although some may emphasise the lecturer's role in talk, others may focus on the student or peers. Because this study employs a social constructionist approach to analyse the viewpoints of both student nurses and nurse lecturers, understanding their perspectives may help my understanding of both.

Lefstein (2010), Reznitskaya and Gregory (2013) focus primarily on the lecturers' role. Boyd and Markarian (2011) on the other hand, suggests that class talk can be considered in terms of the linguistic grammar used, such as the use of open rather than closed questions. However, Reznitskaya (2012) and Lefstein (2010) argue that teacher initiation, student reaction, and instructor evaluation (IRE) cannot be justified as dialogic instruction because the process is characterised by lecturers' dominance over students' listening and so reinforces the power imbalance observed in the monologic method. Boyd and Markarian (2011) counter this perspective, suggesting it carries a risk because it decontextualises dialogues and denigrates the potential contribution to learning. They further suggest that it is critical to maintain a balanced viewpoint and that an IRE approach should not be seen in isolation, particularly if it enables students to elaborate and share information. Additionally, an IRE approach may be beneficial in that its reciprocity enables the lecturer to monitor students' knowledge while also signalling to students that the lecturer is attentive and encouraging. The cumulative effect of multiple factors may therefore promote learning (Boyd & Markarian, 2011).

Alternative frameworks have been put forward which aim to categorise class talk. Situated within the sociocultural tradition, Mercer (1995) characterises the types of talk within a triad consisting of disputational talk, cumulative talk and exploratory talk. According to Mercer (2010), disputational talk is characterized by disagreement, limited attempts to pool resources and where

participants make their own decisions. In cumulative talk, participants share knowledge and build positively but uncritically on what others have said, agreeing and accepting other's contribution. Exploratory talk combines features of both disputational and cumulative talk in so much that it reflects a kind of cooperation (cumulative talk) with challenges and competition (disputational talk). In exploratory talk, however, participants use explicit reasoning to interact purposefully, critically but constructively with each other's ideas (Mercer, 2010). Like cumulative talk, the emphasis is on sharing knowledge but there is an expectation that statements and suggestions are put forward for joint consideration, reasons are given for challenges and there may be a sense of shared purpose (Mercer, 2004).

The framework provided by Mercer (1995) and Wegerif and Mercer (1997) suggests that class talk can be guided by three interrelated factors which are: intersubjective orientations; social norms; and surface features. Inter-subjective orientations refer to the way in which people respond to each other, such as being 'open' or 'closed' (Wegerif, 2018). Exploratory talk, for example, was regarded as being open, because it depends on an approach characterised by explicit reasoning, the willingness of participants to change their minds and for participants to be critical and reflective. Wegerif (2018) contests that those intersubjective orientations associated with exploratory talk are the most educationally desirable because they aspire to the underpinning principles associated with learner-centred teaching (as depicted in Table 2, p.109). This is in opposition to disputational and cumulative talk, which is regarded as closed and is concerned more with defending the image of the individual or the group than thinking and reasoning together.

Secondly, Wegerif (2018) suggests that types of class talk are guided by a set of social norms or ground rules which may be culturally or historically influenced. Students and lecturers are expected to behave or take on different roles in a specific way depending on the constructionist pedagogy. In high fidelity simulation, the lecturer may not interact verbally with the students whilst they are managing a clinical scenario but may watch, listen

and make non-verbal gestures of support. Similarly, students involved in the scenario may not defer to the lecturer during the process.

Surface features is the third factor put forward by Wegerif (2018) and refers to elements of talk that are easily recognisable. This is because surface features portray the underlying intersubjective orientations and social norms associated with talk. Were it noticed that participants were taking turns to contribute, asking each other open questions and seeking and providing clarification, it could be assumed that they were participating in exploratory talk.

According to Wegerif (2018) the three-part typology offers a way of exploring the functional variation of talk within various collaborative pedagogies. It accomplishes this by concentrating on the extent to which participants use dialogue to collaborate on predetermined tasks. Students have diverse opportunities to practise and improve skills because of the combination of intersubjective orientations, social norms, and surface features associated with different constructionist pedagogies. These skills can then be used in a variety of settings and scenarios in which students will be expected to perform appropriately. This can also tie to the concepts of situated learning and cumulative development (Lave and Wenger, 1991) which acknowledges that skills may be developed in specific situations and can be transferred to various settings and scenarios. Moreover, the notion of cumulative development suggests that these skills progress and build upon each other over time, ensuring a continuous and evolving capacity that students can draw upon.

Drawing on his extensive work, as well as being influenced by others (including those pursing sociocultural traditions such as Vygotsky), Alexander (2018) also developed a taxonomy which characterises classroom talk. According to Kim and Wilkinson (2019), this is the most influential framework available, because it attends to the aspects relating to the role of the lecturer, student and what Alexander (2018) refers to as the agency of others.

Alexander (2018) defined dialogic teaching as a general pedagogical approach that capitalises on the power of class talk to foster students' thinking, learning, and understanding. It can be summarised as a set of repertoires, principles and indicators, all predicated on arguments or justifications for the centrality of talk in teaching. The taxonomy put forward supports the view that there is no single way to maximise talk's quality and power and advances the use of a repertoire of talk-based strategies. Alexander (2018) places talk as part of a generic model of teaching in which interaction takes place, and is contingent on balancing a range of factors, including the frame (space, student organisation, time, curriculum, rules and routines), form (the lesson) and act (task, activity, interaction and judgement).

Alexander's (2018) framework provides a useful way to categorise class talk, presenting it as a set of repertoires, each guided by a set of five aspirational principles. Despite its orientation towards early years dialogic teaching, the framework is relevant to this study because the five principles (detailed in Table 3 below) closely reflect the principles underpinning my definition of constructionist pedagogies (outlined in figure 4 p. 70). The first three build the collaborative culture of the classroom, while the latter two address the content of the talk. The latter two are also connected to my study in that, firstly, there is consideration of the cumulative impact of collaborative efforts and then the concept of working on preset tasks and common goals. The connection to Wenger's (1998) research on communities of practice, joint enterprise, and shared repertoire is also apparent as they involve considering the collective influence of collaborative efforts and the dynamics of working towards predetermined tasks and shared goals.

Table 3: Principles of dialogic teaching (Alexander, 2018, p. 566)

Principle	Explanation
Collective	The classroom is a site of joint learning and enquiry
Reciprocal	Participants listen to each other, share ideas and consider alternative viewpoints
Supportive	Participants feel able to express ideas freely, without risk of embarrassment over 'wrong' answers, and they help each other to reach common understanding
Cumulative	Participants build on their own and each other's contribution and chain them into coherent lines of thinking and understanding
Purposeful	Classroom talk - open and dialogic, is structured with specific learning goals in view

The 'repertoire' (detailed in Table 4 below) aspect associated with Alexander's (2018) framework helps me comprehend the complexity and diversity of class talk within the wider spectrum of constructionist pedagogies used in my workplace. Alexander (2018) for instance refers to five different repertoires. In relation to constructionist pedagogies employed in my workplace, the categories provided adequately reflect the range of possibilities.

Table 4: Framework summarising the repertoires associated with dialogic teaching (Alexander, 2018 pp. 566-571)

Repertoire	Further detail
1. Everyday talk	Transactional, expository, interrogatory, exploratory, expressive, evaluative
2. Learning talk	Narrate, explain, speculate, explore, imagine, analyse, evaluate, question, justify, discuss, argue
3. Teaching talk	Rote, recitation, instruction, exposition, discussion, dialogue
4. Questioning This demonstrates how questioning has many facets and may be used in a variety of ways, acknowledging different techniques and purposes for enhancing the educational experience.	Character: test, authentic Response cue: bidding (hands up to answer), nomination (question directed to a specific student) Participation cue: rotation (short question and answer round the class), extension (longer exchanges confined to smaller numbers of students) Wait/thinking time: immediate, considered Feedback: formative, evaluative Purpose: elicit, recall, develop, probe, manage Structure: closed, open, leading, narrow, discursive
5. Extending	Share, expand and clarify thinking • Time to think • Say more • Revoice Listen carefully to one another • Rephrase/repeat Deepen reasoning • Ask for evidence of reasoning • Challenge or counter-example Think with others • Agree/disagree and why • Add on • Explain what someone else means

Alexander's (2018) methodology proves valuable as it illustrates the interaction of different classroom talk styles within constructionist pedagogies to effectively engage students across multiple levels. For instance, the incorporation of role play, simulation, peer teaching, and group discussions creates avenues for practising diverse repertoires that might not be accessible with the banking approach. I also understand how these repertoires fit into everyday nursing practice and how nurses might use them

in patient communication and inter/intraprofessional teamwork as a nurse. In addition, as a nurse lecturer, I appreciate the possibilities afforded by constructionist pedagogies for students to develop social interaction skills and how they help prepare students for practice.

Section 4.4: Class talk, critical thinking skills and the development of collaborative working skills

This section examines the relationship between class talk, critical thinking skills and the development of collaborative working skills. Collaborative working skills and critical thinking skills are both viewed as necessary for nurses and are incorporated into the NMC's pre-registration criteria (NMC; 2018b, 2018c, 2018d and 2018e), straddling both clinical practice and academic elements of the BSc programme. A student assignment, for example, may include the requirement to critically appraise, write critically, or demonstrate a critical understanding of a particular concept. Despite the absence of a universally accepted definition for critical thinking, Sullivan (2012) suggests there is widespread acknowledgement that critical thinking comprises both cognitive and affective elements. Both those elements are embraced by Papp et al. (2014) who define critical thinking as:

> the ability to apply higher-order cognitive skills (conceptualisation, analysis, evaluation) and the disposition to be deliberate about thinking (being open-minded or intellectually honest) that lead to action that is logical and appropriate (Papp et al., 2014, p. 715).

Critical thinking skills are regarded widely as a higher order thinking skill or meta-skill (Kantar, 2014; Papp et al., 2014; Skills Development Scotland, 2018; Vygotsky, 1978) and interaction plays a key role in their development, particularly, communication exchanges (Byrnes & Dunbar, 2014; Tiruneh et al., 2018). Skills Development Scotland (2018), for instance, maintains that meta-skills are overarching skills that surpass foundational or lower-order skills, encompassing the capacity to manage and adapt those lower-order

skills. Nevertheless, as demonstrated in Chapter 3 (section 3.2.2), skills can be defined variously, and Skills Development Scotland (2018) suggests that critical thinking skills may be categorised as lower-order skills in relation to the meta-skill of innovation. This categorisation is based on the perspective that critical thinking skills lay the foundation for innovation skills, which are considered higher-order thinking and involve more advanced cognitive processes compared to critical thinking skill. However, interactions are also an integral part of collaborative working (D'Amour et al., 2005) which bring critical thinking skills and collaborative working skills into alignment. Collaboration is inextricably tied to communication which, in my study, is a necessary component of dialogue and sociocultural learning theory (Alexander, 2018; Boyd & Markarian, 2011; Gergen, 2015; Vygotsky, 1978).

Papp et al. (2014, p.716) characterise critical thinking as a 'meta-competency skill,' indicating that it emerges after mastering other skills. This aligns with the concept of cumulative development discussed in Chapter 2 (Section 2.2), suggesting a progression or building upon previously acquired skills. While Lamri and Lubart's (2023) generic framework primarily emphasises the cumulative development of a specific skill, its foundational principles can be extended to the development of meta-skills, where each lower-order skill undergoes distinct stages of development. By identifying areas for improvement, an evaluation of the five generic components linked to lower-level skills using Lamri and Lubart's (2023) model could direct skill development. For example, the assessment's insights may be quite helpful in determining how each lower-order ability develops over time.

The literature on pre-registration nurse education supports the concept that critical thinking skills are also correlated with a variety of other skills. Blakeslee (2020), Chan (2013), Sullivan (2012), Von Colln-Appling and Giuliano (2017) associate critical thinking skills with communication, confidence, decision-making, critical writing, problem-solving, reflection, open-mindedness, creativity, adaptability, information-seeking, reasoning and argumentation. The interdependency of skills, as explored in Chapter 3

specifically regarding the interplay between hard and soft skills in the context of NMC (2018e) and Skills Development Scotland (2018), highlights the interconnected and mutually influential nature of skills within a specific domain or context. This perspective argues that the proficiency of one skill is interdependent and influenced by the existence and proficiency of other related skills.

Similarly, those skills are also shared and required for effective collaborative working. Whilst these skills are necessary for the development of critical thinking skills, they are also developed in conjunction with critical thinking skills (Papp et al., 2014). This pertains to the cognitive development process described previously and which explains that skills develop over time and are influenced by various environments such as experiences with others. This can also be seen in the case of the development of collaborative working skills.

Papp et al. (2014) examined how critical thinking presented itself in medical and nursing learners at various stages of development. Their study established that critical thinking skills comprised several milestones, each reflecting a level of ability in the domains of metacognitive abilities, attitudes and cognitive skills. Metacognitive abilities relate to an awareness of one's own thinking and learning processes, whilst attitudes refer to a person's approach to critical thinking, such as whether they acknowledge uncertainty about a certain topic. Cognitive skills include a person's ability to problem-solve and make sense of information using memory and reason to guide decisions. Using a consensus methodology, a framework consisting of five stages associated with developing critical thinking was established:

1. Unreflective thinker
2. Beginning critical thinker
3. Practising critical thinker
4. Advanced critical thinker
5. Accomplished critical thinker

According to Papp et al. (2014), time and exposure to rich learning contexts are essential for reaching each critical thinking skill development milestone. A nursing curriculum, such as the BSc degree, which exposes students to diverse constructionist pedagogies, provide continual opportunities for student nurses to develop critical thinking skills. Combining skills associated with critical thinking collectively facilitates collaborative working. This is because constructionist pedagogies, such as those used in this study, extend the notion of combining perspectives, skills and knowledge as well as inculcating a mindset of thinking inclusively which promotes shared understanding and facilitates collaboration.

According to Mercer and Littlejohn (2010), the variety and characteristics of class discussions support the development of collaborative working skills by operating at a level involving shared and combined perspectives and knowledge with others. This is because ability to use a variety of class talk repertoires helps students develop relationships with one another, whilst simultaneously developing interaction skills, which are also regarded as collaborative working skills (Reznitskaya et al., 2009; Lyle, 2008)

It is anticipated that the skills developed from engaging in various class talk repertoires may, in turn, be transferred into practice and help students to effectively collaborate with others such as patients, carers and other health care professionals (Baghcheghi et al., 2011). This transfer and the potential application of skills aligns with Dewey's (1938) philosophy of experiential learning, emphasising the integration of meaningful experiences in education to foster practical application and collaboration in real-world healthcare settings.

According to Bardallo et al. (2013), dialogic learning is supported by three pillars: discourse, reflexivity, and transformation. Additionally, they argue that comprehending the viewpoints of others helps students become aware of and confront their own ideas or behaviours, which results in an improvement in behavioural and self-regulation skills. This is supported by Wong (2018), who states that sharing linked with dialogue enables students to move

beyond their own knowledge and skills and acquire an understanding of diverse world views and an ability to empathise with opposing viewpoints. In turn, this receptive attitude facilitates collaboration with others (Gagnon & Roberge, 2012).

Dialogue can also be viewed as a psychological instrument for structuring the processes and content of individual thought (Gagnon & Roberge, 2012; Mercer & Howe, 2012). Critical thinking is a cognitive activity drawing on mental processes such as attention, memory, categorisation, selection and judgement (Cottrell, 2017), while argumentation entails a significant social component (Kuhn, 2018). According to Kuhn (2018), students examine and evaluate the credibility of information sources through various sorts of class dialogue, developing well-reasoned findings that enable them to make logical decisions that may be communicated in a structured, clear and well-reasoned manner. This is because constructionist pedagogies encourage a range of class talk and thus create possibilities for students to acquire knowledge through the use of argumentation.

According to Rapanta (2021), the processes associated with educational argumentation are aimed at the two broadly defined pedagogical outcomes known as 'learning to argue' or 'arguing to learn'. The former is focused on the development of argumentation skills such as the construction of valid arguments, counter arguments and rebuttals and the appropriate use of evidence to support them (Kuhn, 2018). The focus on arguing to learn is sometimes referred to as conceptual change (Asterhan & Schwarz, 2009) which results from the engagement in constructive argumentative interactions. This may be because continual exposure to information synthesis exposes students to more opportunities to question assumptions, identify patterns, and produce alternatives, so broadening their knowledge and honing their critical thinking skills.

As students establish an evidence basis and strengthen their communication and confidence skills; they may be better equipped to effectively present a proposal or concept based on reasoning. Contributing constructively to

problem solving and decision-making raises the likelihood of being accepted and valued as a team member. This is corroborated by Fewster-Thuente (2015), who discovered a culture of partnership in which perspectives about the role-specific knowledge or area of expertise were not only asked but anticipated. Propp et al. (2010) observed that acknowledging the valuable contributions made by nurses within the team increased the likelihood of their inclusion. This recognition stemmed from an acknowledgment of their unique contribution as independent team members, with the potential to enhance overall team decision-making. Additionally, as students become more confident in their knowledge and their interactions with others, this may enhance their ability to recognise their limitations and willingness to approach others for guidance (Pfaff et al., 2014).

Moreover, as students may come from different backgrounds and cultures, Serun and Ustun (2008) and Baghcheghi et al. (2011) suggest that interaction may also help students deal with conflict and different opinions as they negotiate their differences. Research conducted by Labrague and McEnroe-Petitte (2017) and Serun and Ustun (2008) found that students who engaged in collaborative learning exhibited greater development of conflict management skills in comparison to those who were exposed to traditional teaching approaches.

Section 4.5: Summary

With their learner-centred approach to both teaching and learning, constructionist pedagogies facilitate the development of critical nursing skills that cannot be developed as effectively through other pedagogies, such as the traditional lecture approach. This shift also redefines traditional roles of lecturers and students in education, where lecturers become guides and students, active participants.

This chapter discussed the role of dialogue and the development of collaborative working skills within constructionist pedagogies, emphasising

the interactive aspect of such pedagogies. In constructionist approaches, dialogue serves diverse purposes and is integral to fostering learning and skill development. Frameworks presented, such as Mercer's (1995) classification and Alexander's (2018) taxonomy of talk repertoires, highlight the shift from monologic to more interactive approaches in nursing education. The multifaceted nature of class talk contributes to three inter-connected tasks: practising social interaction skills crucial for collaboration; fostering understanding through the content of discussions; and nurturing a collaborative mindset through engagement with others.

The relationship between class talk and critical thinking skills, provided the link to the development of collaborative working skills. This is because class talk, particularly in constructionist pedagogies, serves as a platform where students engage in discussions, share perspectives and collectively construct knowledge. Through this interactive process, students are prompted to think critically, question assumptions and analyse information from various viewpoints.

The rationale for fostering critical thinking in students comprises two intertwined aspects. Firstly, honing critical thinking skills through constructionist pedagogies enriches the overall learning process. Secondly, it serves as a prerequisite for enhancing the professional readiness of students destined for group work. Since interactions play a crucial role in constructionist pedagogies, it is clear that critical thinking and collaborative working skills go hand in hand. Additionally, the provision of opportunities to practise in a variety of settings, with meaningful tasks addressing real-world issues, promotes the transfer of knowledge to novel contexts within or beyond familiar domains (Barnett & Ceci, 2002; Ravik et al., 2017; Lave & Wenger, 1991).

Having provided a comprehensive review of the key literature and philosophical concepts underpinning this study in the previous three chapters, I now turn to methodology, methods and data collection.

Chapter 5: Methodology

Section 5.0: Introduction to chapter and revisiting the research questions

This chapter sets out the rationale for the methodology adopted for the research. As discussed in the previous three chapters, the theoretical and conceptual framework underpinning the study is informed by social constructionism. In Chapters 5, 6 and 7, I now turn to the choice of research design, the methods and the procedures undertaken in this research. The chapters are separate because it is helpful to have distinct sections for key components of the methodology, such as research questions, philosophical foundations, design, methods, data analysis and research quality. This ensures that each aspect receives focused attention. Importantly, it is possible to trace a connection between the three chapters, emphasising the interrelated nature of these critical factors in building the research framework. Chapter 6 details the data analysis procedure employed in the study and Chapter 7 focuses on research quality. There, various aspects related to the research design, methodology and data analysis are explored, further justifying the decisions and actions selected in order to secure the overall quality of the research.

To open the chapter, it is helpful to set out the main steps taken in the research as this transparency should ensure that others can replicate the procedures. I will then revisit the research aim and questions, after which I will present the rationale for adopting a social constructionist stance to investigate collaborative pedagogies. The chapter will then explain the rationale for my choice of design and methods, as well as a comprehensive account of the steps taken to conduct this research.

Overview of the research process

Figure 8: Schematic representation depicting the main areas covered in Chapter 5
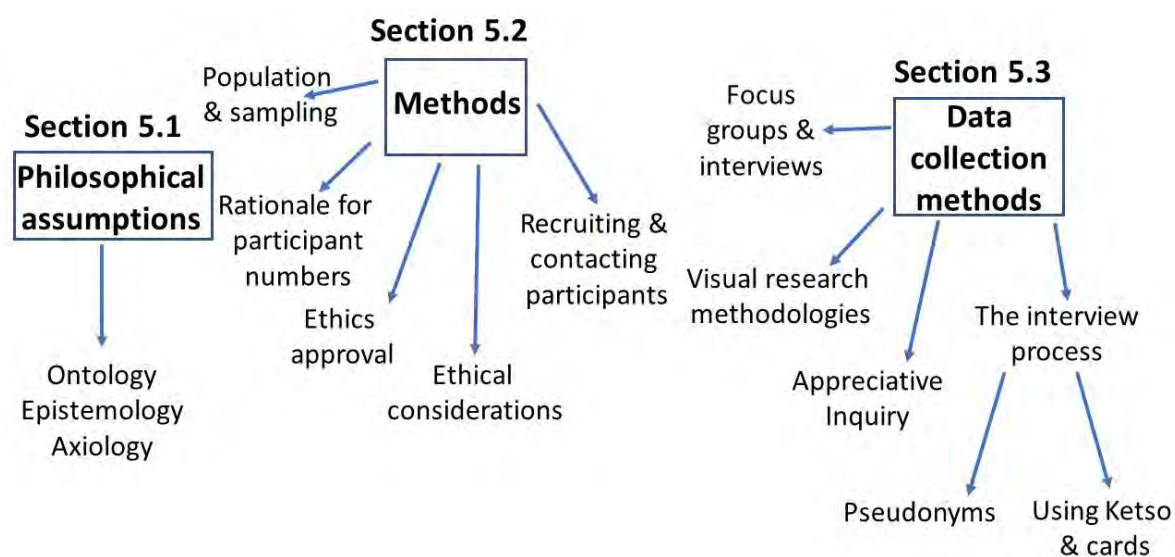
The following outlines the sequence of events that the research process followed.

The documentation for ethical approval required detailed consideration of key aspects of the research design. The population was established by considering a range of inclusion criteria (detailed in section 5.2.1) and comprised student nurses in the 3rd year of both Adult and Mental Health programmes, and nurse lecturers who teach on the BSc Programme. At this stage, consideration was given to the desired numbers of participants in each group (section 5.2.2) and the methods of recruiting and accessing the samples (detailed in sections 5.2.3 & 5.2.4).

These details were included in the ethics application, as were the proposed approaches to data collection and data analysis. Recruitment began after ethical approval had been granted from both the awarding university and from my employing institution. Access to both sets of participants was granted from the Head of School in the first instance and each Programme Leader who had responsibility for the Adult and Mental Health programmes (detailed in section 5.2.3). Lecturers were the first group to be contacted

firstly through informal conversation and then via email. Contact with participants was made via institutional email and the Participant Information Sheet and Topic Guide were attached.

Recruitment and data collection for the nurse lecturers took place within a three-month period. This was followed by recruitment and data collection with student nurse participants, which took place over six months and was scheduled during periods when students were not on clinical placement.

Section 5.3 details the data collection methods and procedures. All data collection took place within university premises. Eleven interviews were conducted with nurse lecturers, whilst two focus groups and one interview were held with student nurses. Prior to data collection commencing, consent was obtained and participants were invited to choose a pseudonym. The interview and focus groups adopted an appreciative approach to questioning. Visual research methods were used in the form of Ketso and two sets of cards. The first set of cards named the constructionist pedagogies used within the classroom setting whilst the second set contained collaborative working skills. Each interview and focus group were audio recorded and followed the same structure including the use of visual research methodologies (detailed in section 5.3.1, 5.3.2, 5.3.4). In this research, the principles of appreciative inquiry guided the co-construction of data. A reflective journal (detailed in section 5.3.7) was used because it provided a structured platform for me to document insights and track the evolving dynamics of my thoughts, fostering self-awareness and methodological refinement throughout the research process.

The data sources included the transcribed audio recordings, Ketso and my reflective journal. Each of these sources were used to shape the data analysis, detailed in Chapter 6. With the foundation laid by the thorough analysis of transcribed audio recordings, Ketso outputs, and my reflective journal, the writing up process commenced, weaving together key findings and insights to present a narrative in Chapters 7, 8 and 9.

Revisiting the research questions

At this point, it is helpful to revisit the aim of the study and the three research questions. This establishes the framework for Chapters 5, 6, and 7, which detail the essential stages involved in researching constructionist pedagogies. The research questions connect previous chapters on social constructionism, constructionist pedagogies, collaborative skill development and student preparedness for professional practice.

The study aims to explore how the collaborative learning features of constructionist pedagogies, said to manifest in classroom practices, contribute to the development of student nurses for practice. The three research questions developed to support this broad aim are:

1. What does collaborative learning mean to student nurses and nurse lecturers?

2. In relation to developing skills for practice, what collaborative skills do student nurses and nurse lecturers associate with classroom-based constructionist pedagogies?

3. In what ways can collaborative pedagogies be enhanced in the pre-registration programme to maximise the development of collaborative working skills for practice?

Section 5.1: Adopting a social constructionist stance for investigating collaborative classroom pedagogies

As detailed in Chapter 1 (section 1.2), the theoretical and conceptual framework associated with the study is informed by social constructionism, which emphasises the role of interaction, relationships, cultural-historical influences and dialogue. A social constructionist methodology was adopted and the philosophical assumptions and justification for the choices and decisions made about all aspects of the research were guided by this

perspective. I now turn to the ontological, epistemological and axiological considerations that shaped my investigation of constructionist pedagogies.

5.1.1: Ontology

Ontology is concerned with beliefs about reality, or the existence of objects, or social phenomena, their characteristics and inter-connectedness (Creswell, 2013; Kivunja and Kuyini, 2017). According to Ponterotto (2005), ontology addresses questions of the form and nature of reality and what can be known about that reality. The ontological assumption underpinning social constructionism is that reality is socially and culturally constructed through interaction with others and objects (Crotty, 1998): because individuals have their own unique perspectives on phenomena, multiple interpretations are said to exist (Gergen, 2015). Following this, perceptions of collaborative classroom pedagogies are subjective; as a result, there is no ultimate truth or singular perspective, only interpretations. This is significant for my inquiry since I am interested in eliciting a range of perspectives on constructionist pedagogies.

5.1.2: Epistemology

Epistemology refers to the study of knowledge, how it can be acquired and the relationship between the knower (research participant) and the would-be knower (the researcher) (Ponterotto, 2005; Schommer-Aikins and Easter, 2014). Chapter 3 detailed the role of social constructionism as a learning theory and illustrated the process of knowledge development. From this perspective, learning is regarded as a collaborative process where knowledge is constructed by individuals interacting within their culture (Berger and Luckmann, 1966). In this study, my epistemological beliefs about how people learn also reflect my approach to investigating knowledge. In line with social constructionist principles, just as interaction such as dialogue and relationships are key elements of knowledge development, they are also central to investigating student nurses' and nurse lecturers' perceptions of constructionist pedagogies. In this study, perceptions are

taken to reflect a person's knowledge about constructionist pedagogies. This is because, in this study, perceptions are defined as thoughts that result from thinking, as knowledge construction and inquiry occur simultaneously (Rock, 1985). These thoughts are expressed in words and when participants pass on their perceptions, they are expressing their understanding and knowledge of constructionist pedagogies. Thus, the optimum way to investigate knowledge about collaborative classroom pedagogies is to adopt a collaborative approach to inquiry.

As perceptions are linked to thoughts and speech, talking-related qualitative data collection methods were adopted (specifically, interviews and focus groups), employing an appreciative approach alongside Ketso. Whilst I was mindful that my interactions with participants could impact on the knowledge obtained, rather than limit the influence of personal beliefs and values, I explored and embraced them. In this study, where dialogue and Ketso were employed, closeness to participants was crucial in helping me to explore meaning and gave access and insight that may not have been available to another researcher.

5.1.3: Axiology

Axiology refers to the role of the researcher's values and beliefs in the research process (Creswell, 2013; Kivunja & Kuyini, 2017). Contrary to the positivist approach, the adoption of social constructionism suggests a researcher's values and experiences cannot be divorced or eliminated and should be reflected in the chosen methods (Creswell, 2013). Informed by social constructionist principles, my values and beliefs are explicated throughout the thesis guided by, and aligned to, my personal and professional belief system and multiple subjectivities. The lens I am employing in this study has been made as open as possible so that readers can compare my actions and judgments to their own.

Section 5.2: Methods

5.2.1: The study population and sampling

To address the research questions, the number and characteristics of the population should be defined and understood (Cohen et al., 2011). For this study, and as detailed in the section immediately below, student nurses in year 3 of their programme and nurse lecturers were identified as appropriate participants to uncover perspectives about constructionist pedagogies. For reasons of logistics, expense, time and accessibility I drew a purposeful sample of seven student nurses and eleven nurse lecturers. Gray et al. (2017) and Creswell (2013) suggest purposeful sampling allows researchers to select individuals because they understand the central focus of the research. I purposefully chose participants since my epistemic viewpoint was that they might possess knowledge regarding collaborative pedagogies.

Whilst the purposeful sample was not necessarily representative of the entire population of year 3 students and nurse lecturers, given my ontological position it was appropriate to give voice to multiple interpretations and to accept the time-bound nature of participants' contributions. I also wanted to capture the perspectives of these specific groups so that the study's findings would be useful at a local level. This is because year 3 student nurses and lecturers have more experience with the curriculum in terms of learning and teaching and their insights might help to shape future pedagogical practices.

Inclusion criteria – student nurses

Students pursuing a BSc in Adult or Mental Health Nursing in their third year (final year) were invited to take part. This group was chosen because of their exposure to constructionist pedagogies. Compared to students in earlier years of the programme, year 3 students had undertaken the widest range of opportunities to learn, develop and practise the skills associated with constructionist pedagogies. Year 3 students had engaged in at least six clinical placements and completed at least 1,425 hours in clinical practice and 1,200 hours on theoretically related activities. Moreover, each student

had been exposed to a variety of constructionist pedagogies, integrated within each theoretical component in the university environment.

Inclusion criteria - nurse lecturers

Nurse lecturers who taught on the BSc Adult and/or Mental Health pre-registration nursing programmes, were members of academic faculty and had a recognised teaching qualification recorded by the NMC, were invited to take part. Due to the collaborative way the BSc programmes and individual modules are developed and delivered, lecturers from all four campuses within the university were invited to participate. Lecturers teaching directly in pre-registration programmes were selected for three principal reasons. Firstly, both programmes prepare students for professional nursing practice and this was the area of interest. Secondly, a range of constructionist pedagogies are embedded throughout each of the pre-registration programmes to which every lecturer contributed. Thirdly, as more lecturers taught on the pre-registration programmes than any other programme within the School, there was a greater chance of recruiting the required number of participants to ensure the viability of the research project.

5.2.2: Rationale for the number of participants

Malterud et al. (2016) suggest that the more information the sample holds, relevant to the actual study, the fewer participants are needed. In addition to cost and time, other aspects considered included student preference for group or individual interview, timing of data collection and potential for attrition. I initially proposed a sample of twenty students and twelve nurse lecturers. For personal reasons, it was not possible to carry out data collection with the student groups at the allocated time. The data collection period was reduced from eight weeks to a one-week period which meant that, due to practical and time constraints, students from all campuses could not be included and the decision was taken to include students from only the campus where I teach. Bowling (2014) suggests that identifying the best time to collect data is an important factor in motivating people to participate. Knowing that students may not want to negotiate time off from placement or

give up their free time to travel to campus, data collection was rescheduled to take place during a study week. This was the best option available because previous studies carried out within the School had found that students were more willing to participate in optional group work activities (including research studies) when they were scheduled during a theory or study period.

Promoting fairness of opportunity to participate was the main reason for initially including students from all campuses. However, as the aim of the research was to gather a range of perspectives, I was confident this could still be achieved with the number of students involved. A focused research aim, coupled with purposeful sampling, still ensured that those holding knowledge and experiences of constructionist pedagogies were included.

5.2.3: Ethics approval, accessing and recruiting participants

Ethics approval

An important aspect of the research process was negotiation of access to the sample (Bryman, 2016). Knowing how and when to approach people was crucial in achieving cooperation: discussions with key staff took place before and after formal permissions had been gained. Ethical approval was sought from the University of Strathclyde School of Education Ethics Committee. After this approval, gatekeeper access to my own institution was sought and gained. Information about the study and confirmation that necessary permissions had been awarded were provided. A copy of the email sent to students (appendix 1) and lecturers who met the inclusion criteria (appendix 2), along with a copy of the Participant Information Sheet relevant to them (appendices 5 and 6)**,** were included. This was also an opportunity for senior staff to highlight any potential challenges that might emerge during the data collection period. It was only after approval was granted that an invitational email was sent to students and nurse lecturers who met the inclusion criteria detailed above.

5.2.4: Recruiting and contacting participants

Invitations were extended to students from one campus (n=175). To meet the criterion of fair participant selection (Gray et al., 2017), all students meeting the inclusion criteria (n=175) were contacted via their university email address (appendix 1). I explained the purpose of the research, my role as a student researcher, data collection methods, contact details, time of interviews and the voluntary nature of their contribution. Nurse lecturers from all sites and both fields of practice were recruited in person, firstly through informal conversation and then via email (appendix 2). My aim was to recruit fifteen out of a possible seventy nurse lecturers.

Potential participants then received information essential for consent (Gray, et al., 2017); the Topic Guide (appendices 3 and 4) and Participant Information Sheet (PIS) (appendices 5 and 6) were emailed to them. The PIS was developed in accordance with the University of Strathclyde's School of Education's ethics procedures. The Topic Guide and PIS were designed to assist them to make an informed decision on enrolment in the study. The information was designed to enable potential participants to prepare for the interview and foster a more equal relationship between me and the participants.

A total of seven student nurses and eleven Nurse Lecturers participated in the study. The number of participants and demographic data included in my study are presented in Section 6.4.

5.2.5: Ethical considerations

Attention to ethics permeated all aspects of the study. I was concerned to safeguard and protect the interests of participants (Creswell, 2013), and also myself, as an individual, student researcher, nurse and educator. Ethical guidelines produced by the Scottish Educational Research Association (2005), the British Educational Research Association (2011) and *The Code* (NMC, 2018a) were followed throughout the study. Collectively, these guidelines outlined my responsibilities as researcher and nurse in terms of

respect for the person, knowledge, democratic values, the quality of academic research and academic freedom.

Whilst anonymity of the participants was not possible at every stage of the study due to the face-to-face nature of the focus groups, confidentiality was upheld in reporting the findings, verbally and in writing. Participants knew that direct quotes might be used in any reports, conferences or publications. The use of pseudonyms where the researcher renames the participants is common (Bryman, 2016), but in this study, participants were invited to rename themselves (refer to Chapter 5, Section 5.3.5). These measures addressed issues of confidentiality and promoted a sense of personalisation; further, it worked to redress power dynamics between the participants and me. It was not possible to anonymise my institution due to the hyper-connected environment of nurse education, the fact that my name and place of employment are easily accessible, and the need to specify contextual aspects of the BSc programmes.

Ethical issues associated with focus groups / interviews

Several ethical issues impacted on the interview techniques; these arose from the data collection approaches and my status as both insider and outsider (Simmons, 2007). Given my role as a nurse lecturer, I already had a relationship with all participants. As a lecturer interviewing other nurse lecturers, I regarded myself as an insider because we shared a common job and I was able to apply those insights to my research. I saw myself as an outsider in respect to the student nurse group because I had no prior experience as a learner in this field. Throughout my research, I was cognisant of issues of reflexivity, drawing on guidance and comments from my academic supervisors, senior colleagues, others who had conducted similar work and academic literature. Perhaps being a nurse, I was particularly drawn to the three guiding principles of connectivity, humanness and empathy (CHE), put forward by Brown and Danaher (2019). Figure 9 illustrates several power-related aspects addressed with the participants. The descriptions held within the eight small shapes reflect and categorise the

actions I undertook to address relational power between myself as researcher and as their lecturer and participants.

Figure 9: The eclectic approach, guided by *CHE, to moderate the power imbalance

- ***Connectivity** – Initiating rapport - gaining entry/consent attentiveness and acknowledgement
- ***Humanness** – promoting and valuing reciprocal symbiotic relationships
- ***Empathy** - rapport-building, reflected in all contact and at all stages, e.g. documentation (participant information sheet, invitational emails) demonstrating gratefulness and thankfulness of the privilege of being invited into a participant's context and using appropriate appreciative communication practices, e.g. asking open ended questions and affirmation

While Brown and Danaher's (2019) study focused on conducting semi-structured interviews, the issues indicated in Figure 9 are more broadly applicable. I believed those principles supported social constructionism, so I incorporated CHE notions into several elements of the research, including data analysis and presentation of the research findings.

Section 5.3: Data collection methods

5.3.1: Focus groups and interviews

Social constructionists acknowledge the importance of dialogue in constructing social meaning (Burr, 2015) and, therefore, focus groups and semi-structured interviews aligned to my epistemological assumptions. Collaborative approaches using interaction and dialogue were better suited to answering the research questions as, by their very nature, they support interactions between the researcher and participants because the closeness of the relationship could strengthen the quality of the information yielded.

The use of interview-only with nurse lecturers

For logistical considerations, I decided not to hold focus groups with nurse lecturers because I was certain that enough participants could be found to provide a variety of viewpoints. I was aware of the challenges of organising staff meetings with representatives from all four campuses and both programmes. Workload responsibilities, combined with the fact that many lecturers work compressed hours, made scheduling a day when all participants could attend problematic. As travel costs were not being met by the University, I travelled to the various campuses and managed recruitment on an individual basis. Furthermore, because each participant would have more speaking time, I would be able to delve deeper into issues than I could in a focus group, as suggested by Cohen et al. (2011).

Offering both focus groups and interviews to students

Six student nurses took part in two focus groups and one individual interview was carried out (n=7). Offering a choice of focus group or semi-structured interviews fitted with my philosophical orientation and increased the likelihood of obtaining an adequate sample size to answer the research questions and permit completion of the study. I also ensured that resources were not wasted on a study that could not proceed due to lack of participants.

As focus groups and individual interviews are structured and conducted differently (Bryman, 2016; Stokes & Bergin, 2006), individuals may have preferences for different approaches (Parahoo, 2016). Whilst both focus groups and interviews asked questions about experiences and perceptions of collaborative working, participants in focus groups had less speaking time than those in individual interviews. Focus groups often let participants ask and respond to questions of each other and make comments (Creswell, 2013). I considered that some students would find the group culture supportive, and having another person present might reduce the pressure as participants would not have to answer every question. Moreover, I felt that the interaction might help to stimulate discussion; the study would therefore benefit from a broader range of perspectives than if undertaking interviews

only (Bowling, 2014; Polit & Beck, 2017). The use of multiple subjects at one time during the focus group may, however, limit the researcher's ability to explore each participant's thoughts in as much depth as possible during interviews (Bowling 2014; Bryman 2016). Despite this, the benefits of using both approaches in terms of depth and range of perspectives outweighed those limitations.

5.3.2: Visual research methodologies (Ketso and cards)

Wall et al. (2012) reported that the use of visual research methodologies (VRM) in educational research is increasing. VRMs offer flexibility, as they arguably elicit different things than the spoken word and their selection depends primarily on the research topic, experience and preferences of the researcher (Hicks, 2018; Rose, 2012). In this study Ketso, an activity-based data collection method, and two sets of cards were used to mediate discussion. Ketso has been used in many different settings (Tippett & How, 2011), including UK universities. Portable and reusable, Ketso comprises several coloured shapes, such as different coloured leaves (which can be written on using water-based pen), icons (such as exclamation marks and ticks), oval centre pieces and branches, which can be securely placed on a felt mat. Figure 10 shows the various components of the Ketso. The centre piece (or trunk) and branches were arranged similarly for each interview.

Figure 10: Various components of Ketso

Hicks (2018) suggests that participatory visual methods mediate power relations between participant and researcher by helping to reduce pressure and improve participant interactions, for example by breaking up the structure of the interview. Engaging in an activity may potentially induce a sense of relief and reduced scrutiny among participants in contrast to a method involving continuous and direct questioning. Moreover, engaging in an activity also encourages participants to take necessary thinking time by reducing the pressure to give a verbal answer immediately. By providing a non-confrontational environment, interactive visual approaches along with the guiding principles of connectivity, humanness and empathy (including the use of humour), helped to create a safe space for participants and myself to discuss their perspectives on constructionist pedagogies.

Another VRM, cards, was used in addition to Ketso. One set of cards contained the names of constructionist pedagogies while the other set focused on collaborative working skills (see lists 5 and 6). According to Mannay (2013) artefacts such as the contents of the Ketso and cards do not exist in a vacuum and are based on the researcher's experiences and background. In my study, the terms used on both sets of cards reflected personal experience of nurse education and nursing practice and exposure to the everyday language within the field. The terms also aligned to the academic literature pertaining to nursing in Higher Education and professional literature such as *The Code* (2018a) and the *Standards of Proficiency for Registered Nurses* (NMC 2018e).

List of cards depicting the names of constructionist pedagogies used in the classrooms within my workplace (see Glossary)

- Classroom based group discussions
- Low-Fidelity Simulation
- Skills Classes
- Classroom-based groupwork set by the module team
- LT Kura Cloud,
- High-Fidelity Simulation
- Role-Playing

List of cards depicting the name of collaborative working skills (CWS)

- Reflection skills
- Negotiation skills
- Self-regulation skills
- Communication – verbal/non-verbal
- Critical thinking skills
- Technical skills
- Diplomacy skills
- Assertiveness skills
- Confidence skills
- Compassionate skills
- Conflict-negotiation skills
- Consensus reaching skills
- Knowledge skills, e.g. about a topic
- Problem-solving skills
- Decision-making skills

It was important that flexibility was available to interviewees to enable their contribution to reflect their personal perspectives as much as possible: therefore, the constructionist pedagogies and the collaborative working skills listed on the cards were not necessarily mutually exclusive. The constructionist pedagogies could stand alone or be used in a combined approach in any given session. During a skills session, for example, role play, discussion and group work could all be applied. Presenting them individually gave participants the opportunity to disentangle their preferences and explore what they considered to be most relevant. This was also applicable to the list of collaborative working skills, where individual skills might be seen to be connected to others as addressed in Chapter 3 (section 3.2.2), which acknowledges the interdependence of skills.

Skills Development Scotland (2018), the *Standards of Proficiency for Registered Nurses* (NMC, 2018e), academic literature on nursing, and programme documents such module descriptors were among the sources from which the list of skills was compiled. Despite being aware the definition

or understanding of what constitutes a skill may be contested (as outlined in Chapter 3, section 3.2.2), a central guiding principle in the selection process was the inter-connectedness of the chosen skills with collaborative working. Moreover, I purposefully avoided including a lengthy list of options as I believed this could lead to information overload, making it challenging for some participants to process and understand all the options. I was also aware that, during the interview, I would make it clear to participants that they could include other skills which, for example, they regarded as teamworking skills. This aimed to empower participants to explore beyond the initial options and communicates that their preferences are valued.

The inherently participatory nature of Ketso, coupled with the use of both sets of cards, aligned with my social constructionist philosophical orientations. Firstly, like interviews themselves, use of Ketso and cards was inherently collaborative. Relationships feature strongly in social constructionist research (Gergen, 2015), and Ketso along with a combination of other approaches (such as AI and asking participants to name themselves), support relationship development. Asking participants to write on the leaves and place them on the felt aimed to encourage a degree of control during the data collection process, thus reducing researcher dominance as I aimed to secure a more equitable power differential. Additionally, by highlighting participants' representations of their information, the use of VRMs might stimulate discussion of topics that might not be raised during talk-only interviews and thus could potentially provide alternative or different insights that may be hidden, or represent implicit knowledge in everyday practice (Hicks, 2018; Pain, 2012; Rose, 2014). The use of haptic and visual dimensions complemented the interview process. By working with hands and eyes, participants could create something different from just speaking and I felt this could facilitate discussion of participants' reality of constructionist pedagogies. In the pursuit of exploring perceptions, it was crucial to understand participants' viewpoints and identify what held significance for them. Using Ketso, along with the two sets of cards, could

potentially foster deeper contemplation compared to conventional interview methods.

The choice of cards and Ketso was influenced by other factors. In prior studies, I had used cards successfully (Douglas, 2004), plus I had participated in work-related evaluation and curriculum development activities that used Ketso and considered it helpful in generating discussion and exploring ideas. Ketso had already been used by colleagues, so help and guidance were easily available.

5.3.3: The Appreciative Inquiry (AI) approach to interviews

I adopted an AI approach to asking questions during the focus groups and semi-structured interviews. AI was developed in the late 1980s as an approach to organisational change and development (Ridley-Duff & Duncan, 2015; Sharp et al., 2018; Stavros & Torres, 2008), and is now increasingly used in both educational research and clinical practice (Dewar et al., 2020; Scerri et al., 2019; Sharp et al., 2018; Stulz et al., 2021). AI is a strengths-based approach, relying on interactive techniques such as group discussions and interviews (Cooperrider & Whitney, 2005; Dewar & Sharp, 2013; Shuayb et al., 2009; van der Haar et al., 2004). It starts by appreciating the strengths of a system, process or organisation and is also known as the 4D model, which comprises Discovery-Dreaming-Designing-Destiny (Watkins et al., 2011) or the 4I model, reflecting Initiation-Inquiry-Imagination-Innovation (Ridley-Duff and Duncan, 2015). Figure 11 outlines the components of the 4D model. The stages of the 4D Model can be summarised as follows: Discovery, which involves identifying positive aspects and strengths; Dream, which concentrates on imagining a positive future; Design, which involves creating plans based on strengths and aspirations; and Destiny, which involves putting plans into action to make the imagined future a reality (Cooperrider et al., 2008)

Cooperrider and Whitney (2005, p.8) define AI in the following way:

In AI, intervention gives way to inquiry, imagination, and innovation. Instead of negation, criticism and spiralling diagnosis, there is discovery, dream and design. AI involves the art and practice of asking unconditionally positive questions that strengthen a system's capacity to apprehend, anticipate, and heighten positive potential. (Cooperrider & Whitney, 2005, p.8)

This research differed from traditional AI approaches as it focused mostly on the Discovery stage and was not positioned within the remit of organisational change. While the Dream and Design stages are highlighted in Figure 11, they are not as prominent because my study had a one-time research-focused relationship with participants rather than an on-going participatory contribution centred on organisational reform. The Discovery stage focuses on the positive features of constructionist pedagogies, while the Dreaming stage is concerned with imagining what constructionist pedagogies might be in the future, and the Design stage is concerned with how they might be crafted. Most of the interview questions related to the Discovery stage. The final interview question, which focused on the third research question, was more closely associated with the Dream and Design stages. Figure 11 illustrates the relationship between my research and the stages of the AI 4-D cycle.

Figure 11: The 4-D cycle of Appreciative Inquiry in respect of my study and the research questions
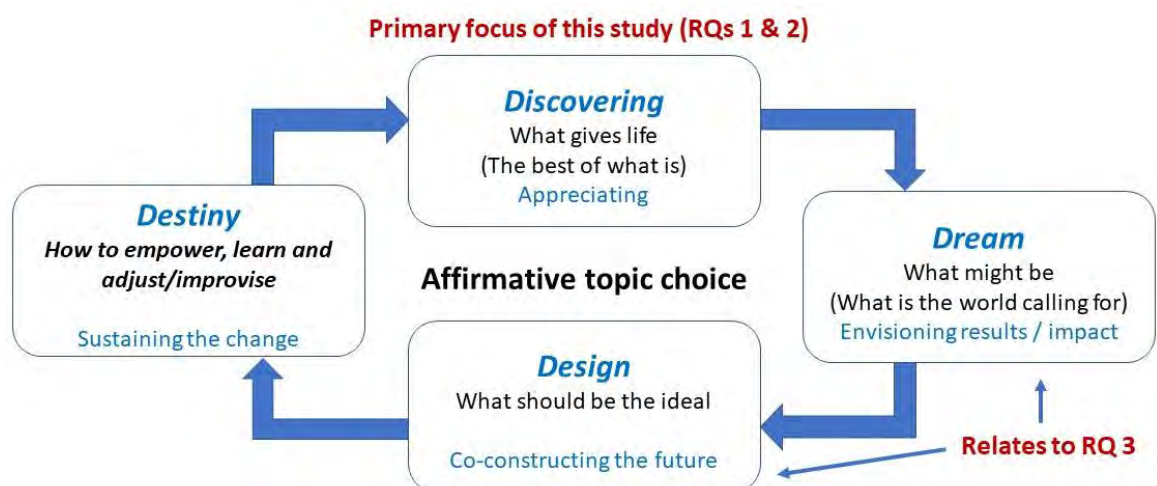
(Modified from Cooperrider & Whitney, 2005, p.16; Watkins et al., 2011, p.86)

AI was chosen for reasons concerned with generating an understanding of the role of constructionist pedagogies in relation, firstly, to the development of collaborative working skills of student nurses and then to strengthening the potential of constructionist pedagogies. Acknowledging the importance of past achievements shaped the design of the interview schedule, detailed in appendices 7 and 8. Participants, for example, were encouraged to reflect on their successful experiences of collaborative learning and pinpoint the factors that played a role in their success. As this was an EdD and the focus was on potentially developing constructionist pedagogical practice, each interview question, except the last, aimed to uncover the strengths associated with constructionist pedagogies. The final interview question related to the future (Dreaming stage).

My decision to adopt an AI approach was based on five principles, all congruent with the aims of the study, originating directly from Cooperrider and Whitney's (2005) work and offering a good fit with my research:

1. Its underpinning social constructionist philosophy (Gergen, 2015; Cooperrider & Whitney, 2005) aligns with my philosophical orientations as explored in Chapter 2. By asking questions and interacting with others in the activity I could explore participants' viewpoints, obtain a wide range of views and recognise similarities and differences. Knowledge and understanding (reflected in participants' perceptions) of constructionist pedagogies are historically and culturally relative, so the approach to data collection fitted my ontological assumptions, as discussed throughout the thesis.

2. Simultaneity is a second AI principle: the very act of asking questions is an intervention. Through professional and personal experience, I strongly believed that inquiry through interaction could initiate change. According to Reed (2007), the way a question is phrased provokes introspection, which can lead to new ways of thinking and acting. In this study, participants were asked questions on positive experiences, which opened up a new way of thinking about and acting in relation to constructionist

pedagogies. An AI method could aid in improving a person's ability to comprehend and hence learn more about a subject. Asking questions like 'What type of collaborative activities do students engage in the most?' or 'What type of collaborative activities do you particularly like facilitating?' can help people investigate and potentially challenge or broaden their thinking. One of the research questions relates to the future development of constructionist pedagogies, so I wanted to provide an opportunity for participants to reflect on the good features of constructionist pedagogies.

3. The poetic principle, which emphasises that individuals are continually composing their reality as they interact with it, is the third AI principle. People's stories are valued by AI since it stimulates dialogue and listening (Michaels, 2005). This research gives opportunities for others to appreciate alternative interpretations and perspectives of collaborative classroom pedagogies.

4. The anticipatory principle posits that representations of the future impact upon how individuals move toward it. If people see possibilities, they will move towards them. By framing questions with affirmative language, participants were encouraged to recognise the benefits of constructionist pedagogies and suggest ways in which they could be developed. For example, I asked nurse lecturers the following question: 'Thinking about the future and, in particular, our new curriculum, can you think of anything that could be introduced or done differently to make collaborative learning in the classroom more successful or helpful as a way of helping student nurses prepare for practice?'

5. The positive principle is linked to the anticipatory principle because it aims to engage individuals more deeply with nourishing and energising thoughts and images. For instance, I asked student participants to 'Tell me about instances in university when you were working with your classmates and were excited about a subject?' Also, 'Can you remember when you were in a certain class for a specific subject and working with your colleagues at university – can you tell me what you liked about it?'

The limitations of AI must be acknowledged. It has been accused of focussing on the positive and ignoring the negative or difficult aspects or experiences (Bushe 2007; Fitzgerald et al., 2010). According to Ridley-Duff and Duncan (2015), potential learning opportunities may be missed if negative experiences are overlooked because individuals do not get a chance to discuss difficult situations, experiences or emotions. However, this is countered by studies by Fitzgerald et al. (2010), Jones and Masika, (2021) and Michaels (2005) which show the potential role of AI in exploring both negative and positive aspects. The exploration of what is good can, paradoxically, create an awareness of what may not be working well; Fitzgerald, et al. (2010) refer to this as a 'shadow process', suggesting that the illumination of strengths simultaneously highlights an awareness of those whose work or behaviours are not being affirmed. In this instance, an AI approach has the potential to recognise good work that has previously gone unrecognised and uncelebrated.

5.3.4: The interview process

Each interview took place within university premises and followed the same format. Participants were asked to review and consent to participation. Whilst I have distinguished between focus groups and semi-structured interviews above, as both followed the same format, the term 'interview' will now be used to refer to both. A copy of the consent forms is provided (appendices 9 and 10). To minimise possible interruptions, an 'engaged' sign was placed outside the door. Consideration was given to the temperature and lighting of the room as well as access to toilets. The interview schedule (appendices 7 and 8) outlines the arrangements made before participant(s) arrived and at each stage of the interview. Each interview was audio recorded and ethical guidelines (as set out previously) were followed.

5.3.5: Using Pseudonyms

At the outset of the interview, each participant was invited to choose a pseudonym; this upheld my axiological viewpoints of value and respect for others. I had read several qualitative research studies with numeric/alphanumeric pseudonyms and had not connected with them as well as with those using names. The assigning of numbers to participants seemed impersonal and distant, and conflicted with my principles regarding researcher-participant interactions. Allen and Wiles (2015), discussing the considerations associated with self-naming, discovering that power, voice and study output were all influenced. Furthermore, the underlying values of connectedness, humanity, and empathy, which Brown and Danaher (2019) argue are guiding principles when employing semi structured interviews, influenced my decision.

Encouraging participants to create their own pseudonyms served as an icebreaker as well, since it facilitated conversation and humour and elicited some meaningful replies that provided insight into the personalities of my participants (or how they saw themselves). For example, a playful approach was presented by some: two students decided to call themselves Meghan and Kate, as the research was taking place near the time of a royal wedding, whilst students in the other focus group named themselves Blanche and Rose after two characters in the 1980s sitcom *The Golden Girls*. Conversely, staff members selected pseudonyms associated with their family, with some choosing significant family names such as a partner, sibling, child or favourite aunt. By adopting their own pseudonym, participants could identify their contribution from any published materials if they so desired.

5.3.6: Using Ketso and cards depicting constructionist pedagogies and collaborative working skills

Ketso was used as a tool to record something from all the interview questions. Each question was aligned to the research questions and the wording was based on an AI approach. An upbeat, positive, grateful, friendly

and interactive approach, using affirmative language, was adopted before, during and after each interview.

In addition to the interview schedule, the data collection method was also guided and mediated by Ketso. Figure 12 presents a diagram of the Ketso before the interviews took place and was prepared in advance of each interview. In keeping with an AI methodology, using affirmative words or phrases, the questions from the interview guide (see appendices 7 and 8) were summarised and placed on each of the branches in a clockwise way. The numbers 1–7 were written on the smaller oval shaped pieces as shown in Figure 12. This matched the sequence in which the questions were asked.

Figure 12: Ketso prior to data collection – showing the trunk and its branches along with the main areas discussed during each interview
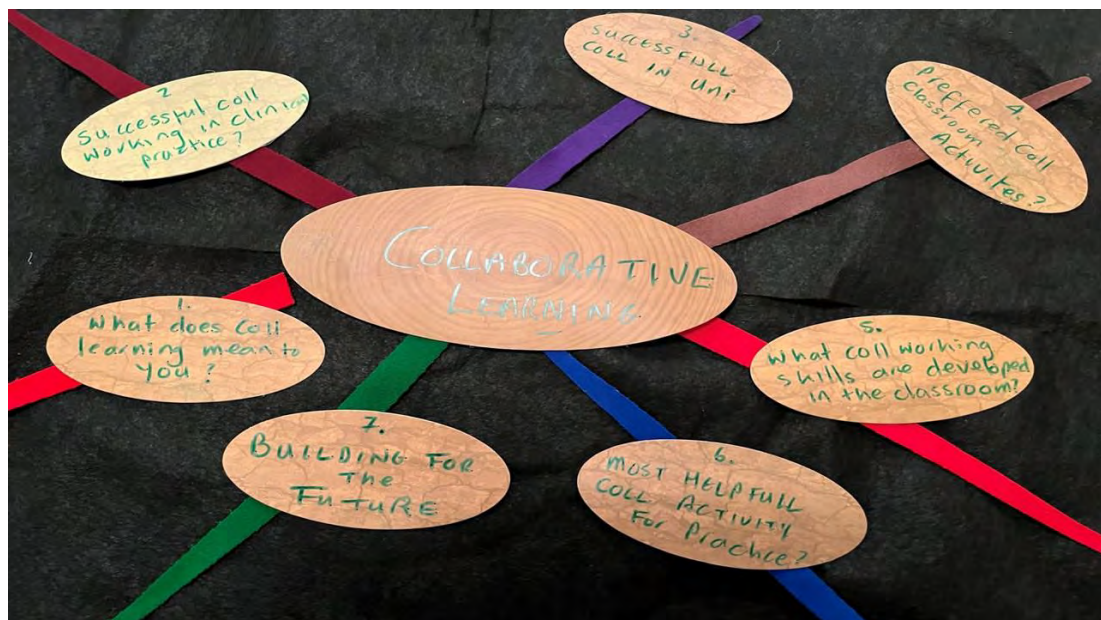
Participants were encouraged to write responses to questions on leaves and place them on the felt. Midway through the session, the two card-based activities were used. First, participants were introduced to the cards depicting constructionist pedagogies (detailed on p. 146) and asked to select which they preferred. Each of the constructionist pedagogies depicted on the cards was chosen because they reflected the five key characteristics of constructionist pedagogies as detailed in Figure 4 (p. 70). In recognition of

the participants' terminology, the term 'collaborative pedagogy' was used in place of constructionist pedagogies, implying that collaborative pedagogies could be viewed as a substitute or proxy for constructionist pedagogies.

I explained that the list was not exhaustive and participants were encouraged to add to it. This was an opportunity to articulate their perspectives on what was relevant but was also an admission by me that I did not hold all the answers and that I required their help to fill gaps in my understanding. Conscious of the power dynamics and the potential impact on the quality of the data collected, this was a further attempt to balance the power between myself and the participants. Several participants added to the list: this perhaps reflected the empowerment that they felt, as they were able to react to the hegemony of the prescribed list of pedagogies.

Once participants had discussed and recorded their preferred constructionist pedagogies, I introduced a second set of cards depicting the range of collaborative working skills (detailed on p. 147) to explore the relationship between collaborative constructionist pedagogies and preparation for practice. Participants were encouraged to focus on those collaborative working skills that they felt the constructionist pedagogies could help to develop. As in the list of constructionist pedagogies, participants were encouraged to identify additional skills; I explained that the skills shown did not represent an exhaustive list and that no limit would be placed on the number selected.

During the interviews, the participant(s) and I visually referred to the Ketso and this made me more confident in my questioning. For some participants, taking part in interviews may be stressful (Anyan, 2013; Brown & Danahar, 2019) and maintaining eye contact may be difficult at times for participants and researcher. I hoped using Ketso and the cards would reduce some of the tension that may arise during interviews, and I valued the opportunity for participants and myself to gaze away from one another.

Figure 13 illustrates a completed Ketso, illustrating the volume of material elicited during discussion. Additionally, the quantity of information presented reveals the extent to which physical involvement occurred, allowing for a reduction in the process's intensity. Figure 13 presents a completed Ketso which has been populated with the written words from participants.

Figure 13: Completed Ketso

Participants were invited to review the Ketso at the end of the interview and were asked if they wished to make any changes. Using a celebratory and grateful approach, I used participant responses as a springboard for subsequent conversations and a way to reassure myself that the data reflected participants' perspectives at the time. Wall et al's. (2012) research revealed the valuable contribution the visual element could make in demonstrating new perspectives. In this study, asking participants to step back and reflect on their Ketso was often met with surprise and enthusiasm. This approach aligned to the appreciative approach by reflecting the simultaneity, poetic and positive principles outlined in section 5.3.3.

5.3.7: Using a reflective journal

Within eight hours of data collection, I listened to the recording of each interview alongside the completed Ketso. At the same time, areas of interest, such as my level of confidence in replying to questions, as well as particularly intriguing comments or phrases, were added to my reflective journal. As suggested by Bryman (2016) and Creswell (2013), it was helpful to record ideas and memories as I was aware of the potential for losing some of this as time passed. As I carried out more interviews, I actively contrasted and compared what previous participants had said with the new data; the notes acted as aides-memoires during the analysis process and helped guide later interviews. I adapted several elements, such as re-ordering some of the sub-questions, rephrasing wording of questions, and using examples to explore participants' perceptions of constructionist pedagogies. Those changes were made to enhance the clarity of the questions and to ensure that the subsequent responses reflected participants' perceptions.

5.3.8: Impact of Ketso and AI on the research: Personal reflections

In line with the reflexive stance taken throughout this thesis, it is appropriate to offer a personal assessment of the impact of Ketso and AI on the research. Overall, the combination of methods had a beneficial impact, achieved by encouraging involvement, giving a visual representation of data, fostering collaboration, facilitating data collecting, supporting an appreciative inquiry approach and improving the overall quality and rigour of the research process. My perception is that the positive atmosphere cultivated by the integration of Ketso and AI contributed to a broad sense of appreciation among participants. Feeling valued, in this context, extended beyond individual recognition to encompass the shared experience of being part of a positive, collaborative and constructive research space. By using this dual approach, I was able to recognise the collective worth of participants and emphasise the importance of their active involvement in creating a positive research environment.

Ketso encouraged collaborative thinking and open communication among participants through its design and interactive hands-on use. For example, participants shared ideas, built on each other's contributions and worked together to generate insights, fostering a sense of collective ownership in the research process. Further, as participants wrote their responses and could physically manipulate the leaves and branches, this facilitated a more dynamic and participatory environment. This engagement led to rich and diverse contributions from participants.

The use of Ketso also complemented the AI approach. As I used positive words on the branches this supported and reinforced the questions used in the interview guide (which were also couched positively). The structure of Ketso facilitated the identification and visualisation of these positive elements, therefore aligning well with the AI philosophy. Furthermore, as all responses were documented on the leaves, this appeared to help participants to acknowledge and enhance the existing strengths within the research context. In contrast to interviews that do not employ this textual recording, this feature also enabled participants to gain a comprehensive view of all responses.

Using Ketso contributed to the quality and rigor of data collected in a number of ways. Firstly, the interactive and hands-on nature of Ketso led to more thoughtful and reflective responses from participants. The physical engagement with the tool encouraged participants to express their thoughts deeply, potentially leading to a richer understanding of the subject matter. This contrasts with more passive data collection methods where participants might not be as actively engaged or reflective in their responses. Secondly, as discussed in section 5.3.2, I used the branches to record questions which were arranged in a clockwise direction. This promoted a consistent approach to data collection and ensured that all questions were answered. Additionally, the sequential arrangement of questions and responses supported the emergence of a coherent picture, supporting my understanding of the evolving narrative. Thirdly, the structured layout of Ketso helped me to

synthesize and organise the collected data, then to triangulate it with the recorded transcripts and my reflective journal. The visual representations created during data collection helped to identify patterns, themes and relationships, supporting a more structured and insightful synthesis process.

Beyond the influence that the use of Ketso and AI had on the research itself, its application significantly affected me personally, thereby also impacting the research outcomes. The incorporation of Ketso and AI enabled me to remain aligned with my social constructionist principles: prioritising relationships, fostering an appreciative perspective, actively involving participants and recognising the collaborative construction of knowledge within a positive research environment. This alignment not only contributed to the success of the research but also had a profound impact on my personal experience. Staying true to my principles enhanced my motivation and enjoyment of the research process. The authentic connection to my values and the positive atmosphere cultivated by Ketso and AI directly influenced my engagement, making the research endeavour not only meaningful but also enjoyable. The dynamic relationship between sticking to principles and personal satisfaction highlights how an individual's approach to research is closely connected to the intrinsic motivation it can generate. This connection ultimately enhanced the data collection component of my research experience, making it more fulfilling.

Section 5.4: Summary

This chapter explained the methodological basis of the study and provided justification for the choice of research design adopted. Furthermore, it outlined the main steps and procedures that were carried out while investigating the role of constructionist pedagogies in the development of undergraduate students. By being reflexive and open about methodological interests and concerns, I have made explicit the context within which my research was situated. This served to inform my own practice and provided

an explicit set of assumptions and commitments against which others may evaluate my research. As this study is underpinned by a social constructionist philosophy, the chapter detailed the ontological, epistemological and axiological orientations I hold, and clearly established that the approaches taken were best suited to address the aim and the research questions.

My philosophical perspectives, combined with the resources available to me, influenced the entire study. For example, part of the decision to forego using focus groups with the nurse lecturer group was motivated by financial concerns. The decision to use what are traditionally regarded as qualitative research methods and investigate the phenomenon of constructionist pedagogies through a social constructionist lens, was justified on the grounds that, when compared to alternative methods, this best responded to the research aim and questions. The use of interviews and focus groups, visual methods using Ketso and two sets of cards and adopting an appreciative approach to interviewing, was therefore methodologically congruent.

The methodological design of this study was concerned with practical and conceptual aspects and included the systems, structures and processes to enhance and demonstrate the meaningfulness of the research. However, designing and operationalising this research study was not linear and straightforward. As noted, many ethical decisions had to be taken, including navigating complex power dynamics that demanded a delicate balance. Additionally, adjustments were made to the sampling and data collection procedures in response to shifts in personal circumstances.

These issues are further addressed in Chapter 6, which focusses on data analysis, and in Chapter 7, which addresses quality criteria such as trustworthiness and authenticity.

Chapter 6: Data Analysis and Participant Demographics

Section 6.0: Introduction

The previous chapter explored the methodological choices that I made in support of my research questions and set out my approach to data collection. This chapter will outline the study's analysis strategy. While I was writing the subsequent chapters, I frequently returned to the data sources, including my reflective journal, to examine it in fresh and novel ways. In this chapter, I firstly discuss my approach to data analysis and then provide summary demographic information about my participants. Chapter 6 is divided into four sections. Section 6.1 introduces the data analysis used in this study and provides justification for adopting a pluralistic approach using Reflexive Thematic Analysis (RTA) and Content Analysis (CA). Section 6.2 gives an overview of RTA and CA. In Section 6.3, the procedures employed in carrying out RTA and CA are discussed. Following purposeful sampling (section 5.2.1), seven student nurses and eleven nurse lecturers took part in the study: demographic information is provided in Section 6.4. For the purpose of this section, the term 'interview(s)' will be used to refer to semi-structured interview and focus groups.

Section 6.1: Data analysis

When considering how best to approach data analysis, my aim was to remain rigorous and faithful to my philosophical orientations, whilst striking a balance between competing practical demands, disciplinary knowledge, word count constraints, my potential audience and my professional development as a novice researcher.

Initially, I had intended to use only the interviews as the data source, as Ketso was utilised solely to mediate the interviews. A literature review conducted by Pain (2012) to evaluate the choice and use of visual

methodologies found that visual methods enhance the richness of data and help with the relationship between the researcher and participant. Through using Ketso to mediate the discussions I felt data enhancement would be achieved because it could facilitate communication, enhance rapport building, enable the expression of emotions and tacit knowledge (the unspoken or unexpressed), and encourage reflection. Throughout each of the interviews, Ketso was used as the starting point and what was generated on the Ketso was used as a prompt for discussion. The written words on Ketso therefore afforded me the opportunity to explore the meaning of what participants meant.

However, while examining the transcripts I realised that on occasion, the interview data alone was incomplete as it did not allow me to reflect what I thought the participants were meaning. This was because some participants made reference, through pointing to the Ketso's contents without actually verbalising them. A person may have verbalised 'I really enjoyed participating in those 2' [pointing to what they had recorded on the Ketso]. I realised that some of the information recorded on the Ketso should also be incorporated as a data source to complement the participants' contributions.

During data analysis, data recorded on Ketso was not always used in the same manner. For example, as described above, the recorded written words on Ketso were sometimes combined with the verbalised words in order to provide a richer and more enhanced interpretation. Thus, as reinforced by Pain (2012), using varied sources provided a different kind of data than verbal methods used in isolation.

To answer the research questions, a pluralistic approach was selected for data analysis. Clarke et al. (2016) define analytical pluralism as the use of several analytical techniques on the same data set. Context was crucial, in my social constructionist mind, and hence no single approach to data analysis was seen to be more superior to another. The use of both strategies assisted me in comprehending the multifaceted character of constructionist pedagogies. According to Bryman (2016), CA is an umbrella term for a

variety of strategies used to analyse and quantify the content of documents, texts, and images. Integrating two analytical techniques thus enabled me to investigate both the 'what' and the 'why'. I examined the presence and frequency of perceptions linked with constructionist pedagogies and collaborative working skills, as well as possible explanations for their existence.

Section 6.2: Overview of reflexive thematic analyses (RTA) and content analysis (CA)

In considering my overall research design, I felt that qualitative descriptive analysis and, in particular, RTA and CA best suited the aims of my study. Through integrating both approaches, I gained different insights into patterns across the data that would not have been possible using a single approach to analysis. Indeed, this integrated approach is endorsed by Sandelowski (2000, 2020) and Neale et al. (2014) who suggest that pattern recognition using counting occurrences can help generate meaning and that presenting qualitative data numerically can sharpen the focus of key findings. I recognised the value of presenting my findings in an authentically accessible manner, with results communicated in ways that were easy to comprehend. I was guided by the work of Sandelowski (2001, 2010, 2011) in relation to qualitative descriptive data analysis, Braun and Clarke (2013, 2019, 2020) on reflexive thematic analysis, Bryman (2016) and Elo and Kyngäs (2008) on deductive content analysis and Clarke et al. (2016) and Pratt et al. (2020) on analytical pluralism. This aided my comprehension of the data and the breadth of perspectives of constructionist pedagogies, as well as how those perceptions may have varied between and within participant groups.

Guidance on these approaches was readily available from several sources including the literature, colleagues and peers; each came with a set of analytic procedures which are summarised below in Table 5. This table also outlines and summarises the main stages I followed and although it is

presented as discrete stages, the data analysis process was non-linear and iterative. Vaismoradi et al. (2013) suggest the procedures associated with both approaches were similar and I felt this incremental approach to my own development, whilst challenging, was also manageable. According to Vaismoradi et al., (2013), stages 1 and 2 of RTA were comparable to stage 1 of CA and stages 3, 4, 5, and 6 of RTA to Stage 2 of CA. Stage 7 of RTA was akin to Stage 3 of CA. Chapters 8, 9 and 10 present stage 7 of RTA and stage 3 of CA. Those chapters include the presentation of findings and discussion related to the data analysis.

Table 5: Overview of data analysis frameworks used to guide data analysis - differences and similarities between RTA and CA

Reflexive Thematic Analysis	Content Analysis
Braun and Clarke (2013)	Elo and Kyngäs (2008)
Stage and description of the process	**Stage and description of the process**
1. **Transcription** Transcribing data	1. **Preparation** Being immersed in the data and obtaining the sense of the whole, selecting the unit of analysis
2. **Reading and familiarisation** Taking note of items of potential interest reading and re-reading the data, noting down initial ideas	
3. **Coding: complete across dataset** Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code	2. **Organising** Open coding and creating categories, grouping codes under higher order headings, formulating a general description of the research topic through generating categories and subcategories as abstracting
4. **Searching for themes** Collating codes into potential themes, gathering all data relevant to each potential themes	
5. **Reviewing themes** Checking if the themes work in relation to the coded extracts and the entire data generating a thematic 'map' of the analysis	
6. **Defining and naming themes** Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme	
7. **Writing – finalising analysis** The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating the analysis to the research questions and literature, producing a scholarly report of the analysis	3. **Reporting** Reporting the analysing process and the results through models, conceptual systems, conceptual map or categories.

Whilst similarities exist between RTA and CA, Vaismoradi et al. (2013) suggest that the main difference lies in the opportunity for quantification of data. This is depicted in Figure 14, which shows RTA and CA at opposing

ends of a continuum. Figure 14 illustrates how data from both types of data collection modalities (transcripts and Ketso) were merged and analysed utilising RTA and CA. For instance, RTA supported a more nuanced, conceptual interpretation of constructionist pedagogies, whilst CA enabled me to analyse the explicit content of the data at a manifest or semantic level. In this instance, concrete data were derived directly from the written / recorded responses on Ketso and from responses to the same question obtained during the interview (and recorded on Ketso and verbalised explicitly). Additionally, Figure 14 demonstrates the use of both inductive and deductive analytical techniques to qualify and quantify qualitative data, and thus my findings.

Figure 14: Qualitative data analysis: Data sources and analytical procedures
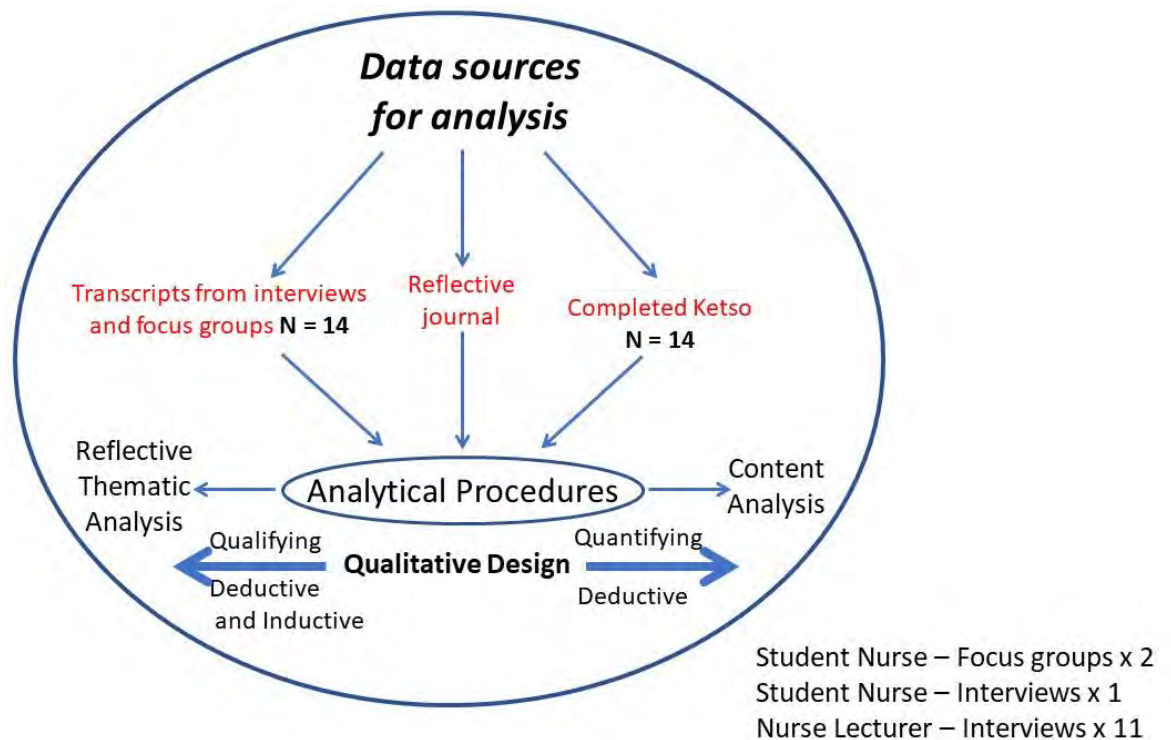
As depicted in Figure 14 above, this continuum also demonstrates the extent to which data can be transformed from description to interpretation during the analytic process. For example, I employed CA to make sense of data from Ketso and interviews when examining participants' impressions of their preferred constructionist pedagogies. In Figure 14, this is reflected along the

continuum arrow referred to as 'Quantifying' and 'Deductive'. Data analysis occurred at the manifest level for this purpose. Here, the words recorded by participants on the Ketso were placed alongside the actual spoken words, compared and placed into categories. In my study, I used deductive strategies to organise and focus data into categories to maintain alignment with my research questions. Braun and Clark (2013) refer to this form analysis of data derived codes as being deductive.

Alternatively, towards the 'Qualifying' and 'Deductive and Inductive' side of the continuum, and in accordance Vaismoradi et al. (2013), RTA shows the overlap between content analysis and thematic analysis. In my study, I regard inductive level of analysis to refer to when I applied researcher-derived codes to data which themselves were aligned to my theoretical and conceptual frameworks. According to Braun and Clarke (2013), researcher-derived codes go beyond the explicit content of the data and are transformed through a level of interpretation.

Graneheim and Lundman (2004) claim that the data obtained can be seen as a unit of analysis. In this study, interview transcripts and Ketsos were treated as a single unit of analysis because they were analysed together. I was interested in the perceptions of constructionist pedagogies both within and across groups, so analysis began at the individual level, progressed to the individual participant group level, and subsequently to the intersection of the two groups.

Rather than presenting data in terms of relative strength or importance, tables with frequencies were used to show the parallels and differences in perspectives across and among both groups. Like Neale et al. (2014), I was aware that employing qualification could be problematic because not everyone was asked the same questions in exactly the same way. I ensured that figures were only reported for features that were asked of all participants and recorded on both sources, allowing for comparisons.

Section 6.3: Conducting RTA and CA within this study

I will now discuss the major processes involved in the analysis of the data collected during the interview process, as detailed in Table 5 (p.166).

6.3.1: Stage 1 - Transcribing data

For practical reasons, I used the same professional transcription service for all interviews. Time constraints, resulting from the change in my personal circumstances and practicalities, such as my limited transcription skills and pre-existing medical condition in relation to finger and wrist movement, were also considered. Whilst Tessier (2012) claims that data can be lost and misinterpreted through deliberate or accidental errors in transcription, efforts to minimise this were put in place and are discussed in the following section.

6.3.2: Stage 2 - Reading and familiarisation

This stage is about becoming intimate with all the data (Maguire & Delahunt, 2017). As stated previously I kept a reflective journal which I referred to during data analysis. The reflective entries prompt me to acknowledge feelings and biases and this self-awareness contributed to recognising personal influences on data interpretation, fostering a more reflexive and transparent analysis.

Polit and Beck (2017) suggest that transcription errors are almost inevitable, so the initial review aimed to establish that text was attributed to the correct person, was complete and that mistaken or misspelled words were corrected. I was aware that adding or changing punctuation could change the meaning of the data but was mindful of the need to ensure that the written word reflected, as far as possible, the sentiment that had been expressed.

Once satisfied that the transcripts adequately reflected the content of the interviews, I re-read them in conjunction with the contents of each participant or group's Ketso. I oriented myself with the information detailed on the corresponding Ketso and listed the response to each question in Ketso on a single piece of paper. This was later used during data analysis to compare

and contrast responses. Once the process was completed for both groups, I familiarised myself with the entire data set. This was undertaken systematically as I moved through question by question, being guided by the data analysis framework, interview questions, research questions and theoretical framework. My familiarity with the data increased as I wrote notes and compared and contrasted responses. Listening to the audio recordings in conjunction with reading the transcripts and reviewing Ketsos, further encouraged familiarity. As I read the transcripts, I could hear the participants' voices. Using complementary approaches (reading my reflective journal, listening to the audio, reading the transcripts and Ketso) helped me to contextualise the data. Consistency in the process of familiarisation was important in the process of promoting the credibility of the work, so the same procedure was carried out for each of the interviews (n=14) and each transcript was reviewed at least three times before finally identifying codes and themes.

6.3.3: Stage 3 - Coding across dataset

According to Charmaz (2006), coding is the critical link between data collection and theory development. Coding, based on my theoretical and conceptual framework and research questions, helped me to understand the meaning of the data. Selective coding was performed, which entailed identifying words or phrases that encapsulated the essence of what I deemed significant (Braun & Clarke, 2020). I used a combination of deductive (data-derived or semantic) and inductive (researcher-derived or latent) approaches (Braun and Clarke, 2013). Data-derived coding was used to assist in the coding of the data's explicit content. One interview question, for example, related to participants preferred collaborative pedagogies and another related to which constructionist pedagogies were associated with collaborative working skills. Responses to questions about preferred collaborative classroom activities involved collating responses from both the transcripts and Ketso. This is illustrated in Table 6, which shows the participant names and the name of the preferred pedagogy and the number of preferred

pedagogies. Here, I used the actual words in the Ketso and transcribed interview text to collate a list of preferred pedagogies.

Researcher-derived coding was adopted when I proceeded beyond the explicit content and uncovered implicit or latent meanings in the data and is referred to by Braun and Clarke (2013) as inductive analysis.   At this point I applied inductive reasoning to the evidence and moved beyond the written and spoken word by making generalisations and forming broader conclusions. based on specific observations such as patterns, I considered alternative explanations, connected the data to my research questions and reviewed existing literature on the topic. This is depicted in Figure 14 above as a movement toward the continuum's qualifying end.

Table 6: An illustration of data-driven analysis based on explicit wording used by participants

Participant's name	Preferred collaborative classroom activity (from interview and Ketso)	No of preferred constructionist pedagogies
Jason	Group discussion Group work High fidelity simulation Low fidelity simulation Role play	5
Jenni	Debrief Group discussion Group work Skills classes	4

Graneheim et al. (2017) refer to presenting findings close to the text as low abstraction and low interpretation. This enabled me to contrast and compare the data from both sources and ensure that the descriptive data for each of those questions was included in the findings. This hybrid approach to analysis is advocated by Fereday and Muir-Cochrane (2006), who suggest complementary approaches assist the process of theme development and, thus, contribute to answering the research questions. Table 7 shows which constructionist pedagogies participants perceive as facilitating the

development of one particular collaborative working skill: critical thinking. In this instance, the actual words from the Ketso and the interview text were used to collate a list of each participant or group's perceptions of preferred constructionist pedagogy and collaborative working skills. This was then collated at the participant group level and presented in Table 7 below, which demonstrates the differences and similarities between both participant groups' perceptions of the constructionist pedagogies. Table 7 shows that eight out of eleven nurse lecturers (NLs) mentioned nine constructionist pedagogies helped develop critical thinking skills. In relation to student nurses, one of the three student nurse (SNs) participant groups perceived critical thinking skills were associated with three constructionist pedagogies.

Table 7: Perceived relationship between collaborative working skill and constructionist pedagogy (NL: N=11; SN: N=3)

Skill developed for collaborative working (n-16)	Pedagogy associated with skill (NL)	No. of pedagogy (NL)	No (NL)	Pedagogy associated with skill (SN)	No. of pedagogy (SN)	No. (SN)
Critical thinking	Action learning De-brief Group discussion Group work Low fidelity simulation High fidelity simulation Role play Problem–based scenarios Skills classes	9	8	Group discussion Role play Skills classes	3	1

NVivo was used to store and organise data. Using NVivo was helpful because it made it easy for me to see codes and cross-reference their contents. This facilitated the familiarisation process and helped to develop my understanding of potential connections or overlap between codes. Each interview was coded individually and, to capture the breadth of responses, more codes were added as new data was considered. Because they were

related to the research questions, the interview questions were used to structure the analysis in the first instance. I used the description facility to describe the meaning of each code, and this helped to promote consistency of coding extracts of data. For example, under the summarised question 'Preferred constructionist pedagogy' the code 'Link' was included. This was described as 'includes any comment which associates the pedagogy with linking theory to practice or vice versa'. Once I had coded all the interviews, connected codes were then clustered together.

Conscious not to privilege the NL data over that of the students, I copied the NVivo structure and added codes that I had developed during the field note and familiarisation period. For example, under the code 'Relationship', coding was added to include 'Positive peer' and 'Positive lecturer'. Below 'Positive lecturer' code, I added a further code with the title 'Accessible' and a description stating that students benefited from having lecturers close at hand. Braun and Clarke (2013) cite distance from the data and a focus on quantity and frequencies rather than meaningfulness as limitations of computer assisted qualitative data analysis software. However, I had used NVivo previously, was aware of its functionality and felt its benefits far outweighed potential pitfalls.

6.3.4: Stage 4 - Searching for themes

Stage 4 involved collating similar codes into potential themes and subthemes. I considered the following four interrelated key areas to help identify my themes and provide meaning to the data: my social constructionist philosophical orientation; theoretical and conceptual frameworks; the literature; and my research questions. The complex relationship between each of those elements is presented in Figure 15, which illustrates the congruence and messiness associated with the data analysis and shows that each theme is not neatly compartmentalised. I recognise that people do not necessarily talk in a straight or linear way, therefore, the themes identified were not confined to specific research or interview questions but, rather as Figure 15 shows, crossed the data multiple times.

Figure 15: Map showing the entanglement of research questions, themes and the theoretical and conceptual frameworks
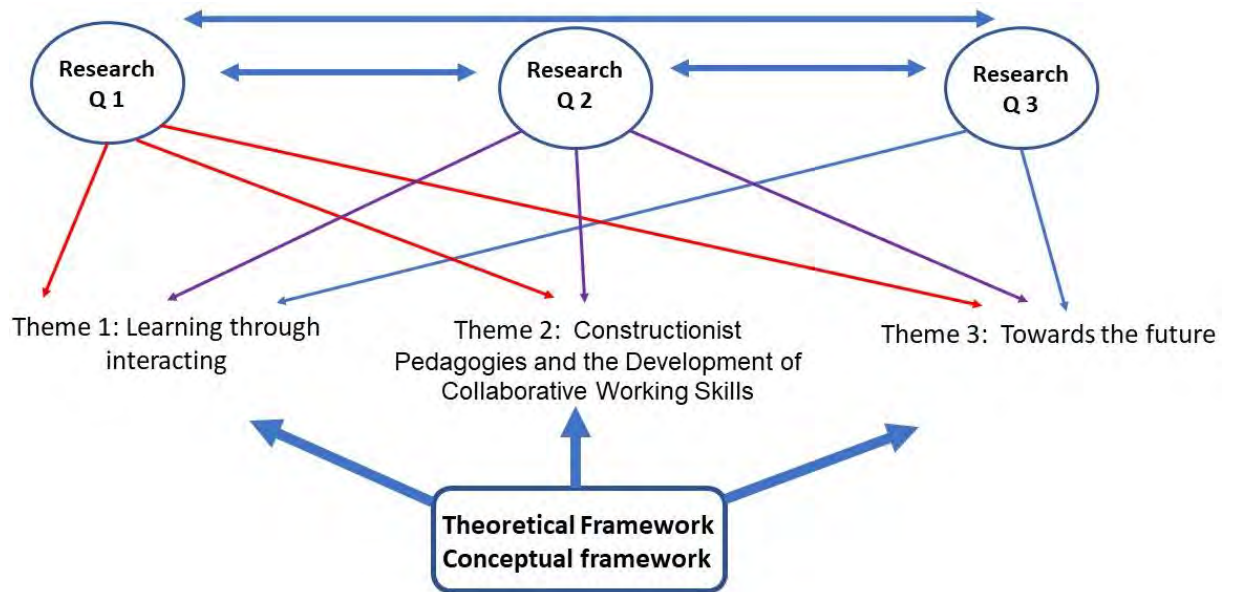
Identifying themes and subthemes from the codes helped me to embrace the complexities outlined above. According to Braun and Clarke (2013), a theme captures a specific aspect of a central organising concept, whereas a subtheme portrays one aspect of the theme. I was also guided by the work of DeSantis and Ugarriza (2000) who outline the diversity associated with identifying, interpreting and conveying the function of themes in data analysis:

> *A theme is an abstract entity that brings meaning and identity to a recurrent experience and its variant manifestations. As such, a theme captures and unifies the nature or basis of the experience into a meaningful whole*

> (DeSantis & Ugarriza, 2000, p 362).

During the process of actively crafting my themes, I used a constant comparison approach to search the codes (and associated data extracts) and establish overlap or similarities for patterns. This allowed me to develop themes directly derived from codes and therefore ensured that the codes and themes were grounded in the original data.

6.3.5: Stage 5 and 6 – Reviewing, defining and naming themes

Because they occurred simultaneously throughout the data analysis, these steps are now regarded together. Braun and Clarke's (2013) stage 5 involves assessing various theme criteria to ensure that they are aligned to the coded extracts and are related across the entire data set. This involved generating a thematic 'map' of the analysis. I followed the guidance on theme development and naming, for example avoiding single words for themes (DeSantis & Ugarriza, 2000). As I considered the themes, new ways of looking at the data emerged, and I often revisited the subthemes and codes, assigning new codes or renaming subthemes so that I could explore the data in different ways. The subtheme 'non-verbal communication' was once referred to as 'body language'. It was changed because 'body language' was too narrow a focus as I wanted to include other forms of 'non-verbal communication' such as eye contact.

Several thematic maps were developed and, after numerous discussions with supervisors, colleagues, peers and friends and personal ponderings over a long period of time, overarching themes (n=3) and subthemes (n=9) were identified and are depicted in Figure 16.

Figure 16: Thematic map illustrating the relationships between themes and subthemes

Theme 1
Learning through interacting

Theme 1: Subthemes
1.1. Working together
1.2. Communication
1.3. Learning through sharing perspectives

Theme 2
Constructionist pedagogies and the development of collaborative working skills

Theme 3
Towards the future

Theme 2 : Subthemes
2.1. Pedagogical preferences
2.2. Developing collaborative working skills
2.3. Cumulative development of skills

Theme 3: Subthemes
3.1. Boosting learning through involving a wider range of groups in the programme
3.2. Changes to teaching and learning
3.3. Intra-professional teaching and learning

The name of my themes aims to reflect the content of coding by unifying and depicting the relationship between the various categories of coding. This process helped me to develop confidence in the credibility of my themes. By the end of stage 6, I was confident of what my themes were, how and where they were connected and the overall story they told about the data. As Figure 16 shows, the three themes identified were: learning through interacting; constructionist pedagogies and the development of collaborative working skills; and towards the future. All three themes are inextricably linked, as shown in Figure 16. For the purpose of explaining the data, however, each will be discussed individually in Chapters, 8, 9 and 10.

Having discussed my approach to data analysis, I now present demographic data on the participants in my study.

Section 6.4: Participant demographics

NLs from all four campuses took part in the study. Table 8 shows the pseudonyms participants chose for themselves. Also as shown in Table 8, reported varying years of experience in Higher Education, with the majority having more than seven years. All NLs taught in both adult and mental health programmes, three NLs participants were based in the mental health division and eight from the adult division.

Table 8: Nurse Lecturers demographics (n=11)

Pseudonym	Length of time in higher education	Field of practice
Ellana	<3	Adult
Emily	7-10	Mental Health
Frank	>11	Mental Health
Jason	7-10	Adult
Jenni	7-10	Adult
Lily	>11	Adult
Martin	>11	Adult
Mary	4-6	Mental Health
Rachel	>11	Adult
Stephen	7-10	Adult
Susan	>11	Adult

Out of a total of 175 student nurses, one participant (Elsie) participated in an individual interview, while six participants took part in focus group interviews. There were two participants in Focus Group 1 and four in Focus Group 2. All seven students came from the adult field of practice. As explained in Chapter 5, recruitment and data collection were guided by pragmatic considerations and associated project manageability. Table 9 below presents the demographics for the student nurses including the pseudonyms they chose for themselves and the type of interview each participated in.

Table 9: Student Nurse demographics (n=7)

Pseudonym	Age range	Type of interview
Elsie	25-34	Semi-structured interview
Kate	25-34	Focus Group 1
Meghan	35-44	Focus Group 1
Blanche	45-54	Focus Group 2
Francesca	18-24	Focus Group 2
Marie-Claire	35-44	Focus Group 2
Rose	35-44	Focus Group 2

Malterud et al. (2016) refer to the concept of information power, which proposes that the more information a sample holds, the fewer participants are needed. The aim of the study, quality of dialogue and analysis strategy were all important considerations in determining power information. The use of Ketso and the appreciative approach to questioning allowed me to explore the depth and complexity of constructionist pedagogies. The analysis strategy, which employed both a case (between a homogenous group) and cross case (over one of more groups) approach, was adopted because this provided an opportunity to contrast and compare the range of perspectives between and among the groups (SNs and NLs). Overall, the composition of both groups reflected my interest in how contextual factors of being a student nurse or nurse lecturer learning and teaching on the same programme mediated their perspectives on the role of constructionist pedagogies.

Section 6.5: Summary

This chapter has detailed the approach to analysing the data. Throughout the process I was guided by the research aims and questions, my theoretical and conceptual framework, philosophical orientations, practical and conceptual issues and my interests as a nurse lecturer invested in constructionist pedagogies. I used analytical pluralism which combined reflexive thematic analysis and was guided by Braun and Clarke's (2013) framework and content analysis where Elo and Kyngäs (2008) steps were used.

Chapter 7, now details issues pertaining to research quality.

Chapter 7: Research Quality

Section 7.0: Introduction

Chapter 7 focuses on research quality and discusses the approaches adopted throughout my thesis. Whilst other researchers may discuss research quality within the methodology chapter, I believe it permeates every aspect of my research and so warrants a separate chapter. The chapter is divided into three sections, with Section 7.1 presenting the rationale for selecting the quality criteria. Whilst reflexivity has been a constant consideration in this thesis, Section 7.2 focuses primarily on methodological reflexivity. The quality criteria employed in this study to engage reflexively were trustworthiness and authenticity, as shown in Figure 17. Section 7.3 discusses how I applied reflexivity practices to my research, allowing readers to gain a deeper understanding of how I came to certain results.

Figure 17: Methodological reflexivity and quality criteria
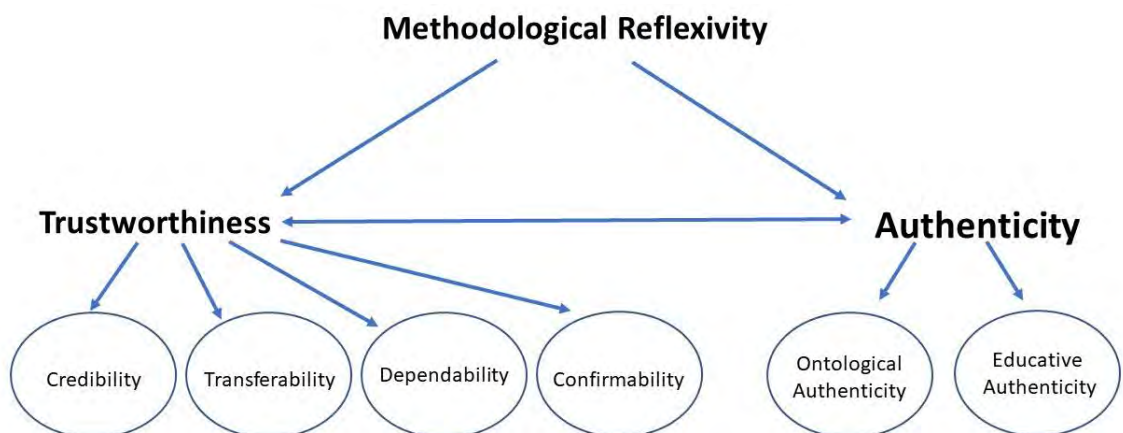
Section 7.1: Rationale for the criteria used to assess the quality of this research

According to Sandelowski (2014), the criteria used to assess the quality of qualitative research are essentially a matter of taste and as such, influenced

by personal preference, prior knowledge and experience. However, for my research to be meaningful to others, I wanted to make my approach explicit. I used criteria frequently associated with qualitative research to evaluate the study, because it shared methodological, ontological, epistemological and axiological orientations with what is traditionally, but not exclusively, considered qualitative research or social constructionist methods of research (Anyan, 2013, Burr, 2015; Smith & McGannon, 2018). Although the criteria for judging the quality and rigour of research which adopts qualitative approaches have gained considerable critical attention in recent years, consensus has not been found (Johnson et al., 2020; Smith & McGannon, 2018). I reviewed a number of pre-defined frameworks for research quality, such as that proposed by Tracy (2010); however, that framework was too rigid and did not take account of the creative methods used in my study (such as integrating Ketso with AI). I therefore blended quality criteria from multiple frameworks, as proposed by Cho and Trent (2006) and Smith and McGannon (2018), because I could not find a framework which was sufficiently flexible to represent the varied methods used in my study. My chosen criteria emphasised reflexivity, trustworthiness and authenticity.

Section 7.2: Reflexivity

Although reflexivity operates on a variety of levels (Dowling, 2006), and because I have already discussed personal reflexivity, this section focusses on methodological reflexivity. As Berger (2015) suggests, being reflexive not only helped monitor and address tensions between my involvement and detachment as the researcher, but also helps the reader to locate my position. As Palaganas et al. (2017) point out, researchers who adopt social constructionist approaches are themselves often part of the social world under investigation and I was woven within the research. Methodological reflexivity requires that the researcher be conscious of their role conducting the research in respect of the methods used, the acceptance of bias and the promotion of transparency (Patnaik, 2013). As a nurse lecturer, I was

immersed in the social, cultural and historical debates around constructionist pedagogies in nurse education. I acknowledged the relationship I had with the participants and as a co-constructor of the data and recognised that data collection could be restricted or influenced by my role.

As alluded to in Chapters 5 and 6, I was conscious that the decisions taken in relation to research methods carried implications in relation to the study's findings. For example, the use of semi-structured interviews and focus groups affected power dynamics (Anyan, 2013) and I took steps to minimise this. To promote a feeling of safety and encourage participants to share experiences, I emphasised my role as a student researcher and reinforced the information contained in the Participant Information Sheets (appendices 5 and 6). I attempted consciously and consistently to keep an open mind, was mindful of my body language and tried to be non-judgemental. I kept a journal to record my thoughts, concerns and ideas and I regularly reflected on my notes as suggested by Jootun et al. (2009). This fostered a process of internal dialogue, which was complemented by others whose curious questions stimulated further critical self-reflection. This encouraged me to explore my feelings about the content and format of the interviews and, through this process, biases were highlighted and areas for development/ improvement in interviewing technique considered. Recognising that participants may not share my perspectives of the topic; I consistently probed the data during the analysis and presentation stages to ensure that participants' views were honoured and respected.

Section 7.3: Quality Criteria

7.3.1: Trustworthiness

Trustworthiness comprises four criteria: credibility, transferability, dependability and confirmability (Guba & Lincoln,1989). The following sections explain the approaches taken in this study.

Credibility

Credibility is the extent to which the study findings reflect the experiences and perceptions of the participants (Polit & Beck, 2017). In this study, during data collection, I actively sought additional clarification to ensure that I understood participants' intentions. I provided the rationale for choosing the analysis procedures and outlined the steps taken in both RTA and CA. During data analysis, I constantly referred to the transcripts and Ketso, listened to the recordings and returned to my reflective journal. In the presentation of findings, direct quotes from the participants were used to express their perspectives. All these measures aimed to promote contextualisation for the reader.

Transferability

Smith (2018) defines transferability as the ability to adapt study components, such as methods or findings, to different contexts. Polit and Beck (2017) recommend that extensive explanations of the sample and the study's context is provided. Others can then determine whether they are applicable. Thus, as detailed in Chapters 5 and 6, I ensured that the procedures employed were explained.

Dependability

Dependability refers to the stability of data over time and over conditions (Guba & Lincoln, 1989). As my social constructionist standpoint does not assume that reality is fixed and that truth is objectively perceived, I therefore view dependability in relation to research transparency. Moravcsik (2014) argues that it is concerned with making essential elements of work available to others, from describing the steps taken from the outset of the project to the development and reporting of findings. Continuous scrutiny and reflection with self and others were exercised throughout the study and aimed to promote transparency. Ongoing communication with my supervisors, other academic staff, and peers in the research community ensured a degree of scrutiny in relation to my research procedures.

Confirmability

According to Guba and Lincoln (1989), the confirmability criterion is concerned with being able to make an overall decision about the study and that its findings do not simply reflect the researcher's assumptions. From a social constructionist perspective, being completely neutral is impossible (Brymen, 2016; Gergen, 2015). Along with being explicit about my social constructionist position, an audit trail documenting how the data was collected and analysed aimed to promote confirmability. I documented the types of data analysis used, the coding procedure and the labelling of themes. Additionally, I used quotations from participants to exemplify, corroborate and contextualise my interpretation of the findings, as indicated by Eldh et al. (2020) and Lingard (2019). Additionally, as Lingard (2019) noted, quoting participants gives context for the participants' positions and so positions the reader to make judgments about the study's findings. Additionally, Corden and Sainsbury (2006) assert that because participant quotes serve as original data, they can also be used by the reader to ascertain the integrity of the analysis, therefore validating (or disputing) the conclusions.

7.3.2: Authenticity

Unlike trustworthiness, the authenticity criterion is not linked directly to methods (Guba & Lincoln, 1989). Authenticity can be established when the researcher has engaged in processes that ensure the findings are credible from the participants' experiences but also regarding the wider implications of the research (Guba & Lincoln, 1989). The authenticity criterion includes several elements, including fairness, ontological and educative authenticity.

Shannon and Hambacher (2014) refer to the fairness criterion in relation to fair representation of the range of viewpoints. To achieve this, processes were adopted during the sampling, data collection, analysis and presentation of findings stages. For example, to ensure fairness of data collection methods, the same interview method alongside Ketso and an AI was used with both groups of participants. The flexibility of this approach promoted

fairness, as the ability to probe further and seek clarification helped to ensure that I interpreted the participants' intended meaning. Morrow (2005) supports this approach, suggesting that opportunities to reflect participants' perspectives should be provided, especially where the researcher is an insider. As someone who was experienced with collaborative pedagogies, I took care not to assume that I understood their perspective or that it reflected mine; I frequently sought clarification from participants by asking if they could explain points. Fairness was also considered when presenting and discussing the data. However, as Lingard (2019) indicates, I did not see the necessity to select second or third best quotes to maintain fairness when using participant quotes. To this purpose, I used tables and participant quotes to ensure that all participants' perspectives were represented, though not equally. For example, I chose participant quotations that were the most illustrative, succinct and accurately represented the point being discussed.

Ontological and educative authenticity

According to Guba and Lincoln (1989), ontological authenticity refers to the extent to which participants apprehend their world in more informed ways, whilst educative authenticity is concerned with participants' understanding of the perspectives of others involved in the research. In this study, opportunities to enhance ontological and educative authenticity were intentionally included in the study's design. The use of social constructionist approaches, such as interviews in combination with AI and Ketso, stimulated different perspectives, ideas and possibilities about collaborative classroom pedagogies. For example, Gergen (2015) claims that the complementary influence of each of the five AI principles, with an emphasis on interaction, dialogue, relationships and sharing, accommodates this by challenging previously held perspectives. According to Gergen (2015) these principles work together to challenge and question existing perspectives that were held before. In other words, by prioritising interaction, dialogue, relationships, and sharing within the AI framework, there is a deliberate effort to disrupt, or question established viewpoints, fostering a more open and collaborative approach to understanding and addressing issues. The goal is to create an

environment where people can interact meaningfully, form bonds with one another, and exchange different viewpoints, which will eventually cause people to change or re-evaluate their previously held opinions or reconsider previously held beliefs or ways of thinking.

In terms of ontological authenticity, several participants (both students and staff) commented on how participation in the research had extended their understanding of collaborative pedagogies. In respect of educative authenticity, conversations between participants referred to a change in perspective. The implication here is that the context, the role of others and the specific questions and form of questioning used in the study had a role to play in this transformation of perspectives.

Section 7.4: Summary

This chapter considered issues of research quality, namely methodological reflexivity, trustworthiness and authenticity. As a sole researcher using qualitative approaches, I acknowledged that my perspectives, actions and role as a nurse lecturer, impacted on the entire research process. While I have never attempted to eliminate my perspective from the research process, Chapter 7 illustrates additional steps I took to promote transparency and guarantee that others could evaluate the relevance or applicability of my work. Additionally, when combined with extensive material from previous chapters describing a myriad transparency initiative, such as the technique taken to mitigate power imbalances, it reaffirms my commitment to openness.

The next three chapters (Chapters 8, 9 and 10) present the study's findings. These three chapters relate to the final stages of Braun and Clarke's (2013) and Elo and Kyngäs' (2008) data analysis framework (see Chapter 6). Each chapter also corresponds to each of the three research questions. As shown on Figure 16 (section 6.3.4) the relationship between the research questions and themes were not entirely linear as all three themes were inter-connected. However, in order to respond to the research questions and for me to make

sense of the data, I chose to present my data using the research questions as this was the framework used to analyse the data. For this purpose, I have restated the research questions as this provides a visual link between each question, theme and the chapter. This decision was made to provide a clear and structured response to the research questions and to ensure that the data interpretation aligns with the initial research questions.

Restating the aim and research questions

The study aims to investigate how the collaborative learning features of constructionist pedagogies, as evident in classroom practices, contribute to the development of student nurses for clinical practice. The three research questions developed to support this broad aim are:

1. What does collaborative learning mean to student nurses and nurse lecturers?

2. In relation to developing skills for clinical practice, what collaborative skills do student nurses and nurse lecturers associate with classroom-based constructionist pedagogies?

3. In what ways can collaborative pedagogies be enhanced in the pre-registration programme to maximise collaborative working skills development for clinical practice?

Chapter 8: Learning through interacting

Section 8.0: Introduction

Chapters 8, 9, and 10 highlight major findings organised around three themes:

- Learning through interacting;

- Constructionist pedagogies and the development of collaborative working skills; and

- Towards the future.

Rubinson (2019) asserts that the way findings are presented must reflect the data. This study employs direct quotations and numerical information to underpin the ideas under which my data is presented. This combined approach aims to strengthen participants' voices and explain their perspectives and experiences with constructionist pedagogies.

The first of the discussion chapters explores learning through interacting and was developed primarily in response to questions about what the term 'collaborative learning' meant to the student nurse and nurse lecturer participants. The theme is subdivided into three inter-connected subthemes, each of which explores different aspects of participants' thoughts on collaborative pedagogies and the linkages between interacting and learning. The data for this theme were mostly derived from interview transcripts. However, as described in section 6.1, participants' written information on Ketso generated conversation topics. Thus, the analysis reflects the entwined contribution of Ketso's recorded words and the participants' verbalised responses. These are: working together; communication; and learning through sharing perspectives.

Overview of theme

Participants were encouraged to consider what they meant by collaborative learning. In line with the appreciative method covered in section 5.3, positive language was used to explore this subject and help participants feel more at ease during the interview. As constructionist pedagogies share some design characteristics and philosophical assumptions, such as interaction, with other forms of collaborative learning (such as collaborative constructivist pedagogies), I was interested to find out what these perceptions of collaborative learning were in general but also in relation to constructionist pedagogies.

All three discussion chapters contain perspectives on what collaborative learning meant to participants. However, to initiate an investigation into participants' perceptions of constructionist pedagogies, I referred to the term collaborative learning in the covering information to participants, the Participant Information Sheet (appendix 3) and the Topic Guide (appendices 5 and 6). The words 'constructionist' and 'pedagogy' were not used in communications with participants prior to interviews because I believed the terms were not commonly used by all participants and using them could discourage participation. I did not want to supply definitions because I believed doing so would influence the study by limiting opportunities for participants to present their own understanding. Asking participants what collaborative learning meant to them was justified, since the terms themselves have been described in a variety of ways in the literature; choosing this method enabled me to analyse the participant responses in light of the literature. Further, participants were asked to express their thoughts on the subject using their own vocabulary.

Participants at this point could think about all kinds of collaborative pedagogies, not just constructionist pedagogies like those shown in Figures 5 (p. 72). Interestingly, all the dimensions reflecting both the philosophical and design features of constructionist pedagogies were identified (see Figure 4, p. 70). Although the literature considers other ways of defining collaborative

pedagogies, such as 'constructivist pedagogies'; participants' perspectives reflect more of constructionist rather than constructivist pedagogies. For example, unlike constructivist pedagogies, constructionist pedagogies place primacy on social interaction and the intentional bringing together of individuals to participate simultaneously on working on preset tasks.

Section 8.1: Working Together

Participant consensus across the data indicated that collaborative learning is inherently a social process, as it requires interaction with others. Moreover, all participants specifically linked collaborative learning to working together.

8.1.1: Working together on pre-set tasks / and achievement of tasks

In terms of working together and the participatory nature of collaborative learning, Elsie (SN) stated:

> *"To me collaborative learning is working together…. you would see the students carrying out the tasks." Elsie, (SN).*

According to Elsie, FG1, FG2 and 10 NLs, the objective of this participatory activity was 'doing something with others'. Elsie's sentiment relating to working with others is also expressed by Frank (NL) who, with another 6 NLs and both FGs, suggested that working together was indeed an expectation of collaborative learning environments:

> *"We expect students to work together. It's a profession that requires people to engage with others. From our (NL) perspective, that means encouraging students to learn in a way that develops their ability to collaborate purposely as part of a wider clinical team. And how we do that is we give them practical experience of working within a team to complete tasks. The expectation is that they will complete those tasks as part of a group. The expectation from that is, the support and the*

learning from it is that they recognise difficulties that they'll come across as part of that collaborative working focus." Frank, (NL).

In addition to actively working together, participants from both groups specified that the focus was working together on tasks (Elsie, FG1, FG2, ten NLs). This has already been seen in the quotes above from Elsie and Frank (NL). Whilst Elsie noted that collaborative learning involved working together on particular tasks, Frank (NL) developed the notion by suggesting that those tasks were predetermined when the learning session began. This suggests that some components of the pedagogy, such as the nature of the interaction and learning outcomes, were not spontaneous or contingent. Ellana (NL) and Rachel (NL) agreed that collaborative learning required active engagement in pre-set tasks:

"They're [the students] not talking about their holidays. It's increased interactivity." Ellana, (NL).

"And it's about students actively participating and not just sitting like sponges - taking it all in. It [collaborative learning] is about giving something back as well as taking it all in." Rachel, (NL).

There were divergent viewpoints on the extent to which the activity's goal should be realised. Frank (NL) stated that the goal was to complete the task whereas Ellana (NL), Rachel (NL), Martin (NL), and Elsie did not describe the extent to which those tasks should be accomplished. Here, Frank (NL) appeared to place a priority on the outcome of the activity, whilst Ellana (NL), Rachel (NL), Martin (NL) and Elsie interpreted collaborative learning to entail meaningful engagement in the shared activity itself and, hence, prioritised the process not task completion. Completing a task can lead to a sense of pleasure and accomplishment is seen to motivate continued learning through collaborative approaches (Jones, 2009; Kaufman & Dodge, 2009). Alternatively, with a focus on the process of involvement, Tolsgaard et al. (2016), suggest engagement can boost students' self-efficacy and motivation, which affects later learning and performance. Influenced by

different contextual circumstances, both points have merit. From a clinical nursing perspective, I recognise that successful task completion may be necessary in some cases. To ensure safe and effective care, nurses must complete pre-operative checks. However, healthcare has competing priorities that frequently shift, and task completion is not always possible, desirable or even required.

Incorporating Wenger's (1998) notion of joint enterprise, collaborative learning was perceived as surpassing the mere sharing of space with others; instead, it emphasised active student participation in a shared task. Martin (NL) describes a situation where students work together to develop each other's development. This strengthens the participatory interaction element emphasised by constructionist pedagogies and demonstrates how knowledge is socially created amongst learners (and those who observe):

> *"The students actually bounced off each other and learnt from each other. There were school leavers and students with 20 years of care experience and they were discussing their experiences of infection control and giving injections. It was amazing. It was great. One of the younger ones was an insulin-dependent diabetic. She pulled out her insulin pen with a fine needle on it. It was completely different from what we were teaching. We were teaching IM injection. She was really worried she wouldn't be able to cope with an IM injection as it seemed brutal compared with what she was used to. This older student, who had been working in care for 20 years, reassured her and told her there were loads of different ways you could help the patient through this experience." Martin, (NL).*

Here the 'potential' aspect of the ZPD supports my analysis, in that the design features of constructionist pedagogies promote learning (Chaiklin, 2003). The social affordances offered through the task aspect of design features promote development; these include social interaction, motivation, accountability and positive interdependence between students (Tolsgaard et al., 2016). Martin (NL) described a situation where the constructionist

pedagogy took place in a skills lab: the design features associated with the constructionist pedagogies facilitated learning because, unlike in a lecture, students could interact. The preset task related to injection technique and active engagement with the task promoted development, because it allowed students to address concerns about intramuscular injections. This created opportunities to build essential connections between previously learned concepts and new structures (Chaiklin, 2003). Had students been talking about their holidays (Ellana, NL), or if the 'younger' student had been inactive, opportunities to make those linkages may not have occurred. Kirschner et al. (2009) appear to corroborate this perspective by emphasising the necessity of intentional engagement with specific task, meaning that group members must actively participate by contributing their thoughts, ideas, and efforts to the group's collective progress in order to maximise development. This expands the previous point in relation to working together and preset tasks, as it mimics collaboration in clinical practice.

8.1.2: Deciding to participate in preset tasks - Option to collaborate

Even though all participants/participant groups showed an expectation to participate, Meghan (FG1) and Elsie suggested that participation may be discretionary, suggesting a degree of choice and autonomy over their learning:

> *"Some of the skills classes I've found overwhelming because there's maybe too many opinions and things going on. I don't know if it's a confidence thing as well. Sometimes I don't really like putting it out there - that maybe I know something or that I think I know something." Meghan, (FG1).*

This demonstrates a degree of pedagogical flexibility in addition to some student autonomy in terms of involvement or non-participation. According to Jones (2009), various collaborative pedagogies are connected with differing degrees of autonomy, and it is possible that in the skills class both the task and its interactive component contributed to a feeling of autonomy and,

hence, empowerment. Certain interactive elements of a specific pedagogy may encourage more active participation than others. Pretending to be a patient during role play, for example, is not the same as being a willing participant during debriefing. This is especially true if input to the debrief session is provided by a shout-out rather than via solicited responses.

The association between collaborative learning and actively working with others is supported by the literature, from Bruffee (1984) and Slavin (1995) to more contemporary literature such as Bernstein (2018), Coetzee (2018) and Kalaian and Kasim (2017). Moreover, the literature frequently refers to collaborative learning as a participatory activity (Snyder, 2003). Recognition of the interactive element, coupled with the expectation that students interact, is embedded in constructionist pedagogies which are outlined in Table 2 (p. 109). Table 2 shows the main differences between the constructionist pedagogies and what Freire (1993) referred to as the banking system; it reflects elements associated with various constructionist pedagogies, such as interaction amongst and between students and lecturers and the use of dialogue. Furthermore, the analysis represents three inter-connected parts of constructionist pedagogies (as shown in figure 4, p. 70); students are *purposely brought together (1)* in constructionist pedagogies *to interact with one another (2)* on tasks or activities that have been *determined prior to delivery (3)*. Dewey (1916) also emphasised the importance of collaborative learning as a means for individuals to actively engage with their peers, sharing experiences to foster a richer and more meaningful educational experience.

Amongst participants there was a shared vision that working together and preset tasks were associated with collaborative learning. These features of constructionist pedagogies have prominence within the literature and contribute to the preparation of student nurses for clinical practice from both practical and philosophical perspectives (Dyson, 2018; Horsfall et al., 2012; Wong, 2018). The nature of the preset tasks incorporated in constructionist pedagogies appears to be transferable to clinical practice and hence useful,

whilst the philosophical approach associated with collaboration is congruent with the ethos and mindset requirements of clinical practice. Knowing that collaboration is a necessary and valued skill in professional practice may show that students recognise the importance of cultivating the right mindset. Improvements in healthcare quality, patient safety and job satisfaction have all been related to collaboration (Petit Dit Dariel & Cristofalo, 2018). It is widely recognised that no single person or professional group is entirely responsible for care delivery and that holistic care necessitates contributions from a wide range of people. Collaboration has also been emphasised in government-issued healthcare publications (Scottish Government, 2016; 2017a, 2017b) and by the NMC (NMC; 2018a, 2018b; 2018c, 2018c, 2018d). Recognising that students anticipate collaboration as an integral aspect of collaborative learning is advantageous because it establishes a connection between the classroom and clinical practice, as well as supporting the effectiveness of group work and, thus, the pedagogy.

8.1.3: Being together and learning

There may be times when people come together but it is unclear if they are working or learning together. As the quote from Meghan (FG1) (p. 192) shows, deliberately bringing people together does not necessarily equate to collaboration or, I would argue, learning. Nokes-Malach et al. (2015) suggest that just because people are expected to work together does not necessarily mean they do so and this is reflected by Meghan (FG1) (p. 192), who indicated that she did not always actively participate because she felt overwhelmed and lacked confidence.

The literature explores why some group members may not work together and thus actively pool individual inputs. Isaacs (2012) and Monson (2019) claim that some students simply do not like group work and therefore do not participate. Isaacs (2012) suggests that some students hoard knowledge to avoid others unjustly benefitting from it. Resistance to group work may also point towards the actions of others. Rajaguru et al. (2020) suggest some students may make less effort and become socially disconnected when they

feel they must take up the slack for a student they may perceive as a 'social loafer'. Communication is integral to group processes, and I now turn to this, as the second subtheme.

Section 8.2: Communication

The transcripts had extensive content on communication and collaborative learning, with all participants (SN=3, NL=11) noting various aspects of communication. This may suggest a shared understanding by researcher and participants of the importance of communication within collaborative learning and its contribution to preparing students for practice. In addition to its crucial role within collaborative learning environments (Alexander, 2018; Boyd & Markarian, 2011; Hayashi, 2020; Reznitskaya, 2012), the literature also notes that communication is highly valued in clinical practice (Matziou, 2014; Wang et al., 2018; San Martin-Rodriguez et al., 2005). Thanks to the interactive element inherent in the design of constructionist pedagogies, communication is aided and preparation for practice is facilitated by providing opportunities to practise and develop a variety of transferable skills such as decision-making and empathy skills (Basit et al., 2023).

Participants in this study used different terms to express what they meant by communication and some participants were more explicit than others:

> *"I think open communication is key." Francesca, (FG2).*

Here, Francesca made no differentiation between verbal and non-verbal communication. This may reflect that, in clinical practice, both are important features of collaborative working (Blanch-Hartigan et al., 2018; Wong et al., 2018). The following sections provide a range of perceptions on how participants viewed communication in relation to collaborative learning.

8.2.1: Non-verbal communication

Participants associated collaborative learning with a wide range of non-verbal communication behaviours, such as eye contact, posture and body movement. In the context of sociocultural theory, Gredler (2009) suggests that non-verbal communication can be regarded as a psychological tool and, particularly, a sign which can be used by people to communicate.

Elsie and Meghan (FG1) and NLs Emily, Martin, Mary and Lily mentioned non-verbal communication, such as posture, eye contact, facial expressions, gestures and bodily orientation. Table 10 below provides an overview of the range of perspectives provided by participants in relation to how they described non-verbal communication.

Table 10: Perspectives on non-verbal communication behaviours

Code clusters	Code	No. SN	No. NL
Eye contact			
	Eye contact	1	3
	Watching	1	1
Facial expressions			
	Smiling	1	
	Facially animated		1
Hearing and listening		2	2
Body language			
	Open posture	1	1
	Looking interested		3
	Closed posture		2
Movement			
	Animated		1
	Physically active		1
	Movement in the room		2
Energy			
	Positive energy		1
	Excited	2	1
	Energised		2

Table 10 provides the various descriptions of non-verbal communication identified by participants; these findings are supported by studies of collaborative learning reported in the literature (Goldin-Meadow, 2000; Hayashi, 2020). Moreover, studies focusing on clinical practice also reflect the diversity of non-verbal behaviours observed in my study (D'Agostino and Bylund, 2010; Matziou, 2014; Mast 2007; Wang et al., 2018). This suggests that constructionist pedagogies encourage the development of collaborative working skills, implying that transfer between settings is possible.

Blanch-Hartigan et al. (2018) developed a practical guide for categorising non-verbal behaviour used for clinical interactions, suggesting that whilst such communications can be described and measured, they are more difficult to interpret. Nonverbal communication behaviours may, however, be culturally and contextually dependent, so it may be more difficult to ascribe meaning to the interpersonal interactions (Blanch-Hartigan et al., 2018). Although participants used words to describe behaviours in my study, it was unclear exactly what the SNs and NLs meant in their examples of non-verbal cues. NLs, for example, could have been considering what they would like to see students doing during collaborative learning, such as producing positive energy or feeling energised. SNs, on the other hand, may have been considering their own feelings when participating in collaborative learning, such as feeling excited. The difference in perspectives may result from different backgrounds and experiences. It is likely that, because of their roles, NLs and SNs experience collaborative learning through different sets of lenses. Although fewer categories or examples of non-verbal behaviour (see Table 11 below) were revealed in my study, this nonetheless illustrates participants' perspectives of such behaviours in collaborative learning.

Table 11: Blanch-Hartigan et al. (2018) taxonomy and examples of non-verbal communication behaviours

Types of non-verbal behaviours	Examples of non-verbal behaviours
Cues in the face	Facial expressions, eye movement, eye contact, gaze directions, smiling
Vocal and speech-related cues	Tone, pitch, speaking rate, pausing, silence, volume, back-channelling
Cues in the body	Nodding, head shaking, gesturing, posture, touch
Appearance cues	Clothing, hair style / colour, body decorations
Interaction behaviours	Handshake, interpersonal distance, mimicry, turn-taking

Regarding non-verbal communication, there appear to be similarities between the findings of this study and behaviour in clinical practice. Some categories in Table 11, such as facial cues, body language and interaction behaviours, also reflect the descriptions given by participants in this study. Additionally, descriptions are not mutually exclusive in Blanch-Hartigan et al's. (2018) taxonomy of non-verbal behaviours. Back-channelling, which indicates an individual is listening to someone who is speaking through the use of a sound or a sign, can be classified in different ways (cues in the body, interaction behaviours such as leaning forward, or facial expressions such as smiling). Thus, whilst participants in this study did not expressly refer to back-channelling, their use of other terms could be interpreted as indicating the same thing. For instance, Emily (NL) appears to be alluding to back-channelling (see quote below from Emily, NL).

In terms of non-verbal behaviours, participants appeared to imply that collaborative learning was governed by social norms. This was noted in subtheme one in reference to expectations of collaborative work on predefined tasks. Francesca (FG2) suggested (p. 195) that open communication was critical to collaborative learning. This reaffirms the view that the social norms associated with collaborative learning also apply to communication. Emily (NL) also suggested that social norms exist in relation to non-verbal communication. In the following quote, she extends a

perception of non-verbal communication and characterises what she feels are positively couched non-verbal behaviours:

"I would see people taking turns, not one person lecturing to another. There would be energy. I would hope that there would be some kind of passion about whatever it was that was getting discussed. That people's nonverbals actually showed that they were part of the group and they were willing to be counted. So, I would want to see, or hope to see, positive energy round about the group. That people looked animated. That they were open and looked like they were encouraging other people to share their points of view. And I think some of that would involve taking turns. So, there would be an element of listening and it wouldn't just be loads and loads of folk talking at once. But there would be somebody listening and somebody speaking." Emily, (NL).

However, in the quote below, Emily (NL) provides a perspective that seems to run contrary to the social norms associated with the expectations of collaborative learning:

"A few weeks ago, a student was - I don't know what happened, but when she comes in, she pulled her chair around and was sitting with her side facing me. She had her arms crossed and wasn't giving me any eye contact or anything like that. I was saying to her, "how would this be in a meeting [in clinical practice]"? And she said, oh, I wouldn't do it in practice." Emily, (NL).

In addition to the social norms associated with collaborative learning, this quote also acknowledges Emily's (NL) perspective of the link between theory and practice and the perhaps inextricable link between non-verbal and verbal communication. D'Agostino and Bylund (2010), and my own experience as a nurse, recognise that both forms of communication are often delivered and interpreted collectively/simultaneously during interactions. The perspectives provided by Emily (NL), therefore, seem to suggest that social norms exist

and there is a particular way to behave within classroom and practice settings, again reinforcing the transfer possibilities.

8.2.2: Verbal Communication

A common perspective in both participant groups related to the importance of both non-verbal and verbal communication to collaborative learning (Elsie, FG1, FG2, eleven NLs). Given the crucial role of communication in nursing, this is not a surprising finding. This is because both types of communication are intrinsically linked and essential to the formation of collaborative relationships in both the classroom and clinical practice settings (Gagnon & Roberge, 2012; San Martin-Rodriguez et al., 2005; Wang et al., 2018).

Different perceptions of verbal communication were offered. Participants provided a wide range of perspectives on class talk. Unsurprisingly, verbal communication, like non-verbal communication, was represented through various words and phrases. The following table provides some of the perceptions of both participant groups. I categorised verbal communication into two clusters: 'Talking and Discussion' and 'Questions'. As with non-verbal communication, interpretation of the terms used by participants carries limitations and, whilst neither cluster is mutually exclusive, this does provide an overview of the range of terms used by participants to give perspectives on verbal communication. The table also shows who the interactions are associated with. For instance, all participants associated collaborative learning with opportunities for student-to-student interaction and student-lecturer interaction.

Table 12: Words and phrases used by participants denoting verbal communication behaviours

Code cluster	Codes	No of SNs expressing this view (n=3)	No of NLs expressing this view (n=11)
Discussion			
	Discussion amongst students	3	11
	Discussion amongst students and lecturers	3	11
	Conversation		2
	Talk/ Talking	3	11
	Two-way dialogue		1
	Debate/debating		8
	Dialogue		11
	Speak/speaking	3	6
	Verbal / Verbalising	3	6
Questions			
	Asking questions	3	11
	Lecturers / students asking questions of each other	3	6
	Students responding verbally to questions	1	3

Stephen (NL) used four different terms.

> *"Other than them talking about their own experience, I think where they're debating, discussing, verbalising the situation and perhaps even, working as a team to overcome something difficult they've come across." Stephen, (NL).*

Table 12 shows areas of convergence and divergence of perspective between and amongst participant groups. However, opportunities for discussion and questioning are deemed prominent aspects of collaborative learning. Of note is the clear distinction between collaborative learning environments and those depicted by more traditional monological methods of teaching depicted in Table 2 (p. 109), which may not promote class talk as an integral element of the pedagogy (Dyson, 2018; Freire, 1993).

Stephen's (NL) example of class talk suggested various terms for dialogue; this aligns with the literature, in terms of categorisation and functions. Firstly, the terms used by participants appear under a range of repertoires such as everyday talk, learning talk and teaching talk (Alexander, 2018). Secondly, Ravik et al. (2017) also revealed that it could be used for several purposes, including seeking/giving support, correcting performance, collaborating and finding solutions to problems. All these elements are evident in Stephen's (NL) quote.

Whilst Table 12 above does not specifically detail all functions of class talk, it appears that within collaborative learning environments it has a range of purposes potentially relating to learning and, in turn, preparation for practice. Stephen (NL) stated that class talk could be used to negotiate problems or to explore or clarify topics. The quote from Martin (NL) earlier in the chapter (p.191) about intramuscular injections and diabetes also showed that one student clarified their understanding by asking questions, another extended her understanding by providing explanation and, it could be argued, others benefitted from their onlooking and listening roles.

Constructionist pedagogies have certain characteristics that may explain why class discussion promotes learning. John-Steiner and Mahn (1996) claim that when people connect through social interaction, cultural tools act as a bridge between interpsychological and intrapsychological functioning. Knowledge is first built together through social interaction and classroom discussion. Then, as discussed in Chapter 3 (section 3.1.2), through the process of internalisation the person accepts the knowledge and stores it at the intrapsychological level as schemas (Gredler, 2009). The use of different forms of class talk, as in the spectrum of constructionist pedagogies outlined by Alexander (2018), may help students build and store knowledge in their schema and connect what they learn in class to what they do in practice. Being questioned, or playing the role of an onlooker or observer, promotes knowledge development through opportunities to recover schema, which can then be applied in different situations. Schemata allow mental leaps from

one meaning to another: when a suitable scenario emerges, such as in practice, schema are triggered, and students can retrieve knowledge and transfer it to another context. An illustration of this could be a student applying knowledge of infection control practices gained in a hospital setting being transferred to a community environment. The student, having acquired infection control knowledge in the hospital, could apply those principles in a community setting, by using personal protective equipment, such as gloves.

8.2.3: Verbal communication helps develop skills for practice

Elsie, FG1 and FG2, as well as the eight NLs (Emily, Jason, Frank, Lily, Martin, Mary, Rachel, and Susan), related class talk to peer learning and its role in assisting in the development of skills for practice. This suggests that engagement in constructionist pedagogies prompts students to combine programme-related content with existing knowledge that can later be applied to practice. Higgs and Titchen (1995) refer to knowledge for practice as non-propositional craft knowledge and emphasise the role of propositional knowledge (programme-related content) and personal knowledge. In the quote below from Jason (NL), the relationship between class talk, transfer and the development of craft knowledge is explored.

> *"If they've [student A] been struggling with something and just can't get their head around something and then another student explains it, the student has an 'I get it now' moment. They've maybe said to the student [B], 'Thanks very much, that's been a great help.' I don't know if perhaps the other student [B] appreciates how much of a help it's been. It's difficult to definitely say that the other student [B] helped facilitate that response or has been fully aware of the significance. Perhaps, the student [A] themselves aren't aware of the significance until they then put those skills - if we're thinking about skills - into use in practice. So, it might be they get it there and then and they're delighted. Or it's later when they're in clinical practice dealing with real patients that they suddenly think, oh, yeah, that advice or that guidance has actually been really beneficial." Jason, (NL).*

In Jason's (NL) quote, a number of contextual factors are considered, including the social, temporal, physical, functional and modality contexts associated with transfer (Barnett & Ceci, 2002). Learning can be transferred when these elements collide. The ZPD's 'assistive' feature adds to my understanding of how learning is impacted by the social interaction element associated with constructionist pedagogies (Chaiklin, 2003). Clarà (2017) proposes that the learner and MKO have a specific type of interpsychological relationship, built on bi-directional, contingent social contact between them. In this example, Student B takes on the role of the MKO where the focus is on providing skilled assistance. Student B's support enables Student A to acquire knowledge that would not otherwise have been feasible.

Jason's (NL) statement also emphasises the ZPD's generative nature and its association with long-term developmental processes (Chaiklin, 2003; Smagorinsky, 2018a, 2018b). In this instance, development did not occur at the time of interaction; instead, as Jason (NL) recognised, it might not occur until Student A could apply the concept in everyday professional practice. After being exposed to a situation in practice, the concept was recalled and, with additional reformulation, it was transferred between settings and applied to a new circumstance. As a nurse lecturer, this finding is not surprising. Many Year 3 students can connect elements of the programme in ways that had not been possible earlier in their studies. This is consistent with the cultural explanation of the ZPD, where a student can achieve a consolidated understanding of the task at hand (craft knowledge) only after fusing theoretical or academic interpretation (propositional knowledge) with personal knowledge and everyday interpretation (Lave & Wenger, 1991).

8.2.4: Feedback

Communication also served as a form of feedback, with participants from both groups suggesting that it could be verbal and/or non-verbal (Elsie, FG1, FG2, ten NL). D'Agostino and Bylund (2010) found that people often use several verbal and non-verbal cues simultaneously when interacting; speech and non-verbal behaviour converge and diverge during interactions. This

multimodal approach was also applied to feedback in the quote from Elsie (below), Emily (NL), in relation to turn-taking when listening and talking (see p. 199), and Martin's (NL) example, combining class talk with demonstration (see p. 191). In the quotes above from Emily (p. 199), several forms of non-verbal and verbal behaviours were noted. Feedback is a complex and important form of guidance for students (Merrill, 2002). In the following quote, Elsie interpreted the lecturer's simultaneous use of both forms of communication as feedback, appearing to use it to scaffold her understanding of a task. Feedback, in the form of reassurance provided by the lecturer, helped to position her understanding. Elsie described successful collaborative learning in the classroom:

> *"Well, they [lecturers] would be happy, they would be verbalising that they had done it and how they felt about doing it. The lecturer would be maybe praising an individual for doing it well." Elsie, (SN).*

As illustrated in this quote, because constructionist pedagogies use social interaction, students are offered opportunities to learn and practise feedback skills. Engaging in constructionist pedagogies enables students to develop schemas that can be transferred from the classroom to the workplace and vice-versa. Through active participation in collaborative, hands-on learning experiences students are better able to construct and apply knowledge in real-world contexts, thus fostering the integration of theoretical concepts to practical applications. The ability to interpret another's communication is a necessary skill in clinical practice (Baghcheghi et al., 2011), as nurses must make sense of the communication of others such as patients, other nurses and members of the multidisciplinary team.

8.2.5: Communication and reciprocity

Members of both participant groups shared a perspective on feedback that focused on sensing and responding to one another, and this provided insights into who gave and received feedback (SN or NLs, for example). This arrangement appeared to be reciprocal, with students providing feedback to

NL and NLs providing feedback to students. Francesca (FG2), Lily (NL), Jenni (NL), and Rachel (NL) all referenced NLs and SNs directly questioning each other. Here Rachel (NL) illustrates how she used SN feedback to assess the impact of teaching and learning:

"It would be when students actually fed back to me. Say in the skills room. I would give the students a scenario and I'd like them to have time to have a look at that and think about that and then we go into groups and then they would be able to share with me but also share with their peers." Rachel, (NL).

This suggests that, through class talk, knowledge and understanding are co-created and this is facilitated by the reciprocity afforded within the interaction element of constructionist pedagogies. Rachel appears to be using feedback, in the form of class talk, to negotiate meaning and gauge students' understanding of a particular topic.

The transcripts demonstrated that feedback came in many ways and certain students (Elsie, Francesca and Blanche, FG2) revealed that NL input was received favourably rather than punitively:

> *"Well, you're encouraged, certainly by lecturers. If you have some self-doubts on what it is that you're doing and the direction that you're heading with your learning and they will encourage you and… steer you in the right direction and tell you that you're doing well." Blanche, (FG2).*

This positive, reassuring and motivating approach to feedback in the classroom also resembles the type of feedback used by nurses to service users in clinical practice (Motley & Dolansky, 2015; Van de Ridder et al., 2008). Students are expected to develop skills in motivational interview techniques and positive behaviour support approaches (NMC, 2018e) when interacting with service users. According to Merrill (2002), when information is portrayed in a certain way it may be more likely to be committed to memory and transferred to another context. It could therefore be anticipated that this form of role modelling by NLs will be adopted by students whilst in practice

where they, too, will use supportive and encouraging terms when working collaboratively.

Blanche's (FG2) emphasis on the supportive aspects of interaction aligns with Alexander's (2018) claim that class talk maximises learning capacity. And as Mercer (2010) suggests, communication connects the intermental with the intramental, influencing skills development and learning. Motley and Dolansky (2015) also claim that students gain higher order cognitive skills, like critical thinking, through discussion. This is because joint effort allows for sharing perspectives, the focus of Subtheme 3: Learning Through Sharing Perspectives.

Section 8.3: Learning Through Sharing Perspectives

8.3.1: Sharing perspectives

Elsie, both focus groups, and ten NLs recognised the value of collaborative learning for sharing perspectives and expanding understanding. The instructional design of constructionist pedagogies may contribute to this perspective because they mediate communication, which promotes and enables collaborative thinking. This is where perspectives are brought together, multiple points of view are expressed and shared and students can develop techniques for critical thinking, such as creativity and development (Garrison & Akyol, 2015). There were, however, differences in how participants articulated the way perspective sharing impacted on learning. Interestingly, participants from all student groups and three NLs suggested that learning could be expanded, regardless of whether they agreed with the perspective being shared. Kate (FG1) stated that:

> *"For me personally, sometimes it takes just someone's different way of explaining it, or different take for me to learn things." Kate, (FG1).*

As the remark implies, and as Caruso et al. (2006) state, developing a deeper grasp of another's perspective can be used to strengthen previously

held beliefs. A link between introducing a different view on a similar perspective and deepening understanding was also suggested by Rose (FG2):

> *"And it helped just to be able to throw ideas together and talk it through and we actually had a better understanding." Rose, (FG2).*

Sulik and Lupyan (2018) define perspective-taking as the capacity to see things from another's perspective; when viewpoints collide, people learn and grow together. As in Rose (FG2) and Kate's (FG1) quotes, being with others and sharing perspectives provided opportunities to elaborate on topics that they already knew something about. Gergen (2015) suggests that as people engage with, listen to and think about different ideas, they become better prepared to make sense of the world. Perspective-sharing provides opportunities to explore ideas in anticipation of understanding or making sense of the world from several different vantage points (Gerace et al., 2017). This may arise from re-organising and integrating new material to create new schema associated with a topic. This finding also concurs with Green's (2011) notion that skills are expandable, meaning that they can be enhanced by learning and development.

Moreover, the act of sharing perspectives aligns with Wenger's (1998) community of practice, as it involves students exploring ideas and making sense of the world from various vantage points. This collaborative exchange of viewpoints mirrors the interaction and shared understanding within a community of practice. In addition, the process of re-organising and integrating new material to create new schemas is akin to the concept of 'negotiation of meaning' within a community of practice (Wenger, 1998), where individuals collectively construct knowledge through shared experiences and interactions. Additionally, the idea that skills are expandable and can be enhanced through learning and development, as mentioned by Green (2011), aligns with Wenger's (1998) perspective on learning as a social process that occurs within a community. In a community

of practice, members contribute to each other's learning and skill development through shared experiences and mutual engagement.

As discussed throughout this chapter, my study found that the interactive element of constructionist pedagogies had the potential to increase learning from both an individual and collective point of view. Rose (FG2) implied that the diversity of viewpoints elicited during collaborative learning strengthened her own understanding and promoted a greater collective understanding. When viewpoints collide, students may be forced to challenge their own assumptions and understandings. Whilst individual perspectives might not have changed, their own understanding has been expanded; both the individual and collective learn and grow together. It is therefore through perspective-sharing that the capacity for critical thinking develops, because class talk broadens the range of viable answers and trains the mind to think beyond what is known individually. For McMurtry et al. (2016), viewpoint sharing is particularly crucial because it helps minimise 'group-think', when individuals from similar backgrounds fail to examine shared prejudices and assumptions, or avoid uncomfortable conversations. The interactivity afforded by constructionist pedagogies may therefore assist students in preparing for practice by broadening their knowledge base but also by exposing them to the social processes connected with dynamic interactions.

Parallels can be drawn between collaborative learning environments and collaborative working with other professional groups in the clinical environment. The interactive nature of constructionist pedagogies encourages students to practise social processes, such as collaborative exploration, sense-making, and the collective construction of knowledge within a learning community. As a result, students may be more confident sharing their perspectives within different professional groups when they come together.

Wang (2018) suggests that perspective-taking can increase respect among healthcare professionals, improve job satisfaction, and enhance the willingness to collaborate further. This reinforces the potential associated

with constructionist pedagogies for providing opportunities to develop collaborative working skills relevant to clinical practice.

Mary (NL) considered that sharing diverse perspectives could result in a shift in position or perspective if a person became convinced of the value of another's perspective and thus altered their own. Whilst she compared the collaborative learning environment to independent study, the following quote perhaps suggests the importance of social processes in relation to perspective-taking and the development of learning:

> *"There's an argument that if a student is reading material, they could develop a different perspective from that, but it's not so diverse. And they are really only coming from their own frame of reference. Whereas if there's lots of other people there, they bring in different perspectives. I think if somebody was more developed, they may deliberately go and seek different perspectives. In this University, classroom sizes tend to be fairly big and you've got such a diverse range of people with different life experiences and different perspectives there. That can shift and change my opinion, or someone else's in the class, or shine a light on something in a different way." Mary, (NL).*

No position is superior from a social constructionist standpoint: listening to different perspectives does not have to lead to agreement. As stated by participants in this study, it is possible to get insight from another person's point of view. According to Gerace et al. (2017), adopting another's point of view may happen when the person understands the other's perspective. To do this, people think about what it would be like to be in another's shoes whilst simultaneously thinking about what led to that person's situation. The adoption of alternative perspectives is essential in nursing because the delivery of effective care requires the ability to compromise and establish consensus through moving or changing perspectives (Hoplock & Lobchuk, 2020).

The interactive elements of some constructionist pedagogies specifically encourage perspective-sharing and taking and may thus also help students to develop empathetic skills. As healthcare providers, nurses must have an understanding of what others are thinking and feeling. As Hoplock and Lobchuk (2020) claim, effective clinical reasoning, based on perspective-taking, is critical in healthcare because it facilitates the connection between patients and providers. The empathetic processes inherent in the design of constructionist pedagogies may therefore be leveraged to extend learning by helping students comprehend different viewpoints. In role play during simulation and skills classes, students could be asked to take on various roles involving authentic situations. Emily (NL) suggested that exposure to a given situation from a different perspective could result in the development of empathy skills:

> *"To be able to take on the perspective of another in mental health, we have this thing… that doesn't apply to me. And I think collaborative learning gives students the opportunity to try and look at things differently or appreciate other ways of seeing situations. So, it helps to reframe whatever the discussion is that you're having. And part of that I think is practise for practice."* Emily, (NL).

The emphasis here is not necessarily on changing perspectives but on introducing students to new ways of viewing a situation. Here, students are asked to imagine how they might feel if they were that person. Imagining oneself in another situation has the potential to broaden understanding, because reflecting on past experiences makes it easier to understand another person's thoughts, feelings and behaviours in a similar situation. According to Hoplock and Lobchuk (2020), this is because it is accompanied by increased self-knowledge in understanding one's own thoughts, feelings and behaviours.

8.3.2: Perspective taking and cultural competence

Whereas Mary (NL) considered the size of the group in terms of the range of life experiences and resultant perspectives, Marie-Claire (FG2) considered the composition of the group in terms of individual characteristics:

> *"[Collaborative Learning] also brings about diversity. Meeting a lot of people from other backgrounds…I'm from a different background altogether." Marie-Claire, (FG2).*

Ion et al. (2018) emphasise the importance of students considering how ethnicity, gender, class, sexual orientation and age shape their own experiences within healthcare. Cultural competence and equality and diversity are well-embedded principles in health and social care, incorporated in professional codes and standards (NMC; 2018a, 2018d). Marie-Claire (FG2) did not disclose the specifics of her diversity but indicated that she came from a different cultural background (exact words and context omitted to protect anonymity). Marie-Claire (FG2) refers to the diversity of the student group, suggesting that constructionist pedagogies provide a forum for sharing multiple perspectives which can, in turn, promote intercultural understanding and cultural competence amongst student nurses. Marie-Claire (FG2)'s perspective is supported by Adeniran and Smith-Glasgow (2010) who suggest that the presence and contributions of culturally diverse students can help create a positive environment for learning.

Markey et al. (2021) complement Marie-Claire's (FG2) stance, arguing that collaborative pedagogies, by their very nature, stimulate intergroup contact and play a significant role in supporting the creation of knowledge about culturally varied groups. Constructionist pedagogies can create an appreciation of diversity, encourage cultural competence and help to minimise prejudices by offering opportunities to increase understanding between dominant and non-dominant cultures. The design features of some constructionist pedagogies (such as the scenarios used during role-play or high-fidelity simulation) provide opportunities to rehearse ways of

collaborating sensitively during cultural encounters which are transferable to practice. This is particularly relevant, as Markey et al. (2018) suggest, in that nurses may feel ill-prepared and experience difficulties when adapting caring practices to meet the needs of an increasingly diverse patient base.

8.3.3: Barriers to perspective sharing

Whilst generally viewed positively, several participants recognised the limitations associated with sharing within a collaborative learning environment. Meghan (FG1) explained that, on occasion, some environments mitigate against sharing perspectives because of fear of being judged negatively by others.

> *"Sometimes I don't really like putting it out there - that maybe I know something or that I think I know something." Meghan, (FG1).*

People frequently use perspective-taking to benefit themselves and the group in such a way that it increases respect and tolerance for others (Hoplock & Lobchuk, 2020). However, Megan was afraid of being perceived as a know-all and thus chose not to share her thoughts. Caruso et al. (2006) also argue that sometimes perspective-taking does not involve putting oneself in the shoes of another but, instead, attempting to predict what another person is thinking, feeling or likely to do. Through self-reflection, Meghan (FG1) appears to want to anticipate the perspectives of others to protect her own reputation. Her self-awareness is shown in this setting, as she appears to be anxious about being assessed by others. According to Hoplock and Lobchuk (2020), it can be intimidating to imagine what others are thinking or feeling and, as for Meghan (FG1), this may even prevent participation.

Elsie indicated a hesitancy to share due to a lack of confidence. Such insecurity may also be present in clinical settings, as supported by Goldman et al's. (2018) study on the role of bedside nurses in discharge collaboration, which revealed that a lack of confidence is not limited to the classroom. According to Goldman et al. (2018), fear is one of the most significant impediments to perspective-sharing; nurses reported that their inputs on

patient discharge were not always accepted. This was because they lacked confidence, were afraid of being wrong or embarrassed, believed their opinions were unimportant, or were concerned about their lack of expertise and/or the possibility of being assessed by others.

Alongside a lack of confidence, Emily (NL) highlighted that unfamiliarity with the other students in the group could operate as a barrier to exchanging ideas. Taking on the opinions of others due to a lack of familiarity may also be a sign of insecurity. This is because, according to Caruso et al. (2006), it may be more convenient to adopt a different perspective than to risk the penalties of non-compliance and/or proposing alternatives.

> *"I think sometimes when we're doing collaborative learning activities, some students go along with it and it's not until afterwards, you find out that they didn't actually share the same views as other people, but they didn't feel able to say that because they didn't ken [know] the person well enough, or they feel the person is somehow different to them."*
> *Emily, (NL).*

Whilst consequences might arise from unfamiliarity with the other person, Caruso et al. (2006) also claim that being acquainted might also impact on perspective-sharing. In collaborative learning situations students may have had previous encounters with other students. They may generate an understanding of how they operate and feel uncomfortable sharing perspectives as a result.

Accepting or adopting another's perspective may also be motivated by self-gratification or self-interest. Emily (NL) stated in the quotation above that agreeing with the perspective could be because the student believes they are different from them. Although this is not explored by Emily (NL), this difference could be attributed to hierarchical reasons (Stein, 1967, Stein et al., 1990). This is analogous to clinical practice, in that failing to consider the opinions of others may lead to team antagonism and undermine effective collaboration. Stein (1967) considered the 'doctor-nurse game', which

framed nurses as the doctors' 'handmaidens', where both acted in such a way that the nurse was always aiming for the doctor's approval. Although the nurse knew the doctor, disagreeing with their perspective had consequences. For Matziou et al. (2014), despite changes in context and rules the game still seems to remain active within clinical practice within the classroom.

Section 8.4: Summary

This chapter explored what collaborative learning meant to participants, via the theme 'Learning through interacting'. Although collaborative pedagogies is an umbrella term under which constructionist pedagogies sit as detailed in Figure 3, p. 59), responses seem to be directed towards the key features associated with constructionist pedagogies (see Figure 4 p.70). Perspectives garnered suggested that there were expectations associated with collaborative learning, such as actively working and learning together on pre-set tasks and around behaviours associated with engaging with each other. Additionally, both participant groups established connections between theory and practice, as well as the synergy between them. The role of non-verbal and verbal communication and perspective sharing both featured as subthemes. Although communication is an important integral part of nursing, its prominence in constructionist pedagogies is in sharp contrast to the traditional approach regarded as the banking system by Friere (1993) which did not invite perspective sharing, for example. According to the literature, the value of activities linked to constructionist pedagogies resides in their ability to allow students to intentionally practise nursing skills and integrate theory and practice (Tschannen et al., 2012). Constructionist pedagogies, by their very nature, stimulate contact with others and through the tasks and physical environments provide the opportunities and stage for students to rehearse for practice.

In Chapter 9, I address and develop the second theme, 'Constructionist pedagogies and the development of collaborative working skills'.

Chapter 9: Constructionist Pedagogies and the development of collaborative working skills

Section 9.0: Introduction

Chapter 9 presents the findings on the second theme and relates to research question two. The theme is divided into three subthemes:

- Pedagogical preferences;

- Developing collaborative working skills; and

- Cumulative development of skills

This chapter draws on participants' thoughts on collaborative working skills and the critical role of constructionist pedagogies in preparing students for clinical practice. The educational experience is enhanced by using effective pedagogies, so the analysis in this chapter explores the various ways that contextual factors of constructionist pedagogies, such as task, type of interaction, or physical environment, influence the development of collaborative working skills.

This Chapter scrutinises data focusing on two sets of lists as previously discussed (see section 5.3.2). One list depicts the names of constructionist classroom pedagogies used within my workplace and the second list provides the names of the collaborative working. For this theme, the recorded written words on Ketso were coupled with the verbalised words, and a combination of RTA and CA was used (as outlined in sections 6.1 & 6.2) to produce a more complete and enriched interpretation.

Firstly, insights about collaborative pedagogy preferences are presented, and explanations offered. Following that, the subtheme 'Developing collaborative working skills' focuses on participants' views of the relationship between collaborative working skills and their cumulative effect on their development. Finally, 'Practising to Practice' expands on the second theme by exploring the impact of constructionist pedagogies on developing collaborative working skills.

Section 9.1: Pedagogical Preferences

In discussions, all participants indicated a preference for at least three or more constructionist pedagogies. The wide range of pedagogies selected, as well as the similarities and variation in perceptions between and within groups, were striking. Table 13 reveals a total of eleven preferred collaborative activities mentioned at least once by the NLs; eight were identified by SNs.

In terms of similarities in perception over both groups, seven constructionist pedagogies were mentioned by both NLs and SNs; group discussion and group work were mentioned most frequently. As well as these similarities, low fidelity simulation and skills classes were mentioned by many of the NL group and all SN groups.

Table 13: Perceptions of preferred constructionist pedagogies obtained from both interviews and Ketso (refer to the Glossary for descriptions of pedagogies)

Preferred constructionist pedagogy	Mentioned by NLs	Mentioned by SNs
*Action Learning	Yes	No
*Debrief	Yes	Yes
Group discussions	Yes	Yes
Group work	Yes	Yes
High fidelity simulation	Yes	Yes
Low fidelity Simulation	Yes	Yes
LT/ Kura Cloud	No	Yes
Role play	Yes	Yes
Skills classes	Yes	Yes
*Story telling	Yes	No
*Problem based scenarios	Yes	No
Total no of constructionist pedagogies	**11**	**8**

*Denotes additional constructionist pedagogies included by participants

In the above table, the total number of responses from each participant group is also provided. Commenting on their preferred pedagogies, Kate (FG1) and Mary (NL) alluded to the personal influences on their selections:

"I prefer the skills classes and the simulation. I'm very much a visual learner. I think that when you're listening and you're working with people and seeing how other folk do things and get the same kind of as you. I like the debrief part where we say … you've done really well there, but you could have done that better. Or maybe next time, try this and I like that." Kate, (FG1).

"Part of it is it's a good learning opportunity for me as well, the group discussions, which comes about from the different perspectives." Mary, (NL).

Participants may perceive similar experiences differently, demonstrating the subjective nature of individual perception. This is illustrated in the quote below, from FG2, in response to being asked to comment on their preferred constructionist pedagogy. It also suggests the importance of historical, personal, and temporal factors on pedagogical selection, as described throughout this chapter.

Francesca – I prefer Skills classes.

Marie-Claire - Skills and the * lab tutor.

Blanche - Oh, I hated that lab tutor

Francesca - I do like the group discussions. That was one of my favourite things.

Francesca - I quite liked the role-playing actually. I know a lot of people didn't like that.

Blanche - I loved role-playing.

Francesca - I hated it to start with.

Blanche - It brought out my Meryl Streep

Di - So you liked role-playing. What was it about role-playing that you liked?

Blanche - It was fun, actually, but you were learning as well.

Di - Can you give me some examples of role-playing that you liked?

Francesca - Like, for example, I liked when we were in the little room. I can't remember the name.

Di - The domus room?

Francesca - The domus room, exactly, and we had a patient pretending to be in a diabetic coma or dementia and different things and then the district nurse had to come in and feed them. It was different. I did like that actually. It was interesting. It was good to see how different people react to different things. And someone could have a different suggestion to what they think it is. And you can think 'oh actually, yeah, that would be a good thing to check for.' I thought that was good.

Blanche - It was. It was a wee bit more real life-like, if you know what I mean, instead of just sitting reading a book or listening to a lecturer.

FG2

*Lab Tutor is another name for LT Kura Cloud

The diversity of participants' chosen pedagogical approaches, and their rationales, indicates the complex, subjective nature of learning and constructionist pedagogies. Constructionist pedagogies combine various modes of communication and media in their design features; these may shape decisions on preferences (Hunter & Ravert, 2010; Jones, 2009; Palos, 2020). Students have psychological needs, and the design features influence how these needs are met; the extent to which needs are met influences their perceptions (Davies & Wilson, 2020; Jones, 2009). Blanche,

Marie-Claire and Francesca may therefore be more inclined to engage actively with pedagogies which they believe support their learning. Similarly, lecturers' pedagogical choices may be influenced by personal interests (Beatty et al., 2009). Mary (NL), for example, indicates that preference is guided by her own desire to learn.

The multimodal characteristics associated with the design features of constructionist pedagogies are comparable to Vygotsky's (1978) concept of cultural tools, because the mode refers to psychological tools (such as speech and language) and the medium relates to technical tools including the physical environment where the pedagogy takes place, the equipment, books and documentation associated with practice, and technology. This is because cultural tools are used to mediate understanding via the development of schema (Vygotsky, 1978). The cultural tools used in constructionist pedagogies stimulate emotions and thought processes which trigger associations between concepts; they help develop schema, the building blocks of knowledge (Ansari, 2019). Individuals use schema to organise concepts into mental constructs to help process and retain information: thus, schema concerning pedagogies and their accompanying social contexts can be established. When students participate in pedagogies that interest them (such as Blanche and role-play), memory recall is triggered and they are able to anticipate a specific sequence of events. Positive experiences are reinforced, and students are motivated to engage accordingly. Hidi and Renninger (2010) propose that interest, as a motivational factor, includes both affective and cognitive components which can interact simultaneously. The affective component of interest describes the positive emotions accompanying engagement, whilst the cognitive component of interest relates to the perceptual and representational activities related to engagement.

Constructionist pedagogies differ in their design characteristics due to variances in the tasks, physical setting, and nature of the interaction. In the FG2 quote above there are differences in the modes, mediums and assigned

tasks between LT Kura Cloud, role-play and the simulation in the Domus Room. LT Kura Cloud involves students working together around one computer whereas the Domus Room is set up to mimic a residential home. Using role play to depict a person with diabetes provides the physical environment and opportunities, through interaction, to question, observe and explore, and to develop knowledge about practice. Francesca (FG2, p.219) "liked" this because it provided an opportunity to collate a range of information for analysis in relation to practice. This is corroborated by Dorri et al. (2019), whose research reveals that role-playing might help students mentally prepare for practice by improving decision-making skills and promoting critical thinking.

For Hidi and Renninger (2006), individual interest refers to a person's relatively enduring predisposition to reengage with particular content over time as well as to the immediate psychological state when this predisposition has been activated. In relation to role play, Blanche (FG2) aligned her preference to the affective components along with the interactive element of role play, which enabled her to engage in a particular role. This is evidenced by her statement regarding bringing out her "Meryl Streep". Here, Blanche appears to suggest that the acting part of role play appealed to her, and it was this that sparked her interest and encouraged her re-engagement. Further, in associating the pedagogy with learning, Blanche (FG2) also conveys the cognitive element associated with interest, because she learned through engagement with it. Elsie, however, reacted negatively to interaction with others through role play, perceiving the mere thought of it as a demotivating factor to learning:

> *"Sometimes I think when you're role-playing, you're more exposed because everyone's looking at you." Elsie.*

Whilst six NLs indicated a preference for role play, a number of NLs (n=5) commented that it seemed particularly challenging for some students. Reinforcing Elsie's perspective, Lily (NL) stated:

"The one that is jumping out here is role playing. Students hate role playing. I would role play the patient. The students find role play quite challenging. Then sometimes they get so focused on role play they forget they're there to learn as well." Lily, (NL*).*

Several NLs also echoed the views of Blanche and Francesca and suggested that role play helped prepare students for practice by providing opportunities to transfer theory to practice. The comments below from Rachel (NL) and Kate (FG1) emphasise this:

"I like the interaction of role playing. I think it makes it real sometimes. I think it can help contextualise things. It helps the student think about how are they gonna actually deal with things in a real live situation. In my experience, students have fed back to me and said oh I really get it now." Rachel (NL).

Similarly, Kate (FG1) also made the link between the role play and clinical practice.

"I think the skills labs where you're able to take feedback from your peers and give them feedback as well. I think that that helps you prepare better for being out into practice to see maybe you could do something a wee bit better, that's more effective." Kate, (FG1).

This suggests that participants are more likely to prefer the pedagogy if they can recognise its usefulness. In the constructionist pedagogies outlined above, that usefulness was embedded in the task and reflected real life situations. This can be seen by the comments by Kate (FG1), Francesca (FG2), Blanche (FG2) and Rachel (NL) who all identify connections between the pedagogy and clinical practice or real life. The perceived link to clinical practice may also affect the lecturer's drive to convey it: Rachel's (NL) comments clearly explain her affinity with role play. This notion of usefulness is also identified in the literature. Kaufman and Dodge (2009) illustrate that perceptions may be influenced by participants' perceptions of the value of the pedagogy. Further, Dorri et al. (2019) suggest that the closer the education

environment is to reality (such as in skill labs, simulation and role play), the more effective the learning is. This is because students learn how to deal with real situations and difficulties, improving their comprehension of various situations. This can reduce stress and increase confidence, including in the real-world of practice.

In Table 14, asterisks signify participant-added pedagogies. As the table shows, NLs introduced a total of four additional pedagogies: debrief, problem-based scenarios, storytelling and action learning, whilst debrief was the only addition made by students. Respective roles and experience might account for this. NLs are embedded in education and have a specific perspective on pedagogy and learning; thus they were able to contribute different insights.

Table 14: Preferred constructionist pedagogies from NLs obtained from both interviews and Ketso (n=11)

Name	Preferred pedagogy	Name	Preferred pedagogy
Ellana	Debrief Group discussion Low fidelity simulation High fidelity simulation Skills classes	Martin	Group discussion Group work Low fidelity simulation Skills classes
Emily	Group discussion Group work Low fidelity simulation Role play Skills classes	Mary	*Action learning Group discussion Group work Problem based scenarios
Frank	Group discussion Group work *Problem based scenarios Role play	Rachel	Group discussion Group work Role play
Jason	Group discussion Group work High fidelity simulation Low fidelity simulation Role play	Susan	Group work Role play Skills classes *Story telling
Jenni	*Debrief Group discussion Group work Skills classes	Stephen	Group work High fidelity simulation Low fidelity simulation
Lily	*Debrief Group work Group discussion High fidelity simulation Low fidelity simulation Role play Skills classes		

In Table 15, the perspectives of SNs in relation to their preferred constructionist pedagogies are put forward.

Table 15: Preferred constructionist pedagogies from student nurse group obtained from both interviews and Ketso (n=3)

Participant/Group	Preferred pedagogy
Elsie	Group discussions Low fidelity simulation Skills classes
FG1	*Debrief Group discussions Group work High fidelity simulation Low fidelity simulation Role play Skills classes
FG2	Group discussions Group work Low fidelity simulation LT / Kura Cloud Role play Skills classes

Tables 14 and 15 are revealing in several ways. Firstly, they show that the range of preferred collaborative pedagogies recorded by the NLs and SNs groups ranged from three to seven. Nearly half the NLs stated a preference for four collaborative pedagogies whilst four NLs provided between five and seven. Only two NLs preferred three collaborative pedagogies. The variation in selection perhaps demonstrates the personal affinity participants have towards certain pedagogies.

The difference in the number of pedagogies selected by Elsie compared with the other SN groups may have arisen from the combined efforts of discussion, where the pooling of cognitive efforts resulted in more perspectives. This pooling of mental resources is backed up by Mary (NL), who argued that more people will generate more perspectives. According to Nokes-Malach et al. (2015), this is because the social interactions provided by groups help learners with memory retrieval.

Perceived success arising from the task associated with the pedagogy might also account for pedagogical preference. For Jones (2009), this is

associated with students' perceptions of competence and their need to believe that they can successfully engage in the pedagogy. Therefore, it could be argued that students who believe they are likely to succeed are more likely to prefer a particular pedagogy than students who do not believe they are likely to succeed. It is possible that this is similar for Blanche (FG2) when she made the comment regarding Meryl Streep, a successful actor. She also stated that she found role-play fun: she is therefore more likely to participate enthusiastically with that pedagogy. This may be because she is less apprehensive when confronted with challenging activities and performs at a higher level because she is an experienced performer and likes acting. Elsie, however, did not feel confident with role-play and did not want to appear incompetent or unsuccessful in the task.

According to Jones (2009), pedagogical preference may also be related to a feeling of empowerment: different collaborative pedagogies are associated with varying degrees of autonomy and support. Some students may require high support and prefer to be told exactly what to do, whilst others are more autonomous and prefer less support (Merrill, 2002). Kate (FG1) commented that one of the strengths associated with the skills lab was the ability to focus and direct her own learning. Francesca (FG2) (p. 234) also notes the issues around being able to respond to other's comments. This reflects the notion that having control over some aspects of learning may be an important feature of the pedagogy for students. Jones (2009) suggests that the optimal amount of control needed by students to be motivated will vary.

The assurance drawn from participant responses suggests that the diverse strategies employed within constructionist pedagogies are effective in addressing individual learning preferences. The diversity of constructionist pedagogies (and their underlying multimodal approaches) which helps ensure students' learning preferences are considered, demonstrates alignment with Horsfall et al's. (2012) definition of pedagogy (discussed in Section 2.3.1) in so much as it acknowledges that the way students learn should be a consideration in programme design. Moreover, the desire to

reflect a student-centred approach underpins the *Undergraduate Programme Specification* ((UWS, 2020) and the *Curriculum Framework* (UWS, 2022). This connection highlights the importance of adapting teaching methods to accommodate the diverse needs and preferences of students, which is a key aspect of effective pedagogy. However, this does not mean that students and staff only engage with pedagogies they like, for, as Jones (2009) suggests, balance is required in relation to the challenges associated with engagement with the pedagogy. This may be related to several features of the pedagogy, such as the task or the type of interaction. According to Ansari (2019) by drawing on familiar schema and through the assimilation of older concepts, engagement in new and different experiences activates the development of newer or different mental schema.

Section 9.2: Developing Collaborative Working Skills

Whilst in Subtheme 1 (Pedagogical preferences) participants reported their pedagogical preferences, here they explore those collaborative working skills associated most closely with constructionist pedagogies. As detailed in Chapter 1 (section 1.2), I assumed a relationship between engaging in constructionist pedagogies and developing collaborative working skills. Prior to commencing my study, this had been reinforced by colleagues and students, who identified a particular connection in those constructionist pedagogies containing elements that privileged physical contexts, or tasks that mimicked clinical placement such as simulation and venepuncture. This subtheme explores perspectives of the relationship described above and aimed to help me understand those connections. Clearly, the skills identified are not exclusive to working collaboratively with others and have multiple applications. For the purpose of this thesis, however, 'collaborative working skills' refers to the skills used to facilitate working effectively with others.

By opening each conversation in a positive manner, I hoped to concentrate participants' attention on the aspects of constructionist pedagogies they

thought most strongly aligned with the development of collaborative working skills. To begin, participants were asked to review a variety of collaborative working skills and their perceived relevance for clinical practice. Participants were invited to offer additional skills, as was also the case with the list of constructionist pedagogies.

9.2.1: Identifying Collaborative Working Skills

Table 16 shows the breadth of skills that participants believed were important for working collaboratively in clinical practice and could be developed through constructionist pedagogies. The table also illustrates the range and number of skills between and among participant groups and the variation of perspectives within each participant group. A total of sixteen collaborative working skills were developed through constructionist pedagogies. Both participant groups identified twelve similar collaborative working skills. Compassion, consensus-reaching, decision-making and self-awareness were identified by the NLs group only.

Table 16: Name and number of collaborative working skills mentioned by NLs and SNs obtained from both interviews and Ketso

Collaborative working skill	Response (NL)	Response (NL) (N=11)	Response (SN)	Response (SN) (N=3)
Assertiveness	✓	3	✓	2
Communication	✓	11	✓	3
Compassion	✓	8	X	0
Confidence	✓	7	✓	3
Conflict-negotiation	✓	4	✓	2
Consensus-reaching	✓	1	X	0
Critical thinking	✓	8	✓	1
Decision-making	✓	5	X	0
Diplomacy	✓	6	✓	1
Knowledge	✓	5	✓	2
Negotiation	✓	4	✓	1
Problem-solving	✓	8	✓	1
Reflection	✓	6	✓	2
Self-awareness	✓	1	X	0
Self-regulation	✓	3	✓	1
Technical	✓	5	✓	1
Total number of skills	**16**		**12**	

Communication skills were noted by all eleven NLs. Diplomacy (n=6), reflection (n=6), confidence (n=7), compassion (n=8), critical thinking (n=8), and problem-solving (n=8) were noted by more than half of the NLs, with only one NL mentioning consensus-reaching and self-awareness skills. The recognition of communication skills by all eleven NLs, along with varied mentions of skills such as diplomacy, reflection, confidence, compassion, critical thinking, and problem-solving by more than half of the NLs, with only one NL referring to consensus-reaching and self-awareness skills, highlights the intricate and debated nature of the concept of 'skill.' as detailed in Chapter 3 (section 3.2.2).

Parallels in the reporting of specific skills were also noted across student groups, with two skills (communication and confidence) being reported by all. Four skills were listed twice in total (assertiveness, conflict-negotiation, knowledge and reflection). Six skills, on the other hand, were only listed once. As with the NL group, this shows that there are differences in how certain skills are perceived within the student group.

Consensus in perspective between both participant groups is also highlighted in Table 16. Notably, communication was mentioned by all NL and SN groups and confidence was mentioned by over half the NL and all SN groups. The table also shows variation between groups in relation to those skills mentioned by NLs and not the SN group. Whilst eight NLs identified compassion and nearly half the NLs (n=5) mentioned decision making, these were not reported by any of student nurse groups.

As explored in Chapter 3, section 3.2.2, the definition of a skill varies depending on the discipline. The acknowledgment of confidence as a skill by participants further highlights this disciplinary-specific perspective. Additionally, both Skills Development Scotland (2018) and the NMC (2018e) advocate for the development of confidence, emphasising its importance within the broader context of skills development.

Commenting on the development of compassion (NL group only, n=8), Stephen (NL) discusses the role of several associated pedagogies (group work, high fidelity and low fidelity simulation):

> *"We tend to add-in a human element to make it more realistic. They will still be personalised and to perhaps just remind students that it's a person lying in the bed or sitting on the sofa at home that they're dealing with to enhance their learning. You know, I find that often they will almost put to one side the fact that it is simulation and will engage in quite a realistic way. And the same with the classroom-based group work, if you can have an image of a real person and a real story and, and a name, I find that it transforms the whole experience." Stephen, (NL).*

Stephen (NL) also highlights how the physical environment and associated tasks are structured to mimic the realities of practice, to help students to develop compassionate skills.

The wide range of skills selected by participants further acknowledges the complexity of collaboration. Participants' perspectives also reflect the nursing literature on collaborative working. It is also notable that whilst the development of these skills requires a contribution from others, the extent of that development reflects both intramental and intermental processes. For example, reflection, confidence, self-regulation and self-awareness skills may require different processes in their development than communication, assertiveness, diplomacy, conflict negotiation and consensus reaching, which may be more dependent on active interaction with others via communication (Kalaian & Kasim, 2017; Labrague & McEnroe-Pettite, 2017; Nokes-Malach et al., 2015; Seren & Ustun, 2008).

In Chapter 8, non-verbal and verbal communication were perceived as crucial to collaborative learning. Good verbal and non-verbal communication skills have been widely recognised as essential skills for interpersonal relationships and collaborative working (Matziou et al., 2014). The work of

Chan (2013), on non-verbal sensitivity in nursing students, outlines the complex nature of healthcare involving multiple, socially influenced concepts whose delivery and implementation rely heavily on communication. Non-verbal communication plays a significant role in nursing interactions, between nurses and patients in terms of body language and touch as a means of conveying care and concern, and within the multidisciplinary team (Blanch-Hartigan et al., 2018).

Communication underpins a range of different collaborative working skills, such as conflict management skills. Conflict-negotiation skills, which include a set of skills required for managing conflict once it presents, for instance, are underpinned by effective communication which has the ability to strengthen relationships, raise morale and promote motivation (Labrague & McEnroe-Petitte, 2017; Seren & Ustun, 2008). Seren and Ustun (2008) suggest conflict within teams may be healthy and necessary for growth, yet it can be destructive if it becomes personal, impedes relationships and compromises patient safety. Labrague and McEnroe-Petitte (2017), commenting on the complexities associated with conflict management and the need to take account of individual characteristics, foreground the ability to communicate clearly, precisely, sensitively and with authenticity. The ability to manage conflict requires skilful negotiation, thus it is understandable that conflict negotiation was mentioned by four NL and two SN groups and is a prerequisite for effective collaboration.

Confidence was highlighted by all student groups and seven NLs and, again, is underpinned by communication. In my interactions with students, the need for confidence is widely discussed by Year 3 students. This may relate to interactions with patients, their relatives and members of the multidisciplinary team. This is perhaps prominent for those students because, as they progress to registration, being confident is an important factor in the effective discharge of their role in the clinical area (Ortiz, 2016). Ortiz (2016) and Holland et al. (2012) indicate that notions of professional confidence are complex and involve multiple factors including personal confidence,

competency and professional identity. Personal or self-confidence is connected to a person's feelings or trust in their own abilities, qualities and judgement and, according to Hecimovich and Volet (2010) can be seen as a precursor to professional confidence. Wang et al's. (2014) study found that the ability to speak and act with confidence and clarity helps gains trust, respect and cooperative willingness. Perhaps this is why confidence was mentioned as a collaborative working skill by participants in this study.

Nurses must be confident in their technical skills as well their communication (Abdelkader et al., 2021) and I was surprised that only one student nurse group suggested a relationship between technical skills and collaborative working (Table 16, p. 227). Technical skills or hard skills are more obvious, so others are more likely to notice and credit them (Oermann, et al., 2016; Skills Development Scotland, 2018). Furthermore, students appear to prefer group work which focusses on technical skill development, such as venepuncture, urinary catheterisation and wound care (Ravik, et al., 2017) and, from a student perspective, displaying confidence with technical skills can be one way of seeking approval from others (Cason, et al., 2015; Griffiths, 2018).

The natural synergy between adopting compassionate skills and working collaboratively with others, is reinforced by Dewar, et al. (2013), who claim that compassion necessitates courteous, helpful, and respectful responses, which are frequently returned. Good relationships are essential to working effectively with others and the ability to demonstrate compassion in practice is regarded as a crucial nursing skill (NMC; 2018a, 2018d). Whilst eight NLs consider this to be a collaborative working skill, none of the SN group perceived it to be so. This may have been about the failings outlined in a number of reports such as care failings at the Mid Staffordshire Foundation Trust (The Mid Staffordshire NHS Foundation Trust Public Inquiry, 2013). It is now generally felt that compassionate care is directly linked to safer care, endorsing the use of tools for safety and quality improvements and focusing on small changes in attitudes and behaviours that aim to provide positive

changes. NLs are likely to possess an awareness of these factors, and this may explain why they perceived compassionate skills to be relevant to working collaboratively with others. The SN group did not mention compassionate skills. Student nurses might associate such skills as taking place within clinical practice between nurses and patients or carers, not between professionals.

Section 9.3: Cumulative Development of Skills

Above, I discussed perceptions of the individual skills necessary for working collaboratively as they related to constructionist pedagogies. In this third subtheme, I turn to participants' perceptions of the relationships between these different skills. By understanding the connections between the individual skills, it is possible to contextualise their relationship to collaborative working skills. A more integrated grasp of collaborative working skills helps explain how they are inter-connected with constructionist pedagogies. As discussed in Chapter 4 (section 4.4) Papp et al. (2014) suggest that critical thinking skills should be regarded as a meta-skill because they incorporate a range of subskills that contribute to the overall skill. I view collaborative working skills similarly, because, as the findings of this study reveal, collaborative working skills are an accumulation of sixteen subskills and are developed after those other skills have been developed. Those skills can then be refined through the act of working collaboratively with others. This is presented in Figure 18. The list of eleven skills presented in the middle reflects those critical thinking skills which were synthesised from the literature. The five skills in red are those skills that were considered as collaborative working skills which this study's participants suggested could be developed through employing constructionist pedagogies.

Figure 18: Relationship between critical thinking skills and collaborative working meta-skills

Information synthesised from Blakeslee (2020), Chan (2013b), Sullivan (2012), VonColln-Appling and Giuliano (2017)

An argument for the recognition of collaborative working skills as a meta-skill is shown in Figure 18 above. This is because collaborative working skills, like critical thinking skills, fall within the category of higher-order skills or a set of skills that enable students to acquire, apply, and adapt various other skills. This aligns with the definition of a meta-skill, which is described as having a substantial influence on the learning and development of multiple skills, as noted by Papp et al. (2014) and emphasised by Skills Development Scotland (2018). Figure 19 below, further reinforces this idea. This shows the entire range of perspectives put forward by both participant groups and indicates the bidirectional relationship between the sixteen subskills and collaborative working skills. Figure19 also highlights (in red) those skills associated with critical thinking, illustrating further the perceived relationship between constructionist pedagogies and skill development in the preparation of practice.

Figure 19: Critical thinking skills and collaborative working skills - a comparison of perspectives

Red = skills identified previously in literature associated with critical thinking skills (see Figure 17)
Black = skills identified by participants in this study associated with collaborative working skills

The NL group provided more detail on the inter-connectedness of the skills than the SN groups. This was unsurprising given that facilitation of skill development is a core function of an NL. Nine skills were identified by Elsie (SN); she considered all to be interrelated. Kate and Meghan (FG1) alluded to five different interrelated skills; Kate (FG1) associated communication with confidence. FG2 mentioned six skills and Francesca, Marie-Claire and Rose identified connections between skills. Marie-Claire linked confidence and communication, whereas Rose perceived communication and negotiation to be closely aligned. Francesca (FG2) illustrated this notion of adjacency in relation to confidence and assertive skills, linking constructionist pedagogies within the university setting to practice settings:

> *"I think with both assertiveness and the confidence skills, they really improved for me especially in clinical practice and in University. Collaborative learning helped my assertiveness and my own confidence. Being able just to work so closely and to provide your own point of view with different things. If someone has a comment or an idea or opinion you can say 'actually, no, I think this, and this is my reason for this'…I really liked that. It really, really helped." Francesca, (FG2).*

Lily (NL) considers the association between critical thinking, problem-solving and communication skills:

> *"I like to think I would get them to be critical thinkers and not just accepting how things are done, but to question. I think we definitely get them to become problem-solvers. And I think it's a skill that develops as they go through the years. I think it is one that they take to when they qualify as well. Cos they can't just problem-solve at everything. I think communication skills, we develop that in the hope they can communicate with others so that they can problem-solve." Lily, (NL).*

Table 17 presents NL perspectives on the connection between the skills. Data from the NLs revealed that perceptions relating to the number of skills associated with each other ranged from one to six. Conflict negotiation, for example, was connected to six skills. Eight NLs associated communication skills with four other skills (confidence, compassion, decision-making and knowledge skills) and six NLs stated that critical thinking skills were linked with two skills (communication and problem–solving skills). Stressing the significance of developing skills for practical application is crucial, highlighting the interconnectedness of skills and the progressive development that contributes to skill proficiency. This progression aligns with the criteria set forth in the *Standards of Proficiency for Registered Nurses* (NMC, 2018e), as detailed in Section 2.2.3.

Table 17: Nurse Lecturers' perspectives on connections between skills obtained from both interviews and Ketso

Focused Collaborative working skill	Connected skill associated with focused skill	Names of NLs providing one or more perspective(s) on the skill
Assertiveness skills	• Negotiation • Confidence • Knowledge • Diplomacy • Consensus-reaching	Jason, Jenni, Martin, Mary, Susan
Communication skills	• Knowledge • Confidence • Compassionate skills • Decision-making	Ellana, Frank, Jason, Lily, Mary. Stephen, Rachel, Susan
Compassionate skills	• Communication • Decision-making • Problem-solving	Jason, Martin, Rachel, Susan
Confidence skills	• Negotiation • Critical thinking • Decision –making	Stephen
Conflict negotiation skills	• Negotiation • Decision-making • Conflict-negotiation • Diplomacy • Consensus-reaching • Self-regulation	Jason, Rachel
Consensus-reaching skills	• Negotiation	Emily, Jason. Mary
Critical-thinking skills	• Communication • Problem-solving	Emily, Jason, Jenni, Lily, Rachel, Susan
Decision-making skills	• Communication • Knowledge • Critical thinking • Decision-making • Problem-solving	Jason, Mary, Susan
Knowledge skills	• Communication • Problem-solving • Decision-making • Critical thinking	Frank, Jason, Mary
Diplomacy skills	• Communication • Knowledge	Ellana, Jason, Martin, Stephen. Rachel
Negotiation skills	• Communication • Knowledge	Frank, Jason, Jenni, Stephen
Problem solving skills	• Decision-making • Knowledge • Communication	Ellana, Emily, Frank, Jason, Lily, Martin, Mary
Reflection skills	• Decision-making • Feedback	Emily, Frank, Jason, Lily
Self-regulation skills	• Reflection	Emily, Jason, Martin, Mary

As explained in Chapter 3, the development of skills integrates complex concepts and processes which are constantly being formed and reformed, informing and being informed by each other. The findings provide interesting insights, demonstrating that the complexity of skill development has been recognised despite differences in the level of detail provided. Participants appear to recognise the cumulative impact and inter-connectedness associated with skills development. For example, whilst sixteen skills were mentioned by NLs, collectively they could be seen to serve as the building blocks to collaborative working. Thus, participants in this research may view skills in a hierarchical manner, like Papp et al's. (2014) analysis of critical thinking skills. In this study, participants may view collaborative working skills as a meta-skill, composed of several sub skills (NLs identified sixteen subskills and SNs twelve subskills). The subskills that participants identified are part of the complex skill set of collaborative working. I share the same perspectives on the connected skills: for example, I view communication, decision-making and problem-solving as being connected to compassionate skills. However, as I have a particular interest in compassionate care and deliver a module on the topic, I would also have added confidence, knowledge and reflection to the list. I therefore have a different understanding from my colleagues, which further reinforces alignment with my social constructionist orientation in so much that my personal experiences shape my perspective.

As in the literature, the findings of this study suggest that the development of collaborative working skills is also contingent on the development of the subskills. Blakeslee (2020), Chan (2013), Sullivan (2012) and Von Collin-Appling and Giuliano (2017), associate critical thinking skills with communication, confidence, decision-making, critical writing, problem-solving, reflection, open-mindedness, creativity, adaptability, information-seeking, reasoning and argumentation.

Table 17 also demonstrates participant recognition that some associated connected skills align more closely to particular subskills. Jason and Rachel

(NLs) collectively suggested that elements of six other skills were linked to conflict negotiation skills. Alternatively, six NLs aligned two skills (communication and problem-solving) with critical thinking skills. This also accords with Papp et al. (2014), who postulate that subskills may develop simultaneously. This demonstrates that skill development is promoted when structural features are carefully identified and explicitly mapped for learning (Merrill, 2002).

Chapter 2 (see sections 2.2.3 & 2.2.4) focused on proficiency and the cumulative development of skills. To develop proficiency at a certain level, students must acquire component skills, practise integrating them and know when to apply what they have learned. This further illustrates that similar knowledge and skills can be integrated from different sources and elements of what is learned can be applied to new contexts. As demonstrated in Table 17, the development of assertiveness skills requires antecedent development of negotiating, confidence, knowledge, diplomacy and consensus-reaching skills. When confronted with a novel circumstance, the student is encouraged to integrate previously acquired skills using prior schemas. The qualities of constructionist pedagogy enable the formation of mental bridges or schema and may thus serve as a trigger for transfer. However, in this case, not only are novel psychological processes or schemas generated, but also mastery of existing functions is achieved (John-Steiner and Mann, 1996).

My reasoning for using the definitions of skill components and skill development provided by Green (2011) and Lamri and Lubart (2023) also connects to Chaiklin's (2003) explanation of the generative features of the ZPD as detailed in Section 3.2.3.1). The findings in Table 17 further support Green's (2011) explanation of the psychological element associated with skill: that, a skill can be expanded. Although not specifically indicated in the data supplied in Table 17, I expected participants to perceive skills as developable, considering their awareness of the study's objectives and their active involvement in discussing collaborative learning and skill development.

This is noteworthy because it aligns with my understanding of how constructionist pedagogies might assist student development.

9.3.1: Practising for Practice

To explore the relationship between constructionist pedagogies and their role in preparing students for practice, participants were asked to focus on the constructionist pedagogies that best aided the development of collaborative working skills. Table 18a and 18b detail the connections made between specific pedagogies and skills development. The table below gives collated results for each collaborative working skill, plus the associated pedagogies and the number of participants who indicated alignment between the collaborative working skill and pedagogy. It is crucial to establish connections between the degree of alignment that participants reported for collaborative working skills and the corresponding pedagogies. This allows for a more thorough understanding of how different pedagogical approaches address or foster different collaborative working skills. This may provide valuable insights for lecturers in terms of programme development. These figures, which reflect the perspectives of each participant group, provide important insights into the role of constructionist pedagogies in preparing students for practice. It is striking that, when all constructionist pedagogies are considered together, they contribute to the development of sixteen collaborative working skills for application in practice. The total number of pedagogies indicated was nine by NLs and six by SNs.

Table 18a: Individual collaborative working skills perspectives in respect to constructionist pedagogies obtained from both interviews and Ketso

Skill developed for collaborative working (n-16)	Skill aligned to pedagogy (NL)	Skill aligned to pedagogy (SN)
Assertiveness	Action Learning Debrief Group discussion Group work Skills classes	Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes
Communication	Action learning Debrief Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes Problem based scenarios	Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes
Compassion	Debrief Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes	
Confidence	Action learning Debrief Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes Problem-based scenarios	Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes
Conflict-negotiation	Debrief Group discussions Group work Role play Skills classes Problem-based scenarios	Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes
Consensus-reaching	Action learning Group discussion Group work	
Critical thinking	Action learning Debrief Group discussion Group work High fidelity simulation Low fidelity simulation Role play Problem – based scenarios Skills classes	Group discussion Role play Skills classes

Table 18b: Individual collaborative working skills perspectives in respect to constructionist pedagogies obtained from both interviews and Ketso (continued)

Skill developed for collaborative working (n-16)	Skill aligned to pedagogy (NL)	Skill aligned to pedagogy (SN)
Decision-making	Action learning Debrief Decision-making Group work High fidelity simulation Low fidelity simulation Skills classes	
Diplomacy	Action Learning Debrief Group discussion Group work Role play Skills classes	Group discussion Role play Skills classes
Knowledge	Action learning Debrief Group discussion Group work Role play Skills classes Problem based scenarios	Group discussion Group work Role play Skills classes
Negotiation	Action learning Debrief Group discussion Group work Skills classes Problem-based scenarios	Group work Skills classes
Problem-solving	Action learning Debrief Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes Problem based scenarios	Group discussion Role play Skills classes
Reflection	Action learning Debrief Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes Problem based scenarios	Group discussion Group work Role play Skills classes
Self-awareness	Low fidelity simulation Role play	
Self-regulation	Group discussions Group work Low fidelity simulation Role play Skills classes	Group discussion Group work High fidelity simulation Low fidelity simulation Role play Skills classes
Technical	De-brief Group work High fidelity simulation Low fidelity simulation Role play Skills classes	Group discussion Role play Skills classes

Table 19 is where I have collated the figures for the pedagogies – so it is easier to visualise where the differences and similarities are.

Table 19: Both participant groups' collated perspectives on individual collaborative working skills regarding constructionist pedagogies obtained from both interviews and Ketso

Collaborative working skill	Response (NL)	Response (NL) (N=11)	Response (SN)	Response (SN) (N=3)
Assertiveness	✓	3	✓	2
Communication	✓	11	✓	3
Compassion	✓	8	X	0
Confidence	✓	7	✓	3
Conflict-negotiation	✓	4	✓	2
Consensus-reaching	✓	1	X	0
Critical thinking	✓	8	✓	1
Decision-making	✓	5	X	0
Diplomacy	✓	6	✓	1
Knowledge	✓	5	✓	2
Negotiation	✓	4	✓	1
Problem-solving	✓	8	✓	1
Reflection	✓	6	✓	2
Self-awareness	✓	1	X	0
Self-regulation	✓	3	✓	1
Technical	✓	5	✓	1
Total number of skills	**16**		**12**	

Similarities and variations exist between groups in relation to the types of skills developed and the number of pedagogies associated with them. This continues to emphasise several of the social constructionist principles introduced in Chapter 2 and reinforces the idea that, when preparing students for practice, a range of pedagogies is required. In this study, perceptions of the contribution made by pedagogy to skills development varied between and even within groups. The diverse perspectives relating to the development of constructionist pedagogy and collaborative working skills indicate that the world is experienced and seen differently by participants. This supports the social constructionist concept that an individual's

experience of the world is historically and culturally specific, reliant on their geographical and temporal environment, as well as how and what they utilise to form their image of the world (Bergen & Luckman, 1966; Burr, 2015; Gergen, 2015).

Tables 18a, 18b and 19 also demonstrate the complex, multi-faceted development of collaborative working skills. Such skills may be developed as a result of design features associated with the pedagogies, such as the pre-set task, the environment where the pedagogy takes place or the type of interaction. All constructionist pedagogies were seen to promote the development of communication skills; this was unsurprising because interaction involving dialogue is central to all constructionist pedagogies in this study. The nature of the dialogue and, therefore, the communication skills developed as a result of engagement may differ. For example, during a role play, questioning skills may be developed alongside a range of non-verbal behaviours associated with listening and conveying concern. This may be because role playing and its visualisation guides students towards understanding their own social behaviour and role in social interactions. Through engaging in the actions and emotions within the role, students may be motivated to analyse the roles and situations (Dorri et al., 2019). As communication is seen as a prerequisite for effective nursing practice, it seems obvious that this skill will be developed. The following discussion relates to the development of communication skills. I asked Elsie if there were any skills that she felt could be developed using constructionist pedagogies:

> *Elsie – "I think when you're working in collaborative learning you're not always going to agree with everything that everyone says but you have to be able to communicate effectively to get your point of view across. And if someone doesn't agree with you and voices that… you need to deal with it. You just can't fly off the handle.*

> *Di - So, is it verbal communication skills?*

Elsie - I think verbal and non-verbal? I think non-verbal as well because your body language can tell a lot when you're in a group. For example, if the same person's talking all the time and you're trying to get your point across, you might get a bit fed up but if you were to let the person see that then it could cause hassle, so you need to make sure that your body language isn't giving anything away as well [laughs]." Elsie, SN.

Some constructionist pedagogies align with the development of specific skills. It is therefore possible that Elsie is alluding to the influence of the task and the interaction element of the constructionist pedagogy. It may be assumed that she was referring to perhaps a group discussion with the opportunity to share perspectives through class talk. Although Elsie does not explain how she 'deals with it', the quote suggests that constructionist pedagogies provide the environment to stimulate skills development, including the development of self-regulation skills.

In addition, it appears that some constructionist pedagogies are more aligned with the development of specific skills than others, based on participant group differences. Critical thinking and technical skills were associated with more pedagogies in the NL group than the student group, with eight NLs linking critical thinking skills to every constructionist pedagogy. By comparison, as Table 19 (p. 242) shows, one SN indicated critical thinking skills were developed through engagement with constructionist pedagogies.

Self-awareness, identified by two NLs and no SNs, was mentioned in relation to low fidelity simulation and role play and it was interesting that nine NLs and two SN participant groups mentioned reflection. This finding may be attributed to the fact that, within the programme, reflection is referred to more frequently than self-awareness. In this case, it might be easier to recall skills that have a vocabulary commonly used within the culture.

Consistent with the literature, this study discovered that constructionist pedagogies are helpful in developing various skills. The literature outlines the various ways in which a single constructionist pedagogy aligns to the

development of several skills. Simulation can enhance the development of critical appraisal, decision-making, technical and knowledge skills of students (Alamrani et al., 2018; Blakeslee, 2020; Leyva-Moral and Camps, 2016; Ravik et al., 2015; Tschannen et al., 2012). Classroom-based group work, for instance, can be aligned to the development of communication, confidence, conflict negotiation, critical thinking, compassion, decision-making and problem-solving skills (Baghcheghi, et al., 2011; Chan, 2013; Levett-Jones et al., 2019; Seren and Ustun, 2008). Moreover, some studies have focused primarily on the development of one group of skills such as simulation and classroom-based group work and communication skills, (Baghcheghi, et al., 2011; Forsberg et al., 2014; San Martin-Rodriguez et al., 2005; Wang et al., 2018).

Alongside the literature, my findings reinforce the complexities associated with constructionist pedagogies and their role in developing collaborative working skills in preparing students for practice. These complexities are recognised by participants in both groups. While a single skill (such as compassion) can be cultivated through a variety of pedagogies, Kate (FG1) shares her thoughts on the links between classroom pedagogies, skill development, and clinical practice. This illustrates Kate's (FG1) thoughts in relation to transferring skills acquired in one context (the classroom) to another (clinical practice).

> *"[Collaborative working skills], I can think of a time for almost every single one [referring to constructionist pedagogies], where we've done an activity in Uni, that's developed one of these skills. And maybe at the time, you don't realise what you're learning, but then you go out and you practise and you think "Oh I can do that". And you think, Oh how, can I do that? And you know it's because .... being at Uni gives you the chance [to develop the skills]."* Kate (FG1)

Also notable is the difference in the range of skills identified within both participant groups. For example, in the NL group this ranged from one participant mentioning consensus-reaching and technical skills to all eleven

participants mentioning communication skills. Only one SN participant mentioned self-regulating skills, whilst all three SN participant groups highlighted communication and confidence skills.

Commenting on the development of self-regulation skills, Meghan (FG1) explained her perspective on the link between skills development within the university setting and their transfer to clinical practice:

> *"Well, for self-regulating, what that says to me is like, keeping myself right. Keeping my skills right, keeping my attitude right, keeping my time management right, looking after myself as a student in uni and then taking it out in placement and applying all the same things, working within my limitations, turning up when I'm supposed to".* Meghan (FG1).

While the preceding discussion explored connections between numerous constructionist pedagogies and individual skill development, Table 20 explores perceptions in relation to the overall number of skills associated with individual constructionist pedagogies. It is apparent from Table 20 that both participant groups perceived that some pedagogies are aligned more closely with the development of specific skills. This is of relevance as it could illustrate the perceived value of the individual pedagogy to skill development. In terms of improving pedagogical practice, an appreciation of this may facilitate dialogue by providing insight into participants' perspectives on the contribution of specific pedagogies. Considering these views when establishing instructional practice may thus be beneficial.

Table 20: An overview of the constructionist pedagogy in relation to the number of skills developed - obtained from both interviews and Ketso

Preferred pedagogy aligned to skills	No. of Skills which could be developed (NL)	No. of Skills which could be developed (SN)
Action learning	10	0
De-brief	12	0
Group discussion	14	10
Group work	15	8
Low fidelity simulation	10	5
High fidelity simulation	8	5
Role play	12	11
Skills classes	15	12
Problem - based scenarios	8	0

As previously reported, NLs reported a total of sixteen skills that could be developed over nine different pedagogies. The SN group identified twelve skills developed over a range of six pedagogies. Both participant groups identified linkages between certain pedagogies and skills. Of the overall number of skills developed, as indicated in Table 20, both groups perceived that group discussion, group work, role play, and skills classes helped develop most skills. There were differences in the number of perspectives between the groups, with NLs reporting almost double the number of skills developed via high and low fidelity simulation when compared to the student nurse group.

When adjusted for total number of skills, NLs reported almost double the number of skills developed via high and low fidelity simulation compared to the SN group. This might be accounted for by the fact that three NLs and only FG1 indicated a preference for low fidelity simulation. I had anticipated that SN participants would mention a greater range of skills in relation to high fidelity simulation, however perhaps when confronted with the range of constructionist pedagogies they were able to perceive the contribution of other pedagogies and therefore contextualised the contribution of high-fidelity simulation against the other pedagogies.

9.4: Summary

Participants' perspectives suggest a preference for some pedagogies over others. However, both similar and different preferences prevailed within and across participant groups with no one group sharing exactly similar perspectives. Pedagogical preferences are of relevance because they are associated with engagement which is subsequently linked to learning. A variety of factors were found to influence preferences, including prior and current experience, as well as the perceived enjoyment and utility of the pedagogy to practice.

According to participants, constructionist pedagogies have the potential to facilitate the development of a total of sixteen collaborative working skills. Notably, differences in perspectives were observed both between and within groups, echoing the variations seen in preferred pedagogies. This divergence may stem from individuals' differing definitions and perceptions of skills, emphasising the contested nature of skill. Given the paramount importance of relationships and interaction in nursing, it is unsurprising that both groups identified the development of communication skills as a crucial aspect. This further reinforced the crucial part the interaction feature of constructionist pedagogies plays in providing opportunities for skill development, especially when compared to traditional lecture-style pedagogies. This acknowledgment is particularly noteworthy as it strongly corresponds to the importance accorded to communication skills by the NMC, as clearly delineated in Annex A: Communication and Relationship Management within the *Standards of Proficiency for Registered Nurses* (NMC, 2018e).

The third subtheme associated with the development of collaborative working skills was the cumulative impact of skill development which was brought about by engaging in constructionist pedagogies. Like critical thinking skills, participants also perceived that many collaborative working skills were inter-connected. While both participant groups saw linkages between different skills, the NLs gave a more detailed account of how they were related to one

another. Engaging in a variety of pedagogical approaches, utilising a variety of tasks, interactions, and physical environments, as well as interacting with a variety of others, provides students with myriad contexts for practising and honing skills. And when students are exposed to a range of opportunities and contexts, they gain a cumulative advantage. Students may spiral their development throughout their curriculum with constructionist pedagogies. This stresses the concept of expandable skills, which aligns with Green's (2011) description in section 3.2.2, in which students may actively and incrementally develop skills.

In Chapter 10, I address the last theme, 'Towards the future,' in which participants offer a variety of perspectives on how collaborative pedagogies could be improved to maximise collaborative working skill development for clinical practice.

Chapter 10: Towards the Future

Section 10.0: Introduction

Chapter 10 presents the findings on the third theme, *Towards the Future,* and relates to research question three. There are three subthemes:

- Boosting learning through involving a wider range of groups in the programme;

- Changes to teaching and learning; and

- Intraprofessional teaching and learning.

My EdD is concerned with creating knowledge that could be used to inform and advance workplace practice. Guba and Lincoln (1989) refer to this as catalytic authenticity which relates to the extent to which action or change could be facilitated by the research. Chapter 10's focus is related to Research Question three and theme three. Both the research question and theme were directly aligned to the Dream and Design phases of the AI model detailed in Figure 11 (p. 150).

Having embraced an AI approach during the interview process, the subsequent steps in sequence following the Discovery stage include moving through the Dream and Design stages (Cooperrider & Whitney, 2005). Consistent with the AI approach, all three research questions as well as the interview questions took on an appreciative perspective. Cooperrider and Whitney (2005) suggest that in the Dream and Design stages of the AI approach, participants should be invited to imagine and plan for an improved future. This research question was asking for ways in which collaborative pedagogies in the pre-registration programme can be enhanced to maximise the development of collaborative working skills for clinical practice.

Following the Dream stage, the Design stage aims to translate the positive aspirations identified in the Dream stage into actionable steps and practical initiatives. The purpose is to move from conceptualisation to implementation, ensuring that the envisioned enhancements can be successfully incorporated

into the current environment. It seeks to identify strategies or approaches that, if implemented, could improve the facilitation of student learning. The focus is on thinking creatively about innovative approaches, such as new teaching methods or technology integration, to enhance collaborative skills development, straddling both academic and practice contexts.

Guided by the Dream and Design stages of the AI cycle (Cooperrider & Whitney, 2005), Chapter 10 connects several findings from Chapters 8 and 9. Because of their level of involvement and the focus of this study, SNs and NLs have a greater stake in constructionist pedagogies than any other group. It is clear both groups hold vital information that may be used to shape the future of constructionist pedagogies in nursing education; the use of an AI approach and Ketso promoted thoughtful deliberations and resulted in valuable comments from the participants. During data collection, participants were asked to consider the ways in which collaborative pedagogies could be enhanced to maximise collaborative working skill development in clinical practice. I interpreted participant responses as being synonymous with recommendations. In AI, participant responses to the Dream and Design stages can be seen as recommendations because, during these stages, individuals not only envision an ideal future but also actively contribute practical ideas and strategies for achieving that vision. Watkins et al. (2011) posit that the insights shared by participants in these stages often translate into actionable suggestions and plans, aligning their aspirations with tangible recommendations for positive change.

As a result, the recommendations are anchored to the perspectives of the participants, enabling for the authenticity potential of participant voices to be realised. Chapter 10 therefore highlights participants' thoughts on the future evolution of collaborative pedagogies in the pre-registration nursing programme.

Section 10.1: Boosting learning through involving a wider range of groups in the programme

Chapters 8 and 9 demonstrated the contribution of interacting with others in facilitating learning and linking theory to practice; several participants suggested that contributions from service users, carers and professionals within and outwith nursing could add value to learning experiences, as is now explained.

10.1.1: Increase contributions from service users and carers within the academic environment

As a result of their experience, service users and caregivers are typically viewed as experts, and their participation in all pre-registration programmes is thought crucial (NMC, 2018b). Incorporating service users and caregivers into nursing education in a university context thus corresponds with policy that encourages collaborative methods. Engagement with service users and carers outside typical caring settings may provide opportunities to discuss healthcare topics more freely than in a clinical setting. Furthermore, as previously noted in Chapter 8 regarding perspective-sharing, hearing first-hand improves awareness that different perspectives exist, and this may extend to the experience of being a service user or caregiver. This could include information on useful and detrimental aspects of healthcare services, as well as valuable coping skills for dealing with illness or adversity.

Six NLs and FG2 said that they would welcome more input from service users and carers throughout the programme; Emily (NL), Lily (NL), and Stephen (NL) thought perspectives from the lived experience of various conditions to be particularly valuable:

> *"The first thing that pops into my head is service users. More service users. At the end of the day, that's who we're delivering the care to. So more service users involved in sharing their experience of healthcare such as MS [multiple sclerosis]." Lily, (NL).*

"I think where possible, we should have services and carers engaged in our learning activities we provide for students." Emily, (NL).

"I would like more service users to come in and have the opportunity to talk about their experiences of health care" Stephen, (NL).

When combined with other constructionist pedagogies that facilitate perspective-sharing, such as role play, students are better placed to construct a well-rounded vision of their professional practice. As is the case in practice (discussed in Chapter 8), social interactions in the classroom with people who have personal experiences may provide students with additional opportunities to practise and develop a range of soft skills. Moreover, placing authentic scenarios in an academic context can also provide students with opportunities to practise technical skills needed in the future, such as urinary catheterisation, wound care and venepuncture. This promotes the transfer of learning from one context to another (Barnett & Ceci, 2002). Martin (NL), for example, suggested that members of the public could be invited to join teaching sessions that enable students to practise a variety of technical skills:

"Say we had the skills lab set up like the ACORN [A Community Orientated Resource for Nurses] unit and there was a door to the [street] outside. The public could come in for bloods, blood pressure checks, blood sugar checks, blood cholesterol checks." Martin, (NL).

Several participants suggested that interprofessional teaching and learning could help students to develop the necessary mindset for collaborative working and that is the focus of the next part of the discussion.

Increase opportunities for interprofessional teaching and learning

Five NLs mentioned interprofessional teaching (from someone other than nurse lecturers). Bringing other professionals and authentic challenges into an academic setting may offer value in developing a collaborative mindset, comparable to the benefits associated with the inclusion of service users and carers. As healthcare delivery is multifaceted, students may benefit from teaching from members of different professional groups, such as from Allied

Health Professionals and Medical staff. This may help support students to create their own identities and place themselves in relation to others. Martin (NL) and Lily (NL) give examples of who those other professionals might be and how their contributions might help students better grasp the function of a nurse in healthcare.

> Martin (NL):   *"I would love to see more clinicians… involved in the delivery of materials.*
>
> Di: *Do you mean nurses?*
>
> Martin: *Nurses, physiotherapists – it might seem a bit unrealistic.*
>
> Di: *Nurses, physios …what would that bring?*
>
> Martin: *I think that would bring the context."*

"I think some kind of inter professional teaching has to come into play. That might be with doctors, physios, OTs – I'd like to see more of that. There is an appreciation of what these different roles are." Lily, (NL)

Possible contrasts and similarities in theory and practice might be examined by introducing an external perspective - and through diverse professional backgrounds. The development of reciprocal role awareness, according to Derbyshire and Machin (2011), supports mutual role respect and enhances collaborative working. It may help to reinforce a balanced attitude in respect to disciplinary contribution, as recommended by Martin (NL), by contextualising the work of other professionals and providing opportunities for student nurses to learn from the disciplinary knowledge of others (Kuti & Houghton, 2016).

There is a relationship between perceived usefulness and learning, as previously established in the literature (Barnett & Ceci, 2002; Jones, 2009; Merrill, 2002) and in Chapters 8 and 9, in that if a task or topic is perceived to be beneficial by students, learning and development is more likely to occur. According to Leonard et al. (2016), students may regard practitioners who

are actively participating at the interface or 'in touch' with care as more credible than nurse lecturers. As a result, they may be more likely to implement what they have learned in class. Knowing that students may feel this way might help constructionist pedagogies maximise theory-practice links and enhance transfer. Embedding authentic scenarios in tasks, such as the study by Koch et al. (2021) which used role-play simulation to teach nursing students how to provide culturally sensitive care to transgender patients, and using physical locations that closely resemble clinical practice environments coupled with having nurse lecturers assist with context issues, such as developing relevant real-life tasks for use with group work, could all help to promote transfer between settings (Barnett & Ceci, 2002; Culyer, et al., 2018; Merrill, 2002).

Whilst five NLs suggested interprofessional teaching could add value, interprofessional learning was raised by two NLs. This is where student nurses are taught alongside students undertaking different programmes and aims to promote interprofessional understanding. Other healthcare professionals are not educated at this University, but Susan (NL) proposed involving students from different programmes:

> *"I think it's sharing knowledge and sharing experiences. Sharing attitudes and values are very similar in a caring profession. But if you brought in other disciplines such as media and business schools for some sessions, they would probably have a different attitude about what we do as healthcare professionals." Susan, (NL)*

Chapter 8 outlined that, through the interactive element of constructionist pedagogies, learning through perspective-sharing could enhance understanding and help dispel negative stereotypes that may hamper collaboration in practice. This is because through interacting with each other new understandings can be established, resulting in the development of trust, respect and positive attitudes towards each other (D'Amour et al., 2005; Van Dyk et al., 2020). This is supported by Wong et al. (2017), who claim that interprofessional learning helps students learn from and about each other

and prepares student nurses to function effectively within teams in their future careers. Indeed, interprofessional learning both models and stresses the need for professions to develop a collaborative mindset.

According to Fewster-Thuente (2015), the main barrier to interprofessional collaboration is the patriarchal relationship. Although their study explored collaboration between nurses and doctors, it highlighted a disconnect that could also be discerned between other professional groups such as nurses and the allied health professions. In Chapter 8, perceived hierarchical barriers were noted to impede effective interprofessional collaboration. With a singular focus on patients' needs above all else, interprofessional education helps to prepare practitioners to become collaborative, interprofessional team members, as the emphasis shifts towards a more holistic focus.

Section 10.2: Making changes to teaching and learning

This subtheme explores the potential for changes to teaching and learning and focuses on constructionist pedagogies, specifically their content, structure and frequency of use within the programme.

10.2.1: Make explicit the links between constructionist pedagogies and the development of collaborative working skills

Rachel and Jason (NLs), FG1 and FG2 suggested that links between constructionist pedagogies and their impact on practice could be made more explicit to students. This is founded on the notion that perceived usefulness is related to active participation with the topic (Jones, 2009; Merrill, 2002). By making students aware of the reasons for engaging, it is anticipated that they will perceive the benefits and be more willing to engage. Increased active engagement could result in learning:

> *"I think that's where we could perhaps be a bit stronger… We do signpost it to a degree, but I think there is room to be really quite explicit*

*and say, this is why we're doing it, and being quite upfront with them…
and explaining the reasons why. As we've already touched on,
students are going to have to work as a member of the team, they're
going to have to develop their communication skills, their leadership
skills, all the skills we've already talked about, such as problem solving.
All of these things are part of the role as a staff nurse and that's why we
have to prepare them in University through these variety of
approaches." Jason, (NL)*

For students to see the relevance of engaging with constructionist
pedagogies for developing skills for practice, Rachel (NL) suggested that the
content should contain explicit information on collaborative working. She
indicated that this could be achieved by introducing Scottish policy
documents to enable students to contextualise the teaching approaches in
relation to the development of a collaborative working mindset. Rachel (NL)
may be referring to the Scottish Government publications covered in Chapter
2 (section 1.2.2), which are used by NLs in the design of materials, along
with professional guidance from the NMC such as *The Code* (NMC, 2018a).
Highlighting the functional purpose of constructionist pedagogies could
encourage more meaningful engagement with them:

> *"And then… students would get it! Because we're always telling them
> look at this policy, look at that policy. And maybe they would
> understand why [collaborative pedagogies are included in the
> programme]. Sometimes I think students don't understand why we're
> spouting off about policies to them." Rachel, (NL).*

The need to encourage students to think more critically about the purpose of
constructionist pedagogies within the programme was also suggested by
FG1 and FG2:

> *"I think initially people thought 'Oh my God, what's the point of this?.
> I've heard that from a lot of students. What is the point of doing this…
> what's this to do with nursing? But it is all about learning to work in*

teams because there is nowhere in health care where you are working on your own." Rose, (FG2).

"People should know the whole point of doing all these group activities whether it should be Fitness for Practice or anything. They should know the whole point of it but not everybody does." Blanche, (FG2).

Interestingly, neither group presented a way in which this could be achieved. However, Meghan (FG1) clearly expressed the view that this information should not be included within the module's learning outcomes:

"When you read the learning outcomes, they're gobbledygook. They're not in student terms. Nothing's gonna say if you do this, you will become better at managing your emotions. ... I think you have a mad look over them when there's an assessment due and you think, what is it I was supposed to actually learn in this module?" Meghan, (FG1).

Again, this relates to the notion of usefulness, the application of authentic scenarios and the need for NLs to highlight the importance of engaging, using language that is meaningful to students. Given the emphasis on communication within nursing practice, it seems rather contradictory that NLs present information in 'gobbledegook'. Meghan's (FG1) view clearly concurs with Merrill (2002) who suggested that information should be portrayed in a meaningful way if students are to make sense of what is expected.

10.2.2: Keep class sizes small

Four NLs (Ellana, Mary, Jason, and Jenni), Elsie, and FG2 emphasised class size and its effect on the quality of interaction. The NLs and FG2 pointed out that the number of students in the class proportionately impacted on the quality of interaction: opportunities to learn are enhanced when class sizes are conducive to promoting meaningful interaction. Ellana (NL), for instance, suggested that smaller class sizes provide safer opportunities for students to participate in class talk, such as those outlined by Alexander (2018) and discussed in Chapter 4. Smaller class sizes provide a chance for students to

reflect on, explain, and articulate their own ideas, try to clear up ambiguities, examine, challenge and compare various ideas whilst maintaining a collaborative supportive environment. On the other hand, Elsie's preference for smaller class sizes centred on the assumption that there may be fewer distractions from other students than could prevail in classes with larger student numbers.

"I think that [small class sizes] because when you're getting feedback off them, they don't like the big classrooms. They like the smaller classes. They feel more comfortable in the smaller groups, 'cause even a group of fifteen, then you break that down to five again… you see a lot more interaction, rather than a group of 200 in a lecture hall. ... I've even had group classes of 40. I think it's all about breaking them down again into these groups, that they can actually have a dialogue rather than a rabble". Ellana, (NL).

"One of the main things for me is, and it's probably because it's one of my pet hates, when we're all together in the lecture theatres and people are talking and you can't always hear what's being said. That's an opportunity lost because the lecturer that's delivering it has only got so much time. They can't repeat themselves week after week after week otherwise we wouldn't learn." Elsie, (SN).

Other aspects of class composition, highlighted by participants in Chapter 8, were not mentioned. This was surprising because, as Marie-Claire (FG2) pointed out, cultural diversity contributes to perspective-sharing and learning. According to Wut and Xu (2021), being socially present with others helps develop an emotional connection which then impacts on engagement with group tasks. As noted in Theme 1, bringing people together does not necessarily mean that they will work or learn together. Kristiansen et al. (2019) posit that class size, along with group composition and the learning task, supports student interaction and the consequent benefits. Smaller class sizes are more likely to foster the development of positive interdependence, which is necessary for effective collaborative work in

clinical practice; there is value in everyone working together, and the outcomes of both individual learning and work products are enhanced when collaboration occurs. Students may also pay more attention and commit to engaging with group work if there are fewer students.

10.2.3: Increase the number and length of skills classes and time spent with NLs

An increased number of skills classes, longer scheduled classes and increased time for student-lecturer engagement were suggested by Elsie and FG2. Within this University, students participate in skills classes three hours every two weeks over two ten-week periods (which are approximately twelve weeks apart). Increasing the number and lengthening the time spent in classes was suggested by Elsie:

> *"I think, for me, one of the big things would be, although we do have the skills classes on the timetable, I think either more of them or longer each period."* Elsie, (SN).

Increasing the number and length of time available to practise skills could help prepare students for practice in a variety of ways. Additional skills sessions could potentially allow students to practise a wider range of skills or they could practise similar skills more frequently. A longer period to practise skills may promote mastery of that skill. Alternatively, more time interacting with peers may provide additional opportunities to develop an understanding of social processes and how to work together. Collectively, these changes could help develop skills such as technical proficiencies, social interacting, communication and confidence skills which could then be transferred into clinical practice. Here several contextual factors come together which promote the transfer of skills developed in theory, to practice (Barnett & Ceci, 2002).

Francesca (FG2) specified that she would like more face-to-face time with lecturers. She made the link between the nature and purpose of interaction with lecturers and its role in developing understanding, using the term

"bouncing" to illustrate the two-way dynamic between student and lecturer for sharing, gathering ideas and refactoring thoughts:

"I'd like to have more time with the lecturers. We have great skills classes in the labs. But I think having a small group of students, just like this with a lecturer so we can just talk. Just in my opinion, that was the best way to learn. I loved that. And you reflect as well. Having someone to bounce your ideas and opinions off and see what the best way is". Francesca, (SN).

This portrays the pivotal role of lecturers in supporting student learning in much the same way as the mentor is seen in clinical practice. In Chapter 8, the lecturer's role in feedback provision and how it impacted on learning was outlined. I was therefore not surprised that Francesca made that statement. According to Browne et al. (2018) and Jackson (2016), as a student progresses, their own identity as a nurse also develops. Additionally, over time and as students and lecturers spend more time together - as relationships develop - students better understand the role of a NL as both a registered nurse and a lecturer. Simultaneously, students realise that lecturers, as registered nurses, have a lot in common with them and have expertise that can be shared, and that they are maybe more "in touch" than they previously thought. It is to this expertise that Francesca (FG2) perhaps referred when she suggested that she wanted to spend more time with lecturers discussing practice-related issues.

Section 10.3: Increase intraprofessional teaching and learning opportunities

The third future-orientated subtheme to address is expanding chances for intraprofessional teaching and learning. This was particularly relevant for changes in practice, including peer teaching with the NL group as well as peer teaching within the student group.

10.3.1: Introduce peer teaching and teaching across the programme (Nurse Lecturers)

Ellana (NL) suggested peer teaching could be implemented. Having lecturers physically present with each other facilitating teaching may help orientate new staff. Furthermore, Ellana (NL) indicated that sharing opinions and teaching methods could aid in the professional growth of nurse lecturers. Another option offered by Jenni (NL) and Lily (NL) was to have Faculty teach across the curriculum. The potential benefits included, firstly, NL professional development and, secondly, avoiding duplication of presenting the same information to students, time that could be allocated to a broader range of activities from different perspectives.

> *"I think the point is that if lecturers taught across the programme, repetition of teaching the same topic could be avoided, instead, topics could be taught from different perspectives."* Lily, (NL).

The role of schema has been addressed previously (see Chapter 3). Despite claims of a spiral curriculum, there is significant duplication across and within years. This related to topics taught in the classroom via traditional lectures and to the use of constructionist pedagogies. Whilst opportunities for reinforcement are necessary, the programme must be carefully balanced so as not to induce boredom (Merrill, 2002). Lily's (NL) point acknowledges the benefits of different perspectives. This is of relevance because through modification of existing schema, new schema could be developed. This in turn promotes opportunities for learning through transfer.

10.3.2: Introduce peer teaching (Students)

Both participant groups mentioned peer teaching. Along with Blanche and Francesca (FG2), four NLs (Ellana, Jason, Martin, and Stephen) voiced the viewpoint that while at university, there may be greater communication amongst students from different years. Blanche and Francesca's (FG2) statements highlighted perceived distinctions in student-lecturer and student-student relationships and suggest that, unsurprisingly, students may turn to

different sources of assistance. This emphasises the relevance of an eclectic approach, for it acknowledges that various groups and types of interaction help meet different needs:

> *"I think that would be easier if it was a student from second or third year because I think they would speak more freely and not feel that asking questions to be so hard if it was another student." Blanche, (FG2).*

> *"That would have been fantastic because I had to just ask so many different people. To start with I didn't want to write anything on that Facebook group because there were so many people I didn't know. And I didn't know the lecturers… so I didn't know who to email. I didn't know what was the correct thing to email. I didn't know if it had to be a very formal lecturer email or not. I found that really difficult to start with." Francesca, (FG2).*

There are several advantages to students connecting with others from different years of the programme in terms of preparing them to work collaboratively in the academic context and in practice. Firstly, it promotes the use of helping behaviours by fostering a collaborative mindset and provides a chance to explain learned ideas and how they can be applied. Secondly, social interaction skills are developed. Students are exposed to a range of class talk and this helps develop a range of collaborative skills such as those identified in Tables 18b and 18b. These skills can then be transferred from the classroom and to practice (and vice versa). Acting as a more knowledgeable other, as discussed in Chapter 8, provides opportunities to take responsibility for another's cognitive development in a supported environment. It also helps develop feedback and teaching skills which are essential elements of being a registered nurse and relate to the latest nursing standards: the *Standards of Proficiency for Registered Nurses* (2018d) where all newly qualified nurses will be practice supervisors. This mirrors their role in clinical practice as they will require these skills when they become registered nurses and will need to assess patients' and other staff members' understanding to scaffold appropriate assistance.

Section 10.4: Summary

Combined with the opportunity to reflect and discuss constructionist pedagogies, participants were embedded in the topic and therefore in an ideal position to comment on how future practice in relation to constructionist pedagogies could be taken forward. Participants advanced a variety of viewpoints on how constructionist pedagogies could be enhanced in the undergraduate programme.

Both participant groups shared several similar perspectives. Overall, the NL group provided more context and gave more detailed descriptions of how things could look. This was not surprising given that the groups experience constructionist pedagogies differently. Like me, NLs are embedded in teaching and may therefore have more to say. Whilst the SN group are also invested in constructionist pedagogies, their involvement is from a learning perspective.

Collectively, the suggestions from each subtheme emphasise a number of interrelated factors which impact on the design and delivery of constructionist pedagogies. Each issue is of relevance because they are all deemed necessary to promote learning and contribute to the development and transfer of collaborative working skills between the classroom and practice. The first relates to the interactive element of the pedagogy, in particular, an increased use of others who are connected to clinical practice. Service users and carers and involving professional groups (other than nurses) in both teaching and learning were suggested. The second aspect relates to issues around structural design elements of both the pedagogy and staffing allocations. There were also suggestions for introducing new tasks. Members of the public were thought to be able to help with the development of some of the skills required for practice. This related to the perceived usefulness of the task to practice. Also included were factors such as group size and composition, session length and spending more time with lecturers and other students of different years. Restructuring of staff teaching to span the entire three years of the programme rather than just one and peer

teaching for both NLs and SNs was recommended.

With a focus on preparing students for practice, not all perspectives emphasised the development of collaborative skills exclusively. However, because collaborative working is a meta-skill, developing other skills aids the development of collaborative working skills. These views emphasised the social interaction, task and structural components of constructionist pedagogies.

Chapter 11: Conclusions

Section 11.0: Introduction

Chapter 11 is divided into six sections. Section 11.1 explores the extent to which study's three research questions have been answered. In Section 11. 2, the principal contributions made by the research are put forward: firstly, the contribution to knowledge pertaining to constructionist pedagogies and the development of collaborative working skills and, secondly, to research methodology. Some limitations of the study are suggested in Section 11.3. Within Section 11.4, I offer suggestions on how the implications of the findings of the study may be important to policy, nurse education, clinical practice and research. Section 11.5 discusses the recommendations which urge specific actions to be taken for nurse education, clinical practice and future research. The recommendations put forward are critical suggestions of what I consider are the best course of action to address some of the issues identified in my research. Finally, in Section 11. 6, I offer some reflections on my doctoral journey.

To set the following material in context, it is first helpful to briefly revisit the parameters of the study. Constructionist pedagogies were investigated through the prism of collaborative working skills. Both of these elements are essential to nurse education. The NMC places a high premium on each, through its statutory and regulatory functions in nursing education and clinical practice, which is why the study focused on them. The participants in this study were student nurses and nurse lecturers with personal involvement in a BSc pre-registration nursing programme. The focus of their involvement differed, in that the student group were regarded as learners and the nurse lecturer group had responsibility for the design and delivery of the constructionist pedagogies. For the purpose of the study, constructionist pedagogies were defined within a framework that I developed during the research (see Figure 4, p 70). This framework was context driven and -

because it was developed from my perspective, shaped by my experience as a lecturer - was distinctive. It was helpful in providing a practical and focused structure to the research. The framework had five defining characteristics which related to the philosophical and design features; all were essential.

This next section summarises the salient aspects raised by participants and will confirm that the research questions have been addressed within the thesis

Section 11.1: Addressing the study's three research questions

Research aim and questions

The aim was to explore how the collaborative learning features of constructionist pedagogies, said to manifest in classroom practices, contribute to the development of student nurses for practice. The three research questions developed to support this broad aim are:

1. What does collaborative learning mean to student nurses and nurse lecturers?
2. In relation to developing skills for practice, what collaborative skills do student nurses and nurse lecturers associate with classroom-based constructionist pedagogies?
3. In what ways can collaborative pedagogies be enhanced in the pre-registration programme to maximise the development of collaborative working skills for practice?

Three main themes and nine subthemes were identified. They included a discussion of what collaborative learning means to student nurses and nurse lecturers and the characteristics of constructionist pedagogies, used within a university setting, which facilitate learning and the development of collaborative working skills.

11.1.1: Research question 1

What does collaborative learning mean to student nurses and nurse lecturers?

Students and nurse lecturers provided detailed information of what collaborative learning meant to them. The study has therefore been successful in identifying a range of perspectives that portrayed the elements of constructionist pedagogies and their relationship to collaborative learning. Chapter 2 outlined the five defining features of constructionist pedagogies, incorporating both design features and philosophical underpinnings. Being and learning together and working on preset tasks, communication, and learning through perspective-sharing and taking were highlighted as being relevant. These perspectives align with learner-centred approaches to learning, especially when compared to what is considered traditional teacher-centred approaches such as lecture-style pedagogies (Blakeslee, 2020; Browne, 2018; Dyson, 2018).

Additionally, the research identified the individual nature of participant perceptions and this was evident both within and across participant groups. Of particular note was the absence of consensus on preferred pedagogies. Rationales for similarities and variations were provided. Personal preference based on experience, culture and the perceived usefulness of the pedagogy were explicated, alongside the temporal nature of preferences.

The rationale for preferences could be related to the elements of the constructionist pedagogy in question revealing a complex interplay of factors including: the topic associated with the preset tasks; the physical environment and how closely it related to the real-world situations; the type of interaction and who was involved; and relationships with and between individuals. Both groups asserted that collaborative learning related to sharing different types of knowledge between and among a range of individuals, such as students, lecturers, clinical partners and service users.

Knowledge shared included perspectives and experiences relating to practice and course content.

Participants suggested that links between constructionist pedagogies and preparation for clinical practice were made in terms of the development of skills, particularly communication skills associated with interaction. Through intersubjective orientations, participants indicated that constructionist pedagogies provided opportunities to practise and develop social norms. Importantly, these social norms can be transferred from academic settings to real-world practical situations.

A social constructionist viewpoint helped me explain how and what influences student nurses' and nurse lecturers' perspectives on constructionist pedagogies. No-one sees or experiences the world in the same way, according to social constructionism. For Gergen (1985, 2015) and Burr (2015), a person's experience of their world is historically and culturally specific, as well as location and time-dependent.

11.1.2: Research question 2

In relation to developing skills for practice, what collaborative skills do student nurses and nurse lecturers associate with classroom-based constructionist pedagogies?

The study identified that the wide range of constructionist pedagogies offered on the BSc programmes gave students opportunities to develop sixteen collaborative working skills, all of which could be transferred to practice. This was because, collectively, the philosophical assumptions and design features inherent to constructionist pedagogies provided a range of contexts for learning collaborative skills. Different constructionist pedagogies facilitated the conditions for both developing and transferring skills from the academic to practice settings and vice versa (Barnett & Ceci, 2002).

The findings from this study are reinforced from previous literature which reported on the development and transfer of skills between theory and

practice (Blakeslee, 2020; Burgess & Medina-Smuck, 2018; Wong, 2018; Ruth-Sahd, 2011; Suikkala et al., 2016). Like my study, previous studies also identified the role of physical, social, knowledge, functionality and modality contexts associated with constructionist pedagogies. However, the findings from this study extend the theory in so much that this study looked at the development of collaborative working skills. This study showed that the development of collaborative working skills was aligned to a range of constructionist pedagogies, with no single constructionist pedagogy having a monopoly on the development of any one collaborative working skill. Additionally, perceptions of skills developed seemed to be guided by an individual's own orientation, reflected in the differences and similarities found between and among groups. Again, this may be explained through a social constructionist perspective (Gergen, 2015). The results of the study indicated that the development of collaborative working skills stemmed from the cumulative impact of simultaneous engagement with a range of constructionist pedagogies. However, as stated previously (Chapter 2, section 2.3.2), those studies did not focus on investigating multiple constructionist pedagogies simultaneously through the perceptions of student nurses and nurse lecturers on the same programme.

11.1.3: Research question 3

In what ways can collaborative pedagogies be enhanced in the pre-registration programme to maximise collaborative working skills development for clinical practice?

Both participant groups were responding to the question from their experience of personal involvement with the programme and there were a number of areas where similar suggestions were made. These centred on linkages between academic and practice settings by incorporating real-world issues within the design of the constructionist pedagogies; increasing opportunities for interprofessional teaching and learning; developing closer involvement of users and carers within the university setting; and the need to make explicit the reason for participating in constructionist pedagogies. The

student groups provided some practical suggestions, for example increasing the number of and time spent on specific pedagogies such as skills labs and simulation and more time with lecturers. Those aspects seem to portray an understanding of the usefulness of constructionist pedagogies and of the need to gain opportunities to practise skills in relation to preparation for practice.

I found it more effective to invite participants to anticipate future collaborative classroom learning than to discuss current constraints, disadvantages or obstacles. AI has been accused of focusing on the positive and ignoring the negative or difficult aspects or experiences (Bushe 2007; Ridely-Duff & Duncan, 2015). However, as stated by Fitzgerald et al., (2010), Jones and Masika (2020) and indicated by this study's findings, examining what is good can also reveal what is not. Participants discussed solutions and approaches to improve pedagogies and support while exploring and discussing positive perspectives and experiences of constructionist pedagogies. However, these suggestions about the future could only be achieved by reflecting on and contemplating difficulties.

Section 11.2: Contribution to new knowledge in the field

This study makes two principal contributions to knowledge, firstly in the field of constructionist pedagogies in pre-registration nursing education and, secondly, methodological innovation in relation to the combined application of Ketso and AI.

11.2.1: Contribution to nurse education

The distinctive manner by which the evidence in this study was gathered lends credence to the claim that the employment of a repertoire of constructionist pedagogies may be the most effective strategy to assist the growth of undergraduate nursing students. By concentrating on this specific pedagogy, the research provided a detailed understanding of how

constructionist pedagogies contribute to the development of collaborative skills. The collaborative features manifested in constructionist pedagogies, in addition to the associated authentic tasks, provide opportunities to practise for practice. Furthermore, this study adds to a nuanced comprehension of sociocultural learning theory in relation to constructionist pedagogies. The findings illustrate that integrating the collaborative features of constructionist pedagogies allows the blending of social and cognitive facets of learning and development, thereby assisting in the development of collaborative working skills. This approach empowers students to adeptly navigate the intricate relationship between academic and practice settings, facilitating a smooth transition between the two realms.

The study found that collaborative working skills can be considered a meta-skill, incorporating and facilitating the development of sixteen interconnected subskills. The study found that the impact of multiple constructionist pedagogies, used simultaneously, prepared students for practice by providing opportunities to practise and develop the meta-skills and interconnected subskills in different contexts and situations. The study found that developing collaborative working skills is complex and multidimensional, recognising multiple interpretations regarding the role of constructionist pedagogies, and revealed information about interaction processes which reflected the complexity of learning and development.

Student and nurse lecturer perspectives on constructionist pedagogies were found to be complicated and influenced by a range of inter-connected social and personal elements, such as prior experiences and roles. In turn, this impacted on preparation for practice because pedagogies provide the conceptual framework for describing the development of an individual's knowledge, skills and attitudes to achieve changes in behaviour or potential. This contribution is significant because it has the potential to inform evidence-based educational practice and future curriculum design.

As outlined in Chapter 2, (section 2.3.2,) much was already known about constructionist pedagogies and their role in preparing students for practice.

However, previous studies focused on either individual constructionist pedagogies, compared one constructionist pedagogy with another or with other pedagogical types. In contrast, this study focused on the cumulative and simultaneous use of several constructionist pedagogies used within the same programme from the perspective of student nurses and nurse lecturers in relation to the development of collaborative working skills. While recognising that collaborative skills are in demand, this research uniquely narrowed its focus to the impact of constructionist pedagogies on skill development. The outcomes of this research contribute not only to the specific domain of collaborative skills but also to the broader discourse on nursing education and the multifaceted nature of skill development. The study's outcomes serve as a foundational resource for nurse educators, offering valuable insights into the nature of collaboration skills and presenting a pragmatic starting point for their enhancement.

11.2.2: Methodological contribution

The second contribution to knowledge relates to the field of research methodology and originality in the study of constructionist pedagogies. Uniquely, this study presented materials gathered and viewed through the lens of student nurses and nurse lecturers personally involved in the same programme via a social constructionist approach, specifically, the combination of Ketso and AI in the interviews and focus groups. It is documented in the literature that, when used separately, each approach assists in the mediation of dialogue between and among participants, the researcher and the artefact (Bergmark & Kostenius, 2018; Jones & Masika, 2021; Wall et al., 2013; Woolner et al., 2010). I could, however, find no evidence from the published literature that both had been used together in an education setting with heterogenous groups. The integration of Ketso and the AI approach brought about distinctive features that set it apart and enriched the research process.

Firstly, the integration of AI with Ketso played a crucial role in cultivating an optimistic and constructive atmosphere throughout the data collection

process. This approach deviates from more conventional research methodologies that frequently place a high priority on problem identification, seeking to reveal obstacles and constraints in a particular setting, for example. However, by exploring positive aspects, strengths, and successes associated with constructionist pedagogies, AI, coupled with the physically active involvement required by Ketso, took a different route which fostered a positive and constructive environment. In addition, many participants openly expressed a sense of appreciation, stating how they felt valued and enjoyed their participation in the research. Several students commented how much they had learned about constructionist pedagogies and their role in preparing them for practice.

Secondly, collaboration was an important facet of this unique methodological contribution. In contrast to data collection methods that solely rely on straightforward questioning, the physicality of Ketso fostered a different kind of participation, making AI a collaborative experience. This tactile approach brought about a dynamic and participatory aspect to the data collection process, enabled participants to move beyond verbal responses and actively contribute in a tangible way. By working together to create visual representations, participants developed a common understanding of topics. This collaborative element helped make the investigation of constructionist pedagogies more comprehensive and inclusive.

Section 11.3: Limitations of the study

Regarding the research methods, some limitations have previously been discussed throughout the methodology (Chapter 5) and data analysis chapters (Chapter 6). From a social constructionist perspective, I also acknowledge the influence of personal experiences past and present, social and cultural backgrounds and the temporal nature of perspectives. Had another researcher collected the data at a different time, using different

approaches, the findings might have varied. The limitations set out below should therefore be read within the context explained throughout the thesis.

There was a sixteen-week gap between collecting data from the nurse lecturers and the student nurses. Although I was actively engaging with my study during that period, I perceive this as a potential limitation: I was concerned that because my focus was one group over a sustained time period, I would unconsciously become pre-occupied with what the nurse lecturers had to say. This was also bound up with my role as nurse lecturer. I tried to keep an open-mind and put systems in place to manage this such as the use of a reflective journal (as detailed in Chapter 5, section 5.3.7).

As explained above, data collection occurred in discrete episodes. I accept that had data collection been sequenced in a different way, an alternative range of perspectives may have been provided. In accepting that I am part of the research process and a co-constructor of knowledge, the manner in which further probing questions were couched may have differed between and amongst both participant groups had data collection been more equally spread.

While providing students with the option of participating in a focus group or semi-structured interview brought practical benefits, I regard having two data gathering procedures as a constraint. It may have helped me to acquire a broader range of perspectives, however I found it difficult to convey to others that, while the data collection processes were dissimilar, the overarching goal of obtaining a diverse range of perspectives was achieved.

Initially I did not consider using Ketso as a data source and this can be viewed as a limitation. Ketso was initially used to mediate the interviews in order to facilitate discussion between participants and myself. Even though it aligned with my social constructionist perspective and sociocultural learning theory, such as the use of cultural tools, both technical and psychological as outlined by Vygotsky (1978), I never related its use to the idea of it being an actual data source. As discussed in Chapter 6, it was only through the data

analysis process that I realised both should be regarded as a data source. While it was helpful to learn new things about data analysis pluralism, I see it as a limitation because the realisation came when I was under pressure to move forward, and I spent time reorganising my perspective.

Despite being invited, no mental health students participated in the study. Whilst this did not impact on the rigour of the research, additional perspectives could have added to the richness of the data.

Time constraints limited the amount of data that could be collected and, had more time been available, I might have been able to increase the number of student nurses. However, the data does provide a snapshot of student nurses' and nurse lecturers' perceptions of constructionist pedagogies at a point in time. The intention of the research was to help inform nurse education practice in relation to the role of constructionist pedagogies in preparing students for practice.   It has achieved this.

Section 11.4: Implications for professional practice

It is in keeping with the spirit of a Doctorate in Education to consider the implications for professional practice.

11.4.1: Implications for policy

A number of strategic and policy documents which have impacted on both nursing practice and education institutions have placed collaborative working at the forefront of healthcare policy (Scottish Government, 2016, 2017a, 2017b, 2017c; NMC; 2018a,2018b, 2018c, 2018d & 2018e). Additionally, emphasis has been placed on extending the use of collaborative pedagogies, including constructionist pedagogies (NMC, 2018b). This study adds to that debate in several ways. Importantly, it has provided student nurse and nurse lecturer voices on what collaborative learning means to them in relation to preparing for practice and, further, has added to the literature around how it

is developed. As policy continues to be shaped, the findings of this study may help inform educational redesign. This may include policy relating to:

- Nurse Education, such as curriculum design or evaluation of the NMC standards: *Realising Professionalism: Standards for Education and Training: Part 1, 2 and 3* (NMC: 2018b, 2018c, 2018c, 2023).
- The provision of care within all areas of the NHS. For example, the findings pertaining to the possibility of increasing opportunities for intraprofessional learning should be given cognisance by NHS management when deliberating future policy decisions designed to improve the patient experience.

11.4.2: Implications for Nurse Education

1. Brought about by the combination of social and cognitive processes of learning and development, a principal finding of this study is that constructionist pedagogies contribute to the preparation of student nurses for practice by facilitating the development of collaborative working skills. This provides some reassurance to stakeholders of the effectiveness of the pedagogies used and should provide motivation for their further development.

2. This study found that the repertoire of constructionist pedagogies offered cumulative benefits for skill development. This was enabled by opportunities for repetitive practice across a range of constructionist pedagogies. Success in learning was brought about by a variety of preset tasks, interactive aspects, and the physical environment.

3. The research demonstrated that elements of constructionist pedagogies that are overtly based on actual circumstances gave students authentic experiences.

4. The findings revealed that constructionist pedagogies helped to contextualise the theoretical underpinnings of the programme and through transfer facilitated the continuous process of learning.

Constructionist pedagogies promoted the development of collaborative working skills which could meaningfully be applied in practice.

5. My study revealed how the individual and collective components of constructionist pedagogies, as well as the breadth of pedagogies available, contribute to learning. To promote student learning, educators should be able to connect learning theories, subject matter and student comprehension. A theoretical and practical grasp of various learning theories can assist educators in selecting the most appropriate pedagogies, learning objectives and assessment methods for the context and environment of learning.

11.4.3: Implications for clinical practice

In clinical environments, the challenges of organisational demands and workload pressures might hinder registered nurses from teaching as effectively as they could in less stressful circumstances. The study revealed several ways in which constructionist pedagogies assist students in preparing for practice. As students have been prepared before going out to clinical practice, this may facilitate the registered nurse's function as a teacher in practice.

11.4.4: Implications for research

1. Social constructionist research combining visual methodologies and AI is an effective approach to use in exploring the perspectives around constructionist pedagogies. As detailed throughout Chapter 10, the study has identified a number of ways in which the philosophical underpinnings combined with the design features associated with constructionist pedagogies could be further developed to maximise the contribution of education to clinical practice.

2. Using participatory approaches involving two groups personally involved in the same programme to explore this topic at a local level has enhanced

the understanding of the influence of the contextual factors that are prevalent and / or unique to this particular setting.

3. Although it is advisable to use caution when extrapolating the results of this study to other academic environments that utilise constructionist pedagogies, the methodologies and philosophy of this investigation may offer valuable insights for contemplating future research studies.

As a result of this research, the following recommendations have been made. They are grouped into nurse education, clinical practice, and future research recommendations.

Section 11.5: Recommendations

11.5.1: Recommendations for nurse education

1. Given the contribution to the development of important skills, coupled with individual preferences, the continued delivery of a repertoire of constructionist pedagogies should be maintained.

2. As new modules and programmes are designed, cognisance of the suggestions provided by participants should be considered in their development. This includes participants' views of potential changes to the structures and processes associated with constructionist pedagogies. Structural aspects include extending the length of skills classes and their frequency, the nature of the preset tasks, the physical environment in which the pedagogy takes place, those involved (such as peer-to-peer teaching and across-year peer teaching), or the equipment used. Processes, on the other hand, refer to how these relate and interact.

3. Provide education to nurse lecturers on the importance of attending to educational philosophy and the design features of pedagogies and encourage them to raise awareness of these with students.

4. Encourage nurse educators to recognise the significance of the role they can play in developing collaborative working skills and preparing student nurses for practice.

5. Examples of collaborative working should be celebrated. On return from practice there should be opportunities for students to share with peers and faculty, experiences of how their collaborative working skills have been developed.

11.5.2: Recommendations for clinical practice

1. Put measures in place to raise awareness of the role of both academic and practice settings in developing collaborative working skills. This could be addressed through a range of measures including: annual updates for registered nurses and co-ordinated through NHS National Education for Scotland; the revalidation process; liaison between Academic Assessors, Practice Assessors and Practice Supervisors.

2. As reflection plays a part in the development of collaborative working skills, registered nurses should reflect with their students on areas relating to collaborative practices.

3. Clinicians, regardless of setting, should endeavour to incorporate student nurses into their teams as this has been shown to have a positive influence on their intra and interprofessional learning, both in general and specifically in relation to their development of collaborative working skills.

11.5.3: Recommendations for future research

1. An additional study on students enrolled in different years of the same programme could be conducted. Future research could examine alternative perspectives on how to incorporate the study's recommendations into the development of future pedagogies. This would illustrate the critical importance of collaborative working skills in clinical practice and would serve to underline the value of constructionist pedagogies to preparing students for practice.

2. Having researched the contribution of constructionist pedagogies used with the classroom in relation to the development of collaborative working skills, future research could focus on exploring collaborative working skill development within clinical practice.

3. This study focused specifically within one university setting and derived meaningful context-specific findings intended exclusively for this setting where previously only limited evidence was available. Moreover, because an appreciative approach and visual methodologies were used the recommendations are aligned to participants' voices. Some findings, for example, the methodology, may be transferable to other contexts.

4. Having researched the contribution of constructionist pedagogies in relation to the development of collaborative working skills, future research could pose similar questions to students in relation to the development of other skills.

5. Exploring this topic with students and colleagues may enable the co-construction of future research priorities. This is consistent with my social constructionist philosophical positioning which assumes the existence of multiple interpretations. Having used visual methodologies and an AI approach to explore this issue, future research could consider using similar methodologies to explore context-specific issues.

This next section offers some reflections on my EdD journey, from three perspectives: personally, professionally and academically.

Section 11.6: Reflections on the Doctorate (EdD) journey

11.6.1: Personally

Personally, completing my EdD gives me a tremendous sense of relief. The journey has lasted longer than anticipated and has included equal parts of elation and sadness. As I progressed, I concentrated more on an

appreciating attitude to life, and my social constructionist understandings and perspectives have equipped me with a variety of skills and a mindset that will support and encourage me for years to come.

11.6.2: Professionally

My professional development has been significantly impacted as a result of pursuing the EdD. One of the most difficult obstacles I overcame was choosing a topic and maintaining a sense of identity as a nurse and as a nurse working in academia. I was attracted to many aspects of nurse education, particularly collaborative work and how my role as a lecturer influenced skill development and preparation for practice. However, my chosen topic and methodology, particularly the interactive component, supported and fulfilled both of those identities, allowing me to remain faithful to each; hence, the topic was an excellent fit.

11.6.3: Academically

While challenging, I believe that this course of study has contributed to my academic advancement. This thesis has enabled me to consider my own beliefs and values in new ways; to build on my previous academic work, particularly my PG Cert in Professional Education and both of my Masters degrees and to validate and develop knowledge and skills that I will continue to use in my future career. I am confident that, throughout my post-doctoral career, I will use AI and visual methods to investigate different aspects of nursing and nurse education. Finally, as I progressed through my EdD, I gained confidence as a nurse lecturer, shared academic skills, such as critical thinking and writing, research methods, and shared my awareness of learning theories and pedagogical approaches, with colleagues and peers.

11.6.4: Concluding statement

This study has made a small contribution to understanding constructionist pedagogies: how they can be investigated, their role in preparing student nurses for professional practice and informing teaching practice.

Constructionist pedagogies and collaborative working skills are, like individuals, nursing practice and nurse education, inherently complex and multi-layered. Their application in the academic setting is defined by their overall focus on providing safe and effective patient care. The title of my thesis, *'Practising for Practice: The Role of Constructionist Pedagogies in the Development of Undergraduate Nursing Students'*, recognises the link between the clinical practice and academic components in undergraduate nurse education. The title also expresses my perspective that constructionist pedagogies help students to develop collaborative working skills that can and will be employed in the world of nursing practice. Frank (NL) has been entrusted with the study's final words, and here he has skilfully woven aspirational aspects related to constructionist pedagogies and collaborative working:

> *"We expect students to work together. It's a profession that requires people to engage with others. From our (NL) perspective, that means encouraging students to learn in a way that develops their ability to collaborate purposely as part of a wider clinical team. And how we do that is we give them practical experience of working within a team to complete tasks. The expectation is that they will complete those tasks as part of a group. The expectation from that is, the support and the learning from it is that they recognise difficulties that they'll come across as part of that collaborative working focus." Frank, (NL).*

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Appendices

Appendix 1

> ### Email invitation to potential participants (Pre-registration student nurses) – Interviews and / or focus groups
>
> **From:** Di Douglas
> **Sent:** XXXX(Date)
> **CC:** Di Douglas
> **Subject:** Collaborative learning at UWS: an invitation to take part in a research study
> Dear Student Nurse
>
> I would be very grateful if you could take a few moments to read the information below regarding a piece of research I am conducting as part of my Doctorate in Education at the University of Strathclyde.
>
> **Title: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice.**
>
> You are being invited to take part in this study because you have undertaken a number of practice placement experiences and participated in a variety of collaborative classroom activities within the university setting.   It is likely that as a Part 3 student you will have an understanding of the important links between the skills required for collaborative working and the provision of effective healthcare.
>
> I would be grateful if you could:
>
> - Read the enclosed participant information sheet, which explains the study and the type of information I will be collecting
> - Reply to this email if you would like to take part – a response by XXXX would be greatly appreciated
>
> If you have any questions, or wish to discuss any aspect of the study, then please do not hesitate to contact the student researcher by phoning 01698 283100 ext 8635.
>
> Many thanks, Di.
>
>
> Lecturer,
> School of Health Nursing & Midwifery,
> University of the West of Scotland,
> Hamilton Campus,
> Caird Building, ML3 0JB
> 01698 283100 (Ext. 8635)
> Email: Di.Douglas@uws.ac.uk

Appendix 2

<div style="border:1px solid black;">

Email invitation to potential participants (Nurse lecturers) – Interviews

Subject: Research Request

Dear colleague (individual emails will be sent using my colleague's first name)

The reason for my email is to invite you to participate in my research study which I am conducting as part of my Doctorate in Education at Strathclyde University.

Title: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice.

This would involve you attending the UWS campus for one short interview at a time convenient to you. Please find attached a participant information leaflet which explains the study. If you would like to hear more about the study and/or participate in this study, please contact me either by email or telephone (my contact details are below).

Thank you for taking the time to read this email and I look forward to hearing from you in due course.

Many thanks, Di

Lecturer,
School of Health Nursing & Midwifery,
University of the West of Scotland,
Hamilton Campus,
Caird Building,
ML3 0JB
01698 283100 (Ext. 8635)
Email:Di.Douglas@uws.ac.uk

</div>

Appendix 3

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Topic guide for focus groups (Students)

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

Key areas which will be explored during our focus group discussion

1. Collaborative working and what it means to you as student

2. Successful or positive examples of collaborative working that have been experienced in UWS.

3. Your views and preferences on a range of classroom based teaching activities which encourage students to work together (e.g. LT Kura Cloud , Simulation using SimMan, classroom based group discussions, classroom based group work. skills classes, group presentations)

4. The skills that may be developed – or the skills which may be used when you are working collaboratively in the classroom

5. The type of classroom based collaborative activities you think are most helpful to you in clinical practice e.g. e.g. LT Kura Cloud, Simulation using SimMan, classroom based group discussions, classroom based group work. skills classes, group presentations)

6. Ways in which collaborative learning in the classroom can be made more successful or valuable as a tool to link theory with practice

</div>

Appendix 4

Topic guide for Nurse Lecturers

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

Key areas which will be explored during our focus group discussion

1. *What collaborative learning in the classroom means to you as a nurse lecturer*

2. *Successful or positive examples of collaborative working that you have experienced in the classroom.*

3. *Your preferences in relation to the collaborative classroom activities you facilitate e.g. LT Kura Cloud , Simulation using SimMan, classroom based group discussions, classroom based group work. skills classes, group presentations)*

4. *The linkages between collaborative learning in the classroom and the development of collaborative skills for the work place.*

5. *The types of classroom based collaborative activities that you think are most helpful to students in clinical practice e.g. LT Kura Cloud, Simulation using SimMan, classroom based group discussions, classroom based group work. skills classes, group presentations)*

6. *Ways in which you think collaborative learning in the classroom can be made more successful to linking theory with practice. For example, this may include changes to the curriculum, the introduction of new activities or modifying existing activities*

Appendix 5

Participant Information Sheet for Student Nurses
(Focus Group)

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

Who is doing the study?
Di Douglas: I am a Lecturer on the BSc pre-registration programme based at the University of the West of Scotland. I am carrying out this study as a post-graduate, doctorate student at the University of Strathclyde. Dr Paul Adams and Professor Kate Wall (University of Strathclyde) are co-supervising this research study.

What is the study about?
The study is about collaborative learning and team working skills. Your programme has been designed to develop your knowledge and skills to help ensure that you are prepared for professional practice. It includes a range of opportunities for you to work together with other students. The rationale underpinning collaborative learning within the university setting is two-fold:

1. it aims to support learning of the programme content, and;
2. to assist you in the development of team working skills which are considered essential for professional nursing practice

Group work activities within the university such as; classroom discussions, simulated learning (including skills classes), Lt and group presentations are embedded across the curriculum of each programme. Some students find participating in certain group work activities more helpful than others. Therefore, this study will ask you about group working within the university setting e.g.

- What do you think is good about working with other students?
- What types of collaborative activities do you prefer?
- How does working together with other students help prepare you for clinical practice?

Why have you been invited to take part?
You have been invited to take part in the study because you have undertaken a number of practice placement experiences and participated in a variety of collaborative classroom activities within the university setting. As you have moved between clinical practice and university and vice versa, you have experience of working with others, for example, clients and their families/carers, nursing staff, voluntary agencies, medical staff, allied health care professionals, students and academic staff. It is likely that as a Part 3 student you will have an understanding of the important links between the skills required for collaborative working and the provision of effective healthcare.

Do you have to take part?
Participation in this study is completely voluntary. If you agree, I will ask you to sign a consent form. If you agree to take part in this study you are still free to withdraw at any time, without giving any reasons. If you decide not to take part, or withdraw later, this will not affect you in any way.

What will the study entail?
You will be invited to take part in a focus group interview with 3-10 of your peers (all from Part 3). This will last approximately 60 minutes and will take place on your own campus and will be facilitated by me (Di). You will be asked about the skills you associate with collaboration and how working with other students helps you prepare for working as part of a team in professional practice. I am

particularly interested to find out about your positive experiences of what went well when you were working with other students and to explore the reasons for those successes with you and what you think can be done (if anything) to improve the student experience of collaborative learning.

You will be asked to provide a pseudonym (false name) which I will use in the data analysis and presentation of findings.   If requested, you can receive a summarised version of the findings and / or results chapter and will be given an opportunity to comment prior to completion. By using a pseudonym, you and only you will be able to recognise your contribution. The focus group interview will be audio recorded as this will allow me to focus on what you are saying without being distracted by taking notes. Audio recording will also ensure I have an accurate record of the focus group interview and this will help me with data analysis.

What are the potential disadvantages to you by agreeing to take part?
No disadvantages are anticipated. Focus group interviews will take place on your local campus at time which is convenient to you.

What are the possible benefits to taking part?
There may be no direct benefit to you for participating in this study.   However, by providing an opportunity to reflect and explore this topic from an alternative or new perspective, your participation may help develop your understanding of collaborative learning and working. This may be of benefit to you as your career progresses. Moreover, your information may help provide a better understanding of the issues and relationships between practice and theory in relation to the development of collaborative working skills. As this study has the potential to influence educational and professional practice, your information may help inform how student nurses are prepared for practice.

What happens to the information in the project?
I will follow local and national ethical and legal practice and all information collected during this study will be kept confidential. Raw data gathered from this study will only be available to myself, my supervisory team and the examination committee.   Your identity will remain anonymous throughout and after the research process. At no point will your name be identified on the audio recording, interview transcription, thesis or any subsequent publication. In addition, any quotations used to illustrate specific points will be anonymised.

All information about the study will be secured on a password protected server or stored in a locked drawer. Interview data will immediately be deleted from the audio recorder once they have transferred onto Strathcloud – which is the University of Strathclyde's secure password protected server. Interview recordings will be permanently deleted from Strathcloud immediately after the Degree has been successful (or otherwise) at examination.

Access approval to undertake this study has been obtained from your Programme Lead and your teaching staff will not be informed of those students who have agreed to be involved in the study.

What will happen to the results of the research study?
Information from the research will be included in my Doctorate of Education thesis (University of Strathclyde). A summarised report will also be sent to the University of the West of Scotland (School of Health, Nursing and Midwifery). Publications will be sought in journals and I will engage in opportunities to discuss the study. This may take the form of written or oral presentations.

What happens next?
If you wish to participate, please read all the information associated with the study before making your decision. If you have any questions or require further clarification, please do not hesitate to contact me (Di) or my supervisor (Dr Paul Adams).

Contact for further information or to indicate your willingness to take part:

If you decide to participate in the study, please contact me (Di Douglas) by e-mail or phone to arrange an interview date. You will be asked to complete a consent form.

Student Researcher	Supervisor and Chief Investigator
Di Douglas Lecturer in Adult Nursing School of Health, Nursing & Midwifery University of the West of Scotland Hamilton Campus Almada Street Hamilton ML3 0JB Email: Di.Douglas@uws.ac.uk Tel: 01698 283100 ext 8635 Room C.4.28	Dr Paul Adams Senior Lecturer School of Education University of Strathclyde Lord Hope Building 141 St James Road Glasgow G4 0LT E-mail: paul.adams@strath.ac.uk Telephone: 0141 444 8078 Room:LH210

Who has reviewed the study?
This investigation was granted ethical approval by the University of Strathclyde Ethics Committee. The study has also been reviewed by the School of Health, Nursing and Midwifery Ethics Committee at the University of the West of Scotland.

What to do if something goes wrong?
We hope you enjoy taking part in this study. However, if you have a concern about any aspect of this study, you should speak with the researcher who will do her best to answer your questions. If you wish to contact an independent person to whom any questions may be directed or further information may be sought, please contact:

Dr Virginie Theriault
Secretary to the University Ethics Committee
Research & Knowledge Exchange Services
University of Strathclyde
Graham Hills Building
50 George Street
Glasgow
G1 1QE
Telephone: 0141 548 3707
Email: ethics@strath.ac.uk

Thank you for taking the time to read this particpant information leaflet

Appendix 6

Participant Information Sheet for Nurse Lecturers

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

Who is doing the study?
Di Douglas: I am a Lecturer on the BSc pre-registration programme based at the University of the West of Scotland. I am carrying out this study as a post-graduate, doctorate student at the University of Strathclyde. Dr Paul Adams and Professor Kate Wall (University of Strathclyde) are co-supervising this research study.

What is the study about?
The study is about collaborative teaching and learning. Group work activities such as classroom discussions, simulated learning including skills classes, Lt and group presentations are embedded across the curriculum of each programme. The rationale underpinning collaborative teaching in the pre-registration programmes is two-fold. Firstly, it aims to support learning of the programme content and secondly to assist in the development of collaborative working skills which are considered an essential pre-requisite for professional nursing practice.

Why have you been invited to take part?
You have been invited to take part as you are a nurse lecturer who teaches on at least one of the pre-registration nursing programmes at the University of the West of Scotland.

Do you have to take part?
Participation in this study is completely voluntary. If you agree to take part in this study I will ask you to sign a consent form and you are still free to withdraw at any time, without giving any reasons. If you decide not to take part, or withdraw later, this will not affect you in any way.

What will the study entail?
If you agree to participate in the study, you will be invited to take part in an interview which will last approximately 60 minutes. The interview will take place on your own campus and will be facilitated by me (Di). I will ask you to share your views and experiences of collaborative teaching as a method to prepare pre-registration nursing students for collaboration in professional practice. I am particularly interested to find out about your positive experiences of when collaborative activities worked well and explore what the reasons for those successes may be and to hear your views on what you think can be done to enhance the impact of collaborative teaching and learning on the pre-registration programme. You will be asked to provide a pseudonym which I will use in the data analysis and presentation of findings. If requested, you can receive a summarised version of the findings and / or results chapter and will be given an opportunity to comment prior to completion. By using a pseudonym, you and only you will be able to recognise your contribution. The interview will be audio recorded as this will allow me to focus on what you are saying without being distracted by taking notes. Audio recording will also ensure I have an accurate record of the interview and this will help me with data analysis.

What are the potential disadvantages to you by agreeing to take part?
No disadvantages are anticipated. Interviews will take place on your local campus at time which is convenient to you.

What are the possible benefits to taking part?
There may be no direct benefit to you for participating in this study. However, safe and effective healthcare related outcomes is at the core of teaching and learning strategies. This study has the potential to influence educational and professional practice to ensure that student nurses are fit for practice at the point of registration. Your information may help provide an understanding of how collaborative teaching can be maximised to promote learning. Furthermore, by providing an opportunity to reflect and explore your role from an alternative or new perspective, your participation may help increase your understanding of collaborative learning. As such, you may wish to consider your contribution to this study as part of your revalidation.

What happens to the information in the project?
I will follow local and national ethical and legal practice and all information collected during this study will be kept confidential. Raw data gathered from this study will only be available to myself, my supervisory team and the examination committee. Your identity will remain anonymous throughout and after the research process. At no point will your name be identified on the audio recording, interview transcription, thesis or any subsequent publication. In addition, any quotations used to illustrate specific points will be anonymised.

All information about the study will be secured on a password protected server or stored in a locked drawer. Interview data will immediately be deleted from the audio recorder once they have transferred onto. Interview recordings will be permanently deleted from Strathcloud immediately after the Degree has been successful (or otherwise) at examination.

Access approval to undertake this study has been obtained from your line manager. However, they will not be informed of those lecturers who have agreed to be involved in the study.

What will happen to the results of the study?
Information from the research will be included in my Doctorate of Education thesis (University of Strathclyde). A summarised report will also be sent to the University of the West of Scotland (School of Health, Nursing and Midwifery). Publications will be sought in journals and I will engage in formal or informal opportunities to discuss the study. This may take the form of written or oral presentations.

What happens next?
If you wish to participate, please read all the information associated with the study before making your decision. If you have any questions or require further clarification, please do not hesitate to contact me (Di Douglas) or my supervisor (Dr Paul Adams).

Contact for further information or to indicate your willingness to take part:

If you decide to participate in the study, please contact me (Di Douglas) by e-mail or phone to arrange an interview date. You will be asked to complete a consent form.

Student Researcher	Supervisor and Chief Investigator
Di Douglas Lecturer in Adult Nursing School of Health, Nursing & Midwifery University of the West of Scotland Hamilton Campus Almada Street Hamilton ML3 0JB Email: Di.Douglas@uws.ac.uk Tel: 01698 283100 ext 8635 Room C.4.28	Dr Paul Adams Senior Lecturer School of Education University of Strathclyde Lord Hope Building 141 St James Road Glasgow G4 0LT E-mail: paul.adams@strath.ac.uk Telephone: 0141 444 8078 Room:LH210

Who has reviewed the study?
This investigation was granted ethical approval by the University of Strathclyde Ethics Committee. The study has also been reviewed by the School of Health, Nursing and Midwifery Ethics Committee at the University of the West of Scotland.

What to do if something goes wrong?
We hope you enjoy taking part in this study. However, if you have a concern about any aspect of this study, you should speak with the researcher who will do her best to answer your questions. If you wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Dr Virginie Theriault
Secretary to the University Ethics Committee
Research & Knowledge Exchange Services
University of Strathclyde
Graham Hills Building
50 George Street
Glasgow
G1 1QE
Telephone: 0141 548 3707
Email: ethics@strath.ac.uk

Thank you for taking the time to read this particpant information leaflet

Appendix 7

Focus Group Interview Schedule for student researcher (Students)

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

1. **Prior to participant arriving**
   I. Do Not Disturb sign outside the door
   II. Arrange the furniture so that each person is visible to the others
   III. Attend to ventilation and temperature of the room
   IV. Provision of fresh/chilled bottled water or an alternative
   V. Audio recording equipment checked and spare batteries available
   VI. Pens and paper to record pseudonym
   VII. Ensure the aide memoire cards with the various collaborative classroom activities are available (e.g. LT Kura Cloud, Simulation using SimMan, classroom-based group discussions, classroom-based group work. skills classes, group presentations)

2. **Preamble – Information provided and activities undertaken prior to the interview commencing**
   - Welcome each member of the group individually as they arrive for the session
   - Welcome and introduction to myself as a research student
   - Thank the participants for attending
   - Reminder that the focus group interview will be digitally recorded and will last approximately 60 minutes
   - Can refuse to answer any questions or stop at any time – and that further clarification regarding any of the questions are welcomed
   - Indicate that they do not have to continue speaking if they feel they have exhausted or explained a point
   - Each participant is provided with a piece of paper which they are asked to provide their real name and a pseudonym. The student will be asked to keep this name to themselves, fold the paper over (with the details on the inside) and I will collate
   - Provide reassurances that anonymity/confidentiality will be maintained throughout the entire research process
   - A polite request asking students (at the completion of the focus group interview) not to disclose the names of participants or discuss individual comments, actions or behaviours made by any of the participants to any persons who is not participating in the focus groups
   - Remind participants that a summarised version of the findings and / or results chapter will be provided on request and opportunity to comment given - prior to completion
   - Ensure consent form has been signed

3. Introduction

There is much emphasis placed on e.g. team working nowadays and terms such as multidisciplinary team working, inter-professional/intraprofessional teamworking and partnership working and collaborations between e.g. health and social care are commonly used. Throughout your programme there are lots of opportunities for you to work as part of a team – or work collaboratively. Your programme is designed to develop your knowledge and skills to enable you to practise safely and effectively – at the point of registration.

This study focuses on the development of collaborative working skills and in particular – how the various collaborative learning activities which take place within the University setting helps prepare you for practice. I am particularly interested in the types of group work activities that take place at a modular level. For example, those activities that are designed for all students in a particular cohort to participate in such as Research evidence for Practice, Responding to Ill Health, Care of Vulnerable People and skills classes.

During this focus group interview, I would like you to share your views and experiences on collaborative learning.

4. Commence recording

During this focus group interview, I would like you to share your views and experiences on collaborative learning

5. Key questions to the group

1. Can you tell me what collaborative learning means to you as student?
2. Thinking about your time within UWS - Can you tell me about a time when you felt collaborative learning in the classroom really worked out / was successful for you?

   What did this success look like?
   What made it successful?
   Who made it successful?

   Aide Memoire cards are placed on the table. The student researcher will explain that the cards represent examples of the constructionist pedagogies

As you know, on the pre-registration programme, a range of classroom based teaching activities to encourage students to work together are used (e.g. LT Kura Cloud, Simulation using SimMan, classroom based group discussions, classroom based group work. skills classes, group presentations)

May include the following – but you can add more

Classroom based group discussions	Classroom based group work set by the module team	High Fidelity Simulation
Low Fidelity Simulation	LT Kura Cloud	Role Playing
Skills Classes		

3. Can you tell me which collaborative classroom activities you prefer? (if any)

4. Can you tell me more about this activity/those activities? Can you tell me why you prefer X type of activity/activities? – what is it about it that you prefer/enjoy?

The next few questions will explore the links and relevance of collaborative classroom activities to your clinical practice and vice versa

Your programme aims to prepare you for collaboration in healthcare through a curriculum which incorporates concepts and skills and which actively encourages students to practise "collaboration" based on the realities of nurses who provide direct care.

There is evidence to suggest that collaborative learning helps students develop collaborative skills for the work place.

5. In terms of preparing you for practice – what collaborative working skills do you think are most relevant or important?

   May include the following – but you can add more

Reflective skills	Diplomacy	Consensus reaching skills
Negotiation skills	Assertiveness	Knowledge skills e.g. about a topic
Self regulation skills	Confidence	Problem solving skills
Communication – verbal/non verbal	Compassionate skills	Decision making skills
Critical thinking skills	Conflict negotiation skills	Consensus reaching skills
Technical skills		

6. Looking once again at your list of preferred collaborative classroom activities, and looking at the list of skills - which collaborative activities do you think are most helpful to you in clinical practice and why?

   (e.g. LT Kura Cloud, Simulation using SimMan, classroom based group discussions, classroom based group work, group work set by the module team but worked on by groups of students more independently of the lecturer during timetabled sessions, skills classes, group presentations)

7. Thinking about the future and, in particular, our new curriculum – can you think of anything that can be introduced or done differently to make collaborative learning in the classroom more successful or valuable as a tool to link theory with practice?

   - This is about blue sky thinking

Summary
Is there anything else you would like to share with me about collaborative teaching and learning and the development of team working skills? Is there anything else you would like to add to the Ketso or move around?

Feedback
Thanks so much for your time – I really appreciate your contribution. Are there any questions you thought I might ask – which were not included? Is there anything I could have done differently?

Appendix 8

Interview Schedule for student researcher (Nurse Lecturers)

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

1. Prior to participant arriving

I. Do Not Disturb sign outside the door
II. Arrange the furniture so that so the student researcher and nurse lecturer can see one another
III. Audio recording equipment checked and spare batteries available
IV. Attend to ventilation and temperature of the room
V. Provision of fresh/chilled bottled water or an alternative
VI. Ensure the aide memoire cards with the various collaborative classroom activities are available (e.g. LT Kura Cloud, Simulation using SimMan, classroom based group discussions, classroom based group work. skills classes, group presentations)

2. Preamble - Information to provide prior to the interview commencing

- Welcome and introduction to myself as a research student
- Thank the participant for attending
- Reminder that interview will be digitally recorded and will last approximately 60 minutes
- Can refuse to answer any questions or stop at any time – and that further clarification regarding any of the questions are welcomed
- Indicate that they do not have to continue speaking if they feel they have exhausted or explained a point
- Provide reassurances that anonymity/confidentiality will be maintained throughout the entire research process
- Participant is asked to provide a pseudonym
- Remind participants that a summarised version of the findings and / or results chapter will be provided on request and opportunity to comment given - prior to completion
- Ensure consent form has been signed

3. Introduction

There is much emphasis placed on e.g. team working nowadays, and terms such as multidisciplinary team working, inter-professional/intraprofessional teamworking and partnership working and collaborations between e.g. health and social care are commonly used. Our pre-registration programmes are designed to develop nursing students' knowledge and skills to enable them to practise safely and effectively – at the point of registration. There is some evidence to suggest that collaborative skills are

enhanced by collaborative learning. This study focuses on the development of collaborative working skills and in particular – how the various collaborative learning activities which take place within the University setting helps prepare students for practice. I am particularly interested in the types of collaborative activities that take place at a modular level. For example, those activities that are designed for all students in a particular cohort to participate in.

4. **Commence recording**
   During this interview, I would like you to share your views and experiences on collaborative learning and teaching

5. **Key questions**
   1. Can you tell me what collaborative learning in the classroom means to you as a nurse lecturer?

   Can you tell me about a time when you felt collaborative learning in the classroom really worked out / was successful?

   - What did this success look like?
   - What made it successful?
   - Who made it successful?

   As you know, on the pre-registration programme we use a range of classroom-based teaching activities to encourage students to work together (e.g. LT Kura Cloud, Simulation using SimMan, classroom-based group discussions, classroom-based group work. skills classes, group presentations)

   Aide Memoire cards are placed on the table. The student researcher will explain that the cards represent examples of the constructionist pedagogies

   May include the following – but you can add more

Classroom based group discussions	Classroom based group work set by the module team	High Fidelity Simulation
Low Fidelity Simulation	LT Kura Cloud	Role Playing
Skills Classes		

   2. Can you tell me more about this activity/pedagogy?

   3. Can you tell me why you prefer facilitating x type(s) teaching activity/activities/pedagogy/pedagogies? (mirror term used by lecturer)

   The next few questions will explore the links and relevance of collaborative classroom activities to your clinical practice and vice versa

   Nurse education prepares students for collaboration in healthcare through a curriculum which incorporates concepts and skills and which actively encourages students to practise "collaboration" based on the realities of nurses who provide direct care. So, as nurse educators we are all conscious of the need to link what happens in the classroom to clinical practice.

The next few questions relate to linking collaborative learning in the classroom to collaboration in the healthcare work place

There is evidence to suggest that collaborative learning helps students develop collaborative skills for the work place.

4. What skills can you identify students using or developing when working collaboratively in the classroom?

May include the following – but you can add more

Reflective skills	Diplomacy	Consensus reaching skills
Negotiation skills	Assertiveness	Knowledge skills e.g. about a topic
Self regulation skills	Confidence	Problem solving skills
Communication – verbal/non verbal	Compassionate skills	Decision making skills
Critical thinking skills	Conflict negotiation skills	Consensus reaching skills
Technical skills		

5. In terms of preparing students for practice – what collaborative working skills do you think are most relevant or important?

6. Looking once again at your list of preferred collaborative classroom activities, and looking at the list of skills - which collaborative activities do you think are most helpful to clinical practice and why?

   (e.g. LT, Simulation using SimMan, classroom-based group discussions, classroom-based group work, group work set by the module team but worked on by groups of students more independently of the lecturer during timetabled sessions, skills classes, group presentations)

7. Thinking about the future and, in particular, our new curriculum – can you think of anything that can be introduced or done differently to make collaborative learning in the classroom more successful or valuable as a tool to link theory with practice?

   - This is about blue sky thinking

Summary
Is there anything else you would like to share with me about collaborative teaching and learning and the development of team working skills? Is there anything else you would like to add to the Ketso or move around?

Feedback
Thanks so much for your time – I really appreciate your contribution. Are there any questions you thought I might ask – which were not included? Is there anything I could have done differently?

Appendix 9

Consent Form for Students (focus group)

University of **Strathclyde** Glasgow

Name of department: Humanities and Social Science

Name of research student: Di Douglas

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

1. I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.

2. I understand that my participation in this interview is voluntary and that I am free to withdraw from the study at any time, up to the point where I approve my interview transcript for anonymisation, without giving a reason or experiencing any adverse consequences. If I exercise my right to withdraw and I do not want any of my data to be used, any data which has been collected from me, will be destroyed.

3. I understand that I can withdraw from the study any personal data (i.e. data which identifies me personally) at any time before data analysis.

4. I understand that anonymised data (i.e. data which do not identify me personally) cannot be withdrawn once they have been included in the study

5. I understand that withdrawing from the research study will not incur any adverse consequences to my standing as a nursing student or affect my future studies or progression on the nursing programme.

6. I understand that any information recorded in the study will remain confidential and no information that identifies me will be made publicly available.

7. I understand the focus group will last approximately 60 minutes.

8. I am aware that the focus group interview will be recorded using digital audio equipment for the purpose of data analysis.

9. I agree that anonymised verbatim quotes may be used for illustrative purposes in a doctorate of education thesis and professional publications and presentations.

10. I agree to treat as confidential anything that is discussed in the focus group interview.

11. I agree to take part in a focus group interview with my peers.

Consent to participate in a focus group study to explore the role of: *Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice*

Name (Please print)	Signature	Date

Consent Form for Students (FG) - Final Version (October 2017)

Appendix 10

Consent Form for Lecturers

Name of department: Humanities and Social Science

Name of research student: Di Douglas

University of
Strathclyde
Glasgow

Title of the study: Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice

1. I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.

2. I understand that my participation in this interview is voluntary and that I am free to withdraw from the study at any time, up to the point where I approve my interview transcript for anonymisation, without giving a reason or experiencing any adverse consequences. If I exercise my right to withdraw and I do not want any of my data to be used, any data which has been collected from me, will be destroyed.

3. I understand that I can withdraw from the study any personal data (i.e. data which identifies me personally) at any time before data analysis.

4. I understand that anonymised data (i.e. data which do not identify me personally) cannot be withdrawn once they have been included in the study.

5. I understand that any information recorded in the study will remain confidential and no information that identifies me will be made publicly available.

6. I understand the interview will last approximately 60 minutes.

7. I am aware that the interview will be recorded using digital audio equipment for the purpose of data analysis.

8. I agree that anonymised verbatim quotes may be used for illustrative purposes in a doctorate of education thesis and professional publications and presentations.

Consent to participate in a study to explore the role of: *Collaborative learning among pre-registration nursing students: Preparing student nurses for professional nursing practice*

Name (Please print)	Signature	Date