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Constantly Thinking: Virtue in the Reflection of Practising Physiotherapists

Dalley-Hewer, Jayne

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Constantly Thinking: Virtue in the Reflection of Practising Physiotherapists

By
Jayne Dalley-Hewer

A thesis submitted in partial fulfilment of the university's requirements for the Degree of Doctor of Philosophy

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ETHICS REVIEW FEEDBACK FORM

(Review feedback should be completed within 10 working days)

Name of applicant: Jayne Dalley-Hewer ....

Faculty/School/Department: [Faculty of Health and Life Sciences] HLS Health Professions ....

Research project title: Does Reflection Benefit Physiotherapy Practice?

Comments by the reviewer

1. Evaluation of the ethics of the proposal: The structure of this qualitative project seems to be straightforward and ethical. Proceed with good ethics.	
2. Evaluation of the participant information sheet and consent form: Clear.	

3. Recommendation:

(Please indicate as appropriate and advise on any conditions. If there any conditions, the applicant will be required to resubmit his/her application and this will be sent to the same reviewer).

X	Approved - no conditions attached
	Approved with minor conditions (no need to re-submit)
	Conditional upon the following – please use additional sheets if necessary (please re-submit application)
	Rejected for the following reason(s) – please use other side if necessary
	Not required

Name of reviewer: Anonymous ....

Date: 11/08/2013 ....

Certificate of Ethical Approval

Applicant:

Jayne Dalley-Hewer

Project Title:

What is the value of reflection for physiotherapy practice?

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

03 December 2015

Project Reference Number:

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Dedication

I dedicate this work to my husband and my mother.

To Paul: Without your death, my love, the life of this work would not have quickened.
Yet I would exchange this life for yours
In an instant,
If I could.
Without thought or reflection required.

To Mum: I miss you and all that you were, all that shaped who I am.
I am sorry that you were not able to remain long enough to share this
among so many other things that we can no longer share.
'What is this life if, full of care,
we have no time to stand and stare.'
(William Henry Davies)

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This study would not have been possible without the assistance of the participants. Every single one of you has contributed in some way to the grounded theory presented here. I have been humbled by your honesty and generosity. I am grateful for your time and effort, and I have been moved by the integrity in your concern that your interview or reflections addressed the research focus.

I have been blessed with three wonderful supervisors for this study: each of them has brought their very different skills and perspectives to our discussion. Thank you for not only guiding me, challenging me and stretching me, but also for your pleasure in the discussions we have shared around the many topics in the progress of this research.

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A Haiku for Lynn:

> The knowing wise guide
> Shares compassionate freedom
> With steady tiller

A Haiku for Mark:

> Dancing with ideas
> Serendipitous pleasure,
> Holding haste in check

A Haiku for Mary:

> Passion for the pen.
> Encouraging strategies,
> Raining adjectives

Abstract

Reflection is now a key component of physiotherapy undergraduate education and an expectation for professional practice although little is known about reflection as practised by qualified physiotherapists.

Aims of the study: The purpose of this research was to explore reflection as practised by physiotherapists. Initially, the interest was in exploring what benefits reflection might bring to physiotherapists' practice; however, once the richness of physiotherapists' reflection was experienced, the focus of the research shifted to the process and nature of their reflections.

Study design: The study took a pragmatic, qualitative, three-stage course through a grounded theory approach, where the research interest directed methods and analysis. Data collection used photo-elicitation interviews for stage one, audio diaries for stage two and for the stage of verification of the theory.

Analysis: The interpretive analysis used a coding process which included the 'thinking strategies' of asking questions of the data, writing memos and making comparisons. The theory was further developed with an evolved theoretical coding family.

Participants: 15 physiotherapists took part over the three stages of the research; 13 were female and two were male. Their clinical backgrounds included neurology, cardio-respiratory, musculoskeletal, sports therapy and paediatrics; their places of work included NHS, private, acute hospital, and community settings.

Findings: Reflection was used by physiotherapists in order to fulfil a purpose in their practice. The purposes are summarised by the categories of *Understanding, Seeking* and *Being Worthy.* Each category had two sub-categories, giving six purposes of reflection: *making sense of self*, *making sense of other*, *seeking a solution*, *questing* for a novel clinical solution, *practising worthily* and *demonstrating worthiness* to others.
The outcomes of reflection can be grouped into three types: changes in practice, changes in the practitioner and outcomes which did not create change but which had value to the practitioner, such as ease of mind. The purpose of *demonstrating worthiness* was the only form of reflection which regularly included writing and which had no direct benefit to practice. In addition, practitioners' reflections were not bounded by their working hours: they typically reflected in hours of routinized, non-cognitively demanding activities such as walking, cycling, or showering. They also used reflective strategies such as reading and discussion with colleagues.

Conclusions: Practitioners used a rich practice of reflection in order to achieve Aristotle's 'good life', which is to say they used reflection for their personal sense of fulfilment and professional satisfaction with their work.

Contents

Table of Figures

Chapter One: Introduction

The background and rationale for the study are explained in this chapter which also sets out the research gap and the aim of the research. The chapter concludes with an overview of the structure of the thesis.

Rationale for the study

The importance of reflective practice to health professionals has been emphasised for the last 20 years and the practice of reflection has become an important part of programmes leading to professional health practitioner registration. The argument for the emphasis on reflective practice has been firstly, the importance of reflection for developing the health practitioner and secondly, the role of reflection for their continued professional development. However, reflection has been criticised (Burton 2000) for a lack of evidence that it does indeed contribute to practice. Given the importance placed upon this activity, its prominence in health education and its role in continued registration, this seemed critical to explore. With a focus on the profession of physiotherapy, the research began with the question 'Is there any evidence that reflection does indeed contribute to physiotherapy practice?' After the first stage of data collection and analysis, it was apparent that the nature of reflection and processes used by physiotherapists to reflect was unexplored territory of significance to understanding reflection in practice. The research focus was therefore amended to explore these processes more fully.

Background to the study

Donald Schön's book *The Reflective Practitioner: How Professionals Think in Action* (Schön 1983 p51) discusses, in relation to professional engineers, architects and others, the relationship between academic knowledge, practical competence and professional artistry. Schön viewed professional practice as not only the application of standardised theoretical principles (technical rationality) but also the use of tacit intuitive knowledge, which he called 'knowing-in-action'. Sometimes, Schön observed, something makes the professional aware

of their own actions or thought processes, and they consider them, make sense of them, and incorporate their new understanding in further action. Schön referred to this as 'reflection-in-action', considering this central to the art of dealing well with uncertainty and conflict. The interest in reflection in the health professions began with nurses. The nurse-educator Quinn (1995 p85) observed that reflection caught the imagination of nurses and midwives 'who saw in Schön's ideas the rationale for practice that they had been seeking'. This can be seen in the enthusiasm with which nursing as a profession began to promote the practice of reflection in the mid-1990s.

In 1994, the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) (now the Nursing and Midwifery Council (NMC)) introduced the requirement of Post Registration Education and Practice (PREP) for demonstrating continued competence to practise, linked to continued professional regulation (UKCC 1994). With this requirement and the portfolio which would record it, came also the political drive for nurses to demonstrate reflection as part of their Continuing Professional Development (CPD). That this drive had some success is suggested by Govier (1999), who reported that 36% of nurses in this study had evidence of reflection. It was a decade later, in July 2006, when a similar process was formalised in physiotherapy and physiotherapists also had to demonstrate their continued competence to practise as a requirement for re-registration with their regulatory body, the Health Professions Council (HPC) (HPC 2008), also by recording their continuing professional development in a portfolio which includes reflection on practice. By this time, the professional body for physiotherapists, the Chartered Society of Physiotherapists (CSP), had already been promoting the practice of reflection for some years, and had required the Higher Education Institutions (HEIs) involved in the programmes which led to physiotherapy registration to include reflective practice as part of their curriculum for the previous ten years (CSP 1996 p7). Reflection is now firmly established in the health professions, including physiotherapy, as a basic requirement for professional practice, which is demonstrated by the number of textbooks now available on this topic (e.g. Cross et al. 2006, Ghaye and Lillyman 2010, Johns 2004, Kember 2001, Taylor 2010).

Reflection and practice

Benner's idea of nursing expertise development published in *From Novice to Expert* (Benner 2001) recognises reflection as something that experts do as part of their practice. Health care practitioners have turned this around and assumed that if experts reflect, then developing reflective practitioners will also contribute to the development of experts. It may be that this relationship cannot be reversed so simply. Given the prevalence of reflection in the health professions, and the continued emphasis on it, the critique that there is no evidence that it does contribute to practice development could not be ignored. Should there, indeed, be no evidence and no way to develop methods for obtaining evidence, then the link with reflection and improving practice should not be promoted. This does not mean that the practice of reflection would have no value. Reflective writing can document that learning has taken place and therefore can be an important method for the demonstration of learning that is otherwise difficult to measure or to gather evidence for.

The research

This study used a qualitative, grounded theory approach with the expectation of contributing to theory building in this yet-to-mature field. The study began in the field of physiotherapy with the aim of exploring whether there was any evidence for the process of reflecting on practice leading to practice benefits with the idea that if evidence could be found then reflection could be incorporated into the educational curriculum with greater confidence. If the evidence suggested that there is no link between reflection and practice benefits, then curriculum content could be refocused onto the skills necessary for the historical recording of learning. After the first stage of data collection and analysis, the focus of the research changed to exploring the nature and process of reflection by practising physiotherapists. To this end, data collection techniques such as interview with photo-elicitation and audio diaries were used to capture the real-life reflection of practising physiotherapists and to explore their perceptions on reflection as part of their working lives.

Structure of the thesis

This thesis is presented in twelve chapters including this introductory chapter. The qualitative research paradigm acknowledges the place of the researcher within the research; therefore, this thesis has been written partly in the first person. In the grounded theory approach to research, the researcher starts with an open mind with regard to the potential theory which might be developed. For this study, literature was consulted in order to provide sensitivity to what the data might contain; however, the higher-level theoretical consideration of the findings was conducted after the findings. This high-level overview has therefore been placed after the findings chapters in this thesis.

In chapters two, three and four the literature on reflection in practice has been presented, including reflection in the health professions and in physiotherapy, the models and modes of reflection which practising physiotherapists might be familiar with has been set out, and the professional context of physiotherapy practice has been explored. Chapter four also begins the transparency of the researcher in the research process by giving the professional background of the researcher. These three chapters contextualise the study through providing the background and context of this research and highlighting the research gap.

The choice of philosophical framework chosen for this research has been explained in chapters five and six and the key components of the grounded theory approach drawn on are identified. These key components include the process of data analysis, theoretical sensitivity and coding. During the analysis, the analytical thinking strategies of asking questions of the data, writing memos and making comparisons were followed by conceptual development of the theory using theoretical coding families and event analysis. A summary of the participants and the data collection methods has also been presented. These two chapters provide the research framework, the methodology and methods in detail.

The findings of the research have been presented in chapters seven, eight, nine and ten. The grounded theory of reflection by practising physiotherapists includes the six categories of purpose: *making sense of self, making sense of other, seeking a solution, questing, practising worthily* and *demonstrating worthiness.* Some benefits of reflection have been identified in

the categories of *changes in thinking*, *changes in actions*, *emotional easing* and *maintaining career*. The nature and process of reflection by the participating physiotherapists is explored by examining how they 'went about' their reflection, and their use of *personal concept* of reflection, *personal strategies* to reflect and the way they made *time* and *head-space* in which to reflect. This is followed by an account of the stage of verification of the grounded theory. These four chapters provide the grounded theory together with extracts from the data for illustration.

The suggestion that each physiotherapist uses reflection as part of a search for personal satisfaction and a sense of fulfilment in their work is made by linking Aristotle's virtue to the practice of reflection by physiotherapists in chapters eleven and twelve. Here, a higher-level theoretical discussion of the findings and the implications of the findings has been given, followed by conclusions which have been drawn from this study and the implications for the different areas of the professions. The limitations of the study and potential future directions for further research conclude this thesis.

Chapter Two: What was Already Known

Introduction

The aim of this research arose from recognition that the benefits to practice from reflection had not been established; this demanded an understanding of what was already known or believed about the benefits of reflection and a search for any evidence that might provide an insight into this area. A review of the literature on what was already known about the benefits of reflection in health care practice and education is provided in this chapter. As will be seen, there are a variety of benefits claimed for reflection and some of these variances are linked to differing ideas about the nature of reflection or to particular concepts of reflection. The nature of the evidence of reflection in health care (predominantly nursing) will be critically considered, followed by an exploration of reflection in the physiotherapy profession. In order to afford the reader some insight into the theories and concepts of reflection, chapter three will present some of the main concepts and theories of reflection which have contributed to an understanding of reflection in physiotherapy.

The trigger

This review of the literature will start at the beginning, which is to say, my beginning, and a particular journal article which was the trigger for the focus of this research. Like Janus, the two-headed Roman god of beginnings and transitions, the exploration will look both backwards to earlier literature and forwards to later literature from this article. The trigger article is Burton's (2000) paper which questioned why the UKCC (United Kingdom Central Council for Nursing Midwifery and Health Visiting – now the Nursing and Midwifery Council (NMC)) insisted on reflection for nurses at all levels in the absence of evidence to support the use or usefulness of reflection. Burton was not the first author to recognise the lack of evidence for reflection; there was a tradition of such acknowledgement (e.g. Mackintosh 1998, Newell 1994, Rich and Parker 1995) which has been maintained more recently (Jones 2010) or qualified (Mann 2008). In

the mid-1980s, Boud, Keogh and Walker (1985 p21) reported that little research had been conducted on reflection in learning; this is no longer the case although the volume of research conducted on reflection in practice remains limited. The idea that such a strong educational movement as the concept of reflection might have little basis for supporting practitioners I deemed worthy of further study.

In exploring the literature from a starting point of Burton (2000), the literature that preceded Burton's paper, from which she[1] drew or could have drawn her conclusions, was examined first. This was predominantly from the field of nursing, the health profession to first formally adopt the practice of reflection. Later, as other professions also adopted reflection, literature from the professions such as physiotherapy and medicine was published. There is also relevant literature in the field of education due to the parallel development of reflection in the fields of teaching and health, and also the higher education roles of the health profession researchers. The focus of this research study was not a comparison of reflection across all health professions so no attempt has been made to represent all health professions here. Rather, given the focus of this study on the physiotherapy profession, the literature which may have informed reflection in physiotherapy has been considered.

In beginning with Burton (2000), this review will firstly explore the benefits that Burton considered. Burton (2000) identified several claims that had been made in nursing for the benefits of reflection which she considered to have not been verified. Understanding of the claims made can illuminate some of the expectations of reflection as a learning tool and, therefore, make a useful starting point for understanding this subject. These claims fall into three groups: the first group consists of claims related to the relationship between reflection and theory. The second group consists of claims that reflection will develop intellectual capacity and result in critical thinkers. The third claim is that reflection contributes to patient benefits. Each of these claims will now be presented and discussed.

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[1] Extensive searching has failed to reveal the gender of Burton, so the 'she' is somewhat arbitrary.

The claims for the benefits of reflection in practice

The first claim to be considered is the claim that reflection can be used to generate theory. This claim is that reflection helps in integrating theory and practice by contextualising knowledge and that, by uncovering the nature of nursing, reflection can be used to generate nursing theory. Reflection was identified by Argyris and Schön (1974 p39) as uncovering the theory used in practice, which Schön considered could then be integrated into practice knowledge. This integration of practice and theory excited the profession of nursing in particular and the claim that reflection was an aid to uncovering tacit knowledge and thus discovering nursing practice knowledge which might lead to the generation of new nursing knowledge is repeated in the nursing literature. In the 1980s, just as reflection was gaining popularity, nursing was engaged in a struggle for professional recognition and autonomy and some nurses understood that change could come through developing a critical understanding of practice (Bradbury et al. 2010 p2). This background shows why the suggestion by Rich and Parker (1995) that the identification of a theory for professional practice through reflection could provide a rationale for nursing and midwifery practice was so attractive. However, Rich and Parker (1995) concluded that uncovering practice knowledge can only be achieved with the critical reflection consistent with an academic way of approaching thinking, which suggests that there are barriers to uncovering practice knowledge because an academic approach may not be consistent with practitioners' usual ways of knowing and thinking. This may be a reasonable conclusion given academics' concern with the philosophical considerations of the nature of practice knowledge and practitioners' concern with practical responses to their practical situations. Nursing authors have not explored how these barriers may be overcome.

The second claim is that reflection can facilitate intellectual development. Burton (2000 p1012) considered the claim that 'productive reflection' encourages synthesis, analysis, critical thinking, and evaluation. Several papers on the subject of reflection recognise the need for intellectual skills in order to conduct reflection effectively (for

example, Durgahee 1996). In addition, Durgahee (1996) suggests that reflection not only requires cognitive development or professional maturity in order to reflect but that the act of reflection also leads to cognitive development and professional maturity in turn. Durgahee (1996) further suggests that this development of intellectual capacity is through the contextualisation of knowledge and that it is this that helps with professional maturity and raises the students' level of awareness.

The third claim is that reflection can result in improved practice. The recognition by the learning theorist Mezirow (1991 p15) that reflection can produce a solution to a task orientated problem has obvious application to any professional activity of a practical nature. This idea that reflection aids problem solving has been extended until the implicit and explicit understanding that reflective practitioners are in some way better practitioners pervades the health care literature. Ghaye and Ghaye (1998 p79) consider the fundamental purpose of reflection to be improving the quality of practice in teaching and learning and 'interactive reflection on practice' (p32) to be where the learning from reflection is put to work in future plans in that same context. This belief is repeated in their text for the health care field (Ghaye and Lillyman 2010 p114) where it is positioned as the tenth principle of reflection, that reflection can improve practice, although they offer no support for this belief.

Several authors besides Burton have observed that there is no evidence for this claim of reflection benefiting practice. White et al. (1998 p191) suggest that the reflection nurses did as part of clinical supervision led to happy nurses, but acknowledge that the notion 'a happy nurse is a happy patient' is difficult to demonstrate. Some of the claims that have been made for practice benefits are made on the basis of reflection which was conducted for some academic purpose – as part of a course of learning or as an assessment. Some of this reflection does relate to reflecting on practice; however, much of this reflection was not in the practice environment. Durgahee (1996) draws on practitioners' perceptions of their reflection on practice; however, it not clear whether these perceptions are on reflections conducted at the time of their

9

educational course, or whether these are perceptions of their thinking processes since their course.

Chirema (2007 p93) observed that reflection may help clinicians make appropriate clinical judgements. Chirema's study of the reflective journals of 42 respondents noted that just five respondents demonstrated the classification 'outcomes of reflection', defined as 'transformation in perspectives, change in behaviour, readiness for application, commitment to action'. However, Chirema was studying the evidence of reflection, rather than the evidence of the outcomes of reflection, and only presented minimal detail on the nature of the outcomes demonstrated by the five respondents. In addition, that the other 37 respondents showed evidence of reflection but not outcomes of reflection in their journals might shine some light on the lack of evidence for practice benefits. This suggests that an assumption that where there are benefits of reflection these benefits will be experienced by everyone may be unfounded. However, the absence of evidence for outcomes of reflection does not mean that these respondents did not have any such outcomes, only that they did not record them. This may support Burton's dismissal of the evidence but does not confirm that outcomes of reflection do not exist, particularly given the limited research investigating this.

Although Burton recognised the three areas of reflective outcomes above, there are other outcomes proposed by other authors which do not fall readily into one of these three groups. For example, Boud, Keogh and Walker (1985 p30) report that changes may be quite small, and may be changes of perception, not necessarily of behaviour. Boud, Keogh and Walker (1985) suggest that the resultant new ideas (synthesis) are explored for authenticity (validation) then made our own (appropriation) and that these three stages of synthesis, validation and appropriation are outcomes of reflection as well as part of the process of reflection. These appropriated ideas may not be objectively measurable. Boud, Keogh and Walker (1985 p34) also recognise affective changes which might result in a changed attitude or emotions. Such

outcomes may be intangible whilst others may be demonstrable by action – which might then be observable.

In addition to changes of a perceptive or affective nature, Mezirow (1991 p15) recognised reflection as understanding what someone else means, or understanding the self. Similarly, Ghaye and Ghaye (1998 p6) suggested that reflection is for making sense of things and this sense making is linked to the way we see ourselves, thus making sense of our interactions and making sense of our context. Mezirow's (1991 p6) suggestion that reflection results in creation of meaning, and transformation of perspective, when considered in the practice context, may result in observable changes in practice or may result in something less tangible.

The claims for the benefits of reflection which have so far been considered are the generation of theory and practice knowledge, intellectual development through critical thinking, and changes in behaviour, perceptions, emotions, readiness for action, or personal satisfaction. Having set out the claims for benefits, this review now moves to look at the nature of the evidence that is found in the nursing literature before turning to look at literature in physiotherapy.

The nature of the evidence in nursing

When exploring the claims, refuted or otherwise, for the benefits of reflection to practice, it is useful to have an overview of the nature of the evidence that already exists. Both the nature of evidence and the outcome being measured vary from study to study. The most frequently occurring form of evidence presented is drawn from either the work of students or the personal accounts of students where the students have reflected during a programme of study.

When Burton (2000) commented on the lack of evidence for reflection, she appears to have done so from a particular perspective of what might be counted as evidence. Firstly, she appears to be recognising patient outcomes as the only valid form of

11

evidence rather than having a broader concept of what the outcomes from reflection might be, and secondly, she states that where there have been claims made for reflection these 'claims have not been substantiated empirically'. Her stance towards evidence from personal accounts is that they are *'merely'* (my italics) accounts of how people *believe* (Burton's italics) they have benefited. Ironically, the word 'empirical' means verifiable by experience (rather than logic); however, Feyerabend (1996 p8) describes empiricists in science as people who stay close to the facts – and these are objective, measurable facts rather than personal experience. Implicitly, then, Burton appears to be judging the evidence on reflection from a positivist paradigm, and discounting personal experience as valid evidence.

Mackintosh (1998) shares Burton's view that an objective review of the evidence is required and notes that the tools to make such a review have not been developed. Like Burton, she considers the available evidence of personal anecdote a failing. Newell (1994) suggested that reflection cannot be refuted and in order to be a science, it must be capable of being refuted. His statement about the unacceptability of our beliefs regarding the benefits of reflection indicates that he considers the evidence for reflection to be unacceptable. Nevertheless, he noted that accounts which describe the effect of reflection as it affects clients do not exist. Along with this restricted view of what evidence might be acceptable, Newell limits his recognition of 'permissible' reflection to a form which might allow it to be experimentally tested.

Prior to Burton's (2000) paper, the key studies which *did* offer some evidence for reflection in health care were those of Powell (1989), Snowball, Ross and Murphy (1994), Burnard (1995) and Durgahee (1996). All of these studies took a qualitative approach to their research, using a mixture of interviews, surveys, focus groups and observations, often in combination. All of these studies had qualified nurses as participants, although only Powell (1989) was exploring reflection in the context of clinical practice. Snowball, Ross and Murphy (1994) and Burnard (1995) explored nurse educators and their thoughts on reflection in the education process, and Durgahee

(1996) explored qualified nurses who were on a post-registration programme of learning. None of these authors were attempting to explore the outcomes of reflection: Powell was asking whether nurses reflected, to what extent and to what level; Snowball, Ross and Murphy were looking to gain insight into the process of dissertation supervision; and Burnard was exploring what nurses thought reflection was and what they thought about it. Durgahee was concerned with what practice changes the nurses experienced one year after their course as a result of the reflective learning – the closest study so far to exploring outcomes. However, it is mostly unclear in Durgahee's reporting of the findings which of the discussed changes relate to changes in practice when the course was in progress and, therefore, while they were simultaneously students and practitioners, and which practice changes were made more recently and outside of the classroom.

These points notwithstanding, these studies give tantalising insights into the reflection of practitioners. Powell's (1989) study perhaps best helps to understand the process of reflection in qualified staff; measuring the nurses' reflection-in-action against Mezirow's seven levels of reflection (Mezirow 1981), she reports that practitioners with greater autonomy use the higher levels of reflection, while practitioners with lower levels of autonomy use only the lower levels of description and planning. Those using the higher levels were also more aware of the learning opportunities in practice. There is no evidence in the paper that those more aware of the learning opportunities took them to change their practice, although there is an implication that this is the case. Snowball, Ross and Murphy (1994) show an increase in participants' personal awareness through nurses' reflections; the experience of learning from reflection is reported although there is no explicit evidence provided in the findings. Likewise, with regard to linking theory to practice, there is no mention of uncovering theories in use, nor any evidence of changing practice as a result of the reflections. This paper uses reflection as a tool to explicate the process of dissertation supervision, not to explore the benefits of reflection, so it is unsurprising that evidence for the outcomes of reflection is limited here. Similarly, Burnard (1995) did not explore the benefits of

reflection but what nurse educators thought reflection was; however, one question asked of the participants was whether they thought it made a difference to clinical practice. Although one respondent reported that 'I don't see that it has any use in nursing at all', many respondents gave accounts of increased confidence, competence, sensitivity in practice, and the opinion that it was better for the patient. There are no explanations of the circumstances in which these attributes were experienced, so the details behind these perceptions are not available for examination.

Durgahee's (1996) study is often reported as studying students, although since they were on a post-registration course they were simultaneously qualified staff. The study was exploring their reflections during a course of study; however, the content of the reflections that one might do during study may not be the same as the reflection that one does in the course of daily practice. Due to the lack of clarity in the reporting, some of Durgahee's findings may be applicable to daily practice, or may not. Findings that appear to be applicable to current practice rather than during the period of study are an improvement in critical thinking and in skills of listening to the patient, a willingness to challenge the status quo, a questioning of practice and an intellectual focusing on work practices. It is implicit that these attributes improve the work of these nurses, although again the detailed explanation of how they do so was not the focus of the paper. Published one year after Burton's (2000) paper, Paget (2001) studied nursing students and former students and found in focus groups that there was some consensus that reflective practice can influence clinical outcomes although no details were given. In addition, 77% of the respondents to a questionnaire suggested that these changes had been integrated into their practice; however, this study was exploring changes brought about by a formal period of reflective practice (i.e. when they were students), not reflection as practised day to day when qualified as nurses.

To summarise the nursing literature, there are indications of perceptions that reflection may increase awareness of learning opportunities, show an increased

personal awareness, and lead to increased confidence, competence and sensitivity in practice, although the evidence for these indications is not explicit. One last point when considering the validity of the evidence is the nature of the reflections that have provided the data for the studies. Claxton's (1984 cited by Burnard 1995) suggestion that because recollections are different to the flow of events as they occurred the process of reflection may be unsound in some way is to assume that practitioners only improve or shape their practice according to what 'really' happened. However, it is surely the remembered experience, whether reflected upon or not, that practitioners take forward into their future practice. In reality, the very act of reflecting may change the practitioner's view of what happened and, therefore, change what is taken forward even if the memory is not accurate; indeed, Burnard (1995) questions whether accuracy of recall matters.

The physiotherapy literature

The growing uptake of reflection by the health professions has resulted in an increase in the number of studies looking at this subject following Burton's paper. As suggested above, much of the drive towards the practice of reflection by nurses arose from a widespread concern about their search for professional knowledge and a desire to articulate their practice. Whilst this same desire is present in physiotherapy literature, particularly where physiotherapy academics shared ideas with nursing academics (see Higgs and Titchen 1995, physiotherapist and nurse respectively), the relatively smaller volume of papers on the topic not only represents a profession with smaller numbers, but may also suggest a lesser degree of concern with our professional identity and purpose, our concern being with status and respectability instead, which is discussed in chapter four.

For reflection in physiotherapy, the pattern seen in the nursing literature of an absence of evidence that reflection benefits practice is repeated. No author appears to have set out to explore whether there is an impact on practice, from which it is not surprising that so few have found it. Because of this gap in the research focus, it was

not appropriate to perform focused literature searches. Instead, in order to identify if *any* such evidence exists, a broad scope of papers which discussed reflection and physiotherapy were examined. Database searches were undertaken with the following search terms: reflection, reflect, reflecting, and physiotherapy, physiotherapist, physical therapy or physical therapist. Papers were included if they included physiotherapists amongst other health care professionals.

These searches were performed in four databases, CINAHL, AMED, Medline and Academic Search Complete. CINAHL is a comprehensive full-text source of nursing and allied health professional journals. AMED provides an alternative medicine database for physicians, therapists, medical researchers and clinicians. Medline provides authoritative medical information for medicine, nursing and other health professions. Academic Search Complete is a comprehensive, scholarly, multidisciplinary full-text database. The titles and abstracts of the papers returned were then read for papers which might be relevant.

The most frequently occurring reasons for excluding a paper were that 'reflection' had been used as a tool for discussing some other topic or that reflection was incidental in some other way to the topic of the paper. Where the abstract indicated that the paper might contain relevant information, the paper was then read in full. A small number of papers were excluded at this point because they were not relevant to the research aim. In the remaining papers, hand searching of secondary citations was then conducted, providing further papers and a sense of which were the historical key papers from nursing, education and physiotherapy that physiotherapy authors had drawn on.

The aim of this study was not a systematic review of the research; nevertheless, an overview of the type and range of physiotherapy papers on reflection is now given to provide an understanding of the scope of the field. The earliest publication on reflection in the physiotherapy literature is that of Denton and Jensen in 1989,

although only an abstract of this conference paper is available. In all, 68 potentially relevant papers were included in the final selection. Of these, 33 were research studies, of which 26 were qualitative research. The qualitative research studies included the research methods of interviews (e.g. Stewart and Richardson 2000), focus groups (e.g. Donaghy and Morss 2007) and analysis of reflective journals (e.g. Williams et al. 2002) from a range of research approaches. There was one PhD thesis (Knab 2012). Other research paradigms represented in ten of the papers included reliability studies (e.g. Plack et al. 2005), survey methodology (e.g. Ward and Gracey 2006) and quasi-experimental studies such as Dye et al. (2011). There was one systematic review of reflective practice by Mann, Gordon and MacLeod (2009), although this was looking at health care education and included only one physiotherapy paper which has been considered separately for this study. Twenty-five of the papers were either scholarly papers (e.g. Shepherd and Jensen 1990), descriptions and evaluations of educational strategies (e.g. Cross 1993), two invited editorials, a key-note presentation and an opinion paper. The forms of papers described above were not all mutually exclusive; for instance, Clouder's (2000b) paper included both a scholarly consideration of reflection and qualitative research. The reports of educational interventions held possibilities for anecdotal evidence of the benefits of reflection in physiotherapy. I considered that these reports, along with the scholarly and other papers, might provide a window into the nature and perceptions of reflection in physiotherapy. Therefore, in the absence of studies which directly addressed the research area of interest, these non-research reports were also included in the review of the literature.

Because there was a predominance of qualitative research amongst the research studies, the 26 qualitative research papers were then subjected to analysis of methodological quality using the Critical Appraisal Skills Programme (CASP) qualitative checklist (CASP 2013). A copy of this checklist can be seen in Appendix A. I chose this checklist because it is widely known and acknowledged for its ease of use. It calls for judgements to be made in each of the nine sections following prompt questions. The nine sections are: the research aims, the appropriateness of qualitative research,

recruitment of participants, data collection, researcher awareness/reflexivity, ethics, data analysis, findings, and the value of the research. Such checklists are imperfect tools given the wide variety of qualitative research. The limitations of such checklists have been recognised with no gold standard tool existing for specific study designs nor for generic tools (Katrak et al. 2004); however, Dixon-Woods et al. (2007) found that structured instruments enabled reviewers to be more explicit about their judgements. Even so, I found that I needed to be aware of consistency in the judgements I made about each aspect of the paper. I experienced a tension between making a judgement which was based on my knowledge of qualitative research, and answering the set questions each time.

Given that the CASP tool is not intended to be summated and scored, and the meaningfulness of doing so is limited, there now follows an overview of the issues regarding the research quality of these papers, before returning attention to the content of the physiotherapy literature on reflection. This overview follows the questions posed by the CASP tool, which begin with the choice of research design. The choice of qualitative research was consistently appropriate across the studies. Research design was also appropriate although the design choice was not always discussed. The recruitment of participants was mostly clear although discussion of why some may not have agreed to participate was most commonly lacking (only present in five papers). Likewise, data collection methods were consistently clear but any discussion around modifications to the research was not included.

It is when considering the evidence of researcher awareness that these omissions of discussion become most obvious, with very few studies including any such discussion on reflexivity and those that did, notably Stewart and Richardson (2000) and Roche and Coote (2008), only meeting a few of the criteria. In judging studies by these omissions, it may be worthwhile to consider the restrictions placed upon authors when submitting work for publication. Rarely do journals permit the wordage allocation that any meaningful reflexivity would require. A brief mention of awareness that the

participants are students and the researchers are staff and that this might shape the journal entries (for instance) made by participants is all that is attempted. Similarly, the authors present the research design chosen and may indicate why this was chosen but space to discuss why an alternative was considered but discarded is not realistic. That being so, discussions are constrained to focusing on why something is appropriate and tend to avoid a wider consideration of the limitations of that choice. In such a way, the expectations of editors, reviewers and perhaps readers may shape what content is published. It is unknown whether reflexivity was not exercised, or not reported on, and if not reported on, why this might be so.

Another restriction on the quality of published research studies may arise from the context of many of the papers which study student physiotherapists in relation to an educational strategy for facilitating reflection. Such educational audits may or may not have been submitted to a local ethics committee for approval; educational audits have not, historically, required such ethics scrutiny, and different ethics committees make different decisions on what they should scrutinise (Glasziou 2004). Furthermore, different journals may have different requirements for declaring the ethics process (Myles 2003). Therefore, student work can be examined for evidence of learning or reflection, or their level of reflective writing assessed legitimately without consent (and subsequently with a null drop-out rate) or alternatively, with consent which has not been declared. This may explain the weaknesses identified by the CASP analysis for the number of studies failing to provide evidence of proceeding with good ethics and also for the lack of discussion of attrition from the studies.

The same points of discussion may account for the presentation of supporting data in both the analysis and findings but rarely with a discussion of possible contradictory data or findings. While such discussions may enhance the trustworthiness of the study, the limitations of publishing do not encourage it. The overall picture of the quality of studies in this review had a trend towards being strong in the choice of qualitative methodology, data collection and analysis, while lacking in areas such as reflexivity,

discussion of weaknesses of the approaches selected or their alternatives, and discussion of any contradictory data or findings. To compound these factors, authors usually focused on the choices which were highly appropriate and the findings which were clear, omitting any discussion containing a more nuanced position which may have undermined this focus and led to a subsequent failed attempt to publish.

Due to the absence of studies addressing the research of interest directly, the quality of the methodology of the studies had less impact on the conclusions of this review than might be expected. Instead, papers were searched critically for *any* evidence of the outcomes of reflection contained within them.

Physiotherapy and reflection

Following consideration of the type and quality of the literature in the last section of this chapter, this section provides an overview of the content of the literature on physiotherapy and reflection. Initially, physiotherapy academics and practitioners drew on the nursing and educational literature for their understanding of reflection (e.g. Clouder 2000a, 2000b, Cross 1998). Clouder (2000a) records that the move towards reflection in physiotherapy began alongside the development in nursing, even though physiotherapy did not promote the practice of reflection in its regulatory process (HPC 2008) until some ten years after nurses' adoption of reflective practice as part of their regulatory process. The acceptance of reflection as part of physiotherapy practice continued to develop such that, by 2010, Gibson et al. suggested that there was a strong tradition of reflection in physiotherapy. In 2013, Smith and Trede (2013b) observed that in their study, the participants' conceptualisation of reflection was embedded in their thinking, decision making and actions in practice, and by 2014, Wickford (2014 p41) introduced reflection as a subject 'generally considered to be a base skill required for physiotherapists'.

The early papers in physiotherapy not only drew on the work in the field of nursing, but also contained some of its ideas. For instance, Shepherd and Jensen's (1990)

scholarly paper suggests that reflective knowledge addresses the 'indeterminate zones of practice' and offers the artistry of practice to balance the technical knowledge used. While the cognitive process of reflection might also be applied to technical knowledge, this application of reflection to the artistry of practice perpetuates the link between reflection and artistry of practice begun by Schön (1983) and Benner (1984). However, at the same time there was a contrast to the nursing focus on the theory-practice gap in that the focus of the earlier literature in physiotherapy was on the achieving of professional competence and progressing professional development (Clouder 2000a) leading towards an excellence of practice (Cross 1998) rather than a theorising about practice. Clouder (2000a) noted the lack of evidence for the benefits of reflection and observed the lack of professional debate surrounding reflection. This lack of debate may explain why there is less critique in the physiotherapy literature for the lack of evidence for reflection than there is in the nursing literature. Clouder (2000a) suggested that the attraction of reflection for physiotherapists was the association with higher intellectual skills while Cross (1998) suggested that reflection is for articulating the learning which has been achieved elsewhere, although for her this articulation is not in regard to the theorising of practice, rather with demonstrating that learning to others. These early ideas persisted: for example, the idea of reflection being linked with higher order cognitive skills such as metacognition and clinical reasoning and with the artistry of practice was adopted uncritically by other authors (e.g. Higgs and Jones 2000 and Donaghy 1999 respectively).

In addition to scholarly papers, the early papers are predominantly reports of education strategies for facilitating reflection or evaluations of such strategies. The earliest published mention of reflection in physiotherapy was Denton and Jensen's 1989 abstract prior to a conference. Their paper published two years later (Jensen and Denton 1991) proposes a strategy for teaching reflection to physiotherapy students. Cross's work on teaching reflective practice (Cross 1993) and her subsequent work on continuing professional development and portfolios (Cross 1997, 1998) provided a key point for later physiotherapy authors and by the time of Clouder's (2000a) paper

(another key paper for later authors) reflection was well established in physiotherapy curricula. Later papers were more likely to be research studies than scholarly papers as both the body of literature had grown and the research base of the profession had gained more prominence.

One feature of note in this literature is that very little of it pertains to reflection performed by qualified physiotherapists. Only eleven of these papers featured qualified practitioners; six of these were addressing matters of concern in education (Clouder 2000b, Cross 1997, Musolino 2006, Neville 1992, Stewart and Richardson 2000, and Ward and Gracey 2006). A brief indication of the potential relevance to this research of the remaining five papers is summarised next.

Cross et al.'s (2004) report on a workshop was focused on the generation of evidence of learning rather than on using reflection in order to learn. Sutton and Dalley (2008) interviewed ten members of a health care team of whom only one was a physiotherapist. Responses suggested reflection aided personal development, adding to knowledge and becoming a better practitioner. Participants agreed that reflection impacted positively on the care, management and treatment of clients but thought that this was difficult to demonstrate, especially in the context of team delivery of health care. Wainwright et al. (2010) explored how practitioners reflected although this exploration is limited by their focus solely on reflection on the clinical decision-making process. Knab (2012) inquired into the reflective narratives of six qualified physical therapists; however, these narratives were written to a pre-set assessment framework for the specific purpose of progressing employment rather than for the purpose of reflecting on their practice. The narratives demonstrate learning from an earlier point in time, but do not show that reflection itself benefited practice. Chapman and Williams' (2015) study perhaps comes closest to exploring the area of interest in this study. Chapman and Williams (2015) reported on semi-structured interviews with ten qualified physiotherapists and seven students. Only the abstract of this research poster is available and the themes found from the analysis are not clearly

identified. Chapman and Williams concluded that the CPD of qualified physiotherapists was externally driven by the need for proof of competence, and the transition of reflective skills from university to practice was noted to be lacking.

Claims for the benefits of reflection in physiotherapy were, as in nursing, multifactorial and unsurprisingly include ideas based upon the work of the educationalists Dewey (1910) and Schön (1983) such as the enhancement of critical thinking and increased self-awareness (Donaghy and Morss 2007). There are echoes of the nurses' interest in generating practice theory in Donaghy and Morss's (2007) report that one outcome of student reflection is making the connection between reflection and the process of physiotherapy and Gibson et al.'s (2010) proposal that critical reflection will help the profession to grow. However, the idea that reflection could help the profession to grow is challenged by Clouder's (2000b) observation that the introspective nature of reflection prevents benefits at a wider professional level and Robertson's (1996) suggestion that it is the emphasis on individual knowledge which leads to a dissatisfaction with the development of an explicated professional knowledge base for all.

Perhaps because physiotherapy academics generated the research, much of the attention was on either the learning of reflection and strategies to promote it or the capturing of learning through the use of reflection. For the most part, this was through reflective writing of some sort. Twenty-five of the papers explored reflective writing, either through journals and diaries (e.g. Cross 1997, Jensen and Denton 1991), reflective assessments (e.g. Routledge et al. 1997) or reflective summary writing (Williams and Wilkins 1999). Sometimes this was in an on-line format (Mori, Batty and Brooks 2008, Smith and Trede 2013b). Attention was also given to the grading of such reflection although opinion differed as to whether reflection should not be graded (Stewart and Richardson 2000) or that grading should be made more rigorous (Plack et al. 2005). This attention to reflection in its written form rather than alternatives may have shaped physiotherapists' understanding of reflection. Although Clouder

recognised dialogical reflection (Clouder 2000a, Clouder and Sellars 2004), the desire to facilitate reflection through writing and to articulate learning for professional development evidence (Cross et al. 2004) may have funnelled professional thinking towards writing. Smith and Trede (2013a) suggest that written methods may have been over-emphasised by the profession to compensate for the invisibility of reflection in practice.

There is clear evidence in the papers that journal writing can capture the learning that students have in practice although the studies consistently lack evidence that this learning was through the process of either reflection or writing (Paschal, Jensen and Mostrom 2002, Routledge et al. 1997, Williams and Wilkins 1999, Williams et al. 2002). Despite this, Routledge et al. (1997) noted that from their experience staff valued reflection as a tool for the development of self, and Paschal, Jensen and Mostrom (2002) observed that reflection promoted the students' assessment of their own learning. In some studies, such as Williams and Wessel (2004) and Plack and Santasier (2004), reflection was used with the intention of capturing learning, which is a different aim than using reflection to stimulate learning; in addition, in Plack and Santasier's (2004) study the complex data sets and multiple activities hindered any attribution of benefits to a particular activity in the curriculum. Cross at al. (2004) worked with qualified staff beginning with an historical lens on their recent practice, and reflection was then used to capture learning which had taken place. In Geddes et al. (2004) some reflective entries suggested that there was learning from thinking about the experience afterwards – which was then again captured historically in the writing.

The physiotherapy literature suggests the possibilities of benefits to practice, such as Clouder's (2000a) report that clinicians perceived that it improved clinical benefits for the patient although evidence to support those perceptions was not the focus of her paper, while Smith and Trede (2013a) imply a certainty of practice benefits in their definition of reflection as 'finding ways to change and develop practice'. There was

evidence for reflection changing perspectives in the samples of students' written accounts in Wickford's (2014) study, and in addition Wickford reported radical changes of opinion, greater humbleness towards events and people and greater self-awareness, although there is no evidence presented for this in the paper. Hayward (2000) provides strong evidence of learning and changed practice in her exploration of her own development as a reflective physiotherapy teacher; however, due to the number of factors considered in her development, it is not clear how much of this learning was due to process of reflection. Fifty-five per cent of the students in Mori, Batty and Brooks' (2008) study reported that the reflections they had been required to do helped to direct their learning and to improve their practice, although 88% of the students in Constantinou and Kuys' (2013) study found their reflective journals helpful but 40% said that they would not use them in future, suggesting that this usefulness was not considered significant to their practice and the way in which they were considered helpful is not stated.

King and Bithell (1998) considered reflection in the context of the decision-making processes of practice and suggested that it can help to develop memory schemata, illness scripts (i.e. clinical patterns) and clinical knowledge. This extension of the benefits of reflection to clinical decision making arises from the attention given by the profession to the processes of clinical reasoning (e.g. Higgs et al. 2008). Whilst it is implicitly understood that patients will benefit from better clinical decision making, King and Bithell (1998) were concerned with the thinking processes rather than patient outcomes. It is possible that the focus on patient benefits in the nursing literature related to nurses' need to articulate what they do whilst the focus on thinking processes in physiotherapy relates to its practitioners' greater confidence in their own role and their move towards adopting clinical reasoning as an explicit competency which implicitly includes the element of reflection. This focus on thinking skills can be seen in Donaghy and Morss's (2000) suggestion that reflection can be 'extended' to such thinking and decision processes in their framework for guided reflection, which attends to the data collection and analysis phase of clinical reasoning, and their

subsequent work to evaluate this framework (Donaghy and Morss 2007), which found that reflection led to personal insights, learning and personal change.

Of particular relevance to this study is that only one of these papers contained strong evidence of reflection improving practice: Roche and Coote's (2008) study on student physiotherapists' perceptions of reflection. These participants reported that reflection made them a better practitioner, that it helped them to individually tailor treatments and that it helped them to be open to the possibility of doing something even better than what they were doing already.

The more recent work on reflection in physiotherapy, notably by Smith and Trede (2013a, 2013b), demonstrates a further broadening vision of reflection for physiotherapy practice. Building on the ideas from research into clinical reasoning which suggest that there is no single right way of thinking, Trede and Smith (2012) found that physiotherapy students developed their own sense of reflective practice. Smith and Trede (2013a) suggest that there is no single right way of reflecting. In their 2013b paper, they note that students conceptualised reflection as personal and individual and propose the idea that reflection is context- and practice-bound – which implies that in a physiotherapy context and within physiotherapy practice physiotherapists' reflection might be different than in a nursing, or indeed, in any other professional context. This idea of a personal, individual reflection in a physiotherapy context supports Clouder's (2000b) suggestion that patients may not be the only beneficiaries and may support Cross's (1998) recognition that affective outcomes of learning have an impact on practice. Watson (2014) provides a personal account of just how individual and serendipitous reflection might be.

Practice epistemology

The differences between nursing and physiotherapy in the initial drive to adopt reflection for professional practice and the similarities and differences between the two professions in the benefits which are claimed for reflection in professional practice

have been noted. It is also worth noting that physiotherapists, whilst also health care practitioners, are not nurses: they share some similarities common to health care practitioners, such as a desire to help others; however, they have differences of role, training and professional socialisation.

There is limited acknowledgement by the physiotherapy authors who build on the work of nurses in promoting reflection that physiotherapy might have a different practice epistemology. Some recognition of this comes from Clouder (2000a), who suggests that physiotherapists tend towards pragmatism and active engagement, and Gibson et al. (2010), who describe physiotherapy as a diverse profession with multiple approaches and ways of knowing. In response to the previous emphasis on reflection for articulating the theory of practice, Clouder's (2000a) observation that practitioners might be theory unaware does not differentiate physiotherapy from nursing. There is little attention given in physiotherapy to a philosophy of practice other than Higgs and Titchen's (1995) exhortation to explore the epistemological basis for physiotherapy practice. Robertson's (1996) subsequent critique of this encouragement refers only to epistemology in general terms, condemning what she sees as the detraction from meaningful scientific research in physiotherapy. Contemporary authors recognise the move towards a biopsychosocial framework for musculoskeletal physiotherapy practice (e.g. Jones, in press). Set against the history of the profession this is a recent development, with experience in the psychological and social dimensions of this development less well developed in clinicians (Jones, in press).

Nevertheless, physiotherapists are health care practitioners, and whilst their practice differs from nursing, reflection is promoted as part of CPD in much the same ways as it is for nurses. If, as Argyris and Schön (1974 p12) observe, theory learning is expected from the classroom and practice learning is expected in the workplace for professionals, then it becomes important to explore reflection in the workplace when considering its ability to improve practice, rather than in the classroom, which might be expected to improve classroom learning. If there is no single way of reflecting and

reflection is context dependent then a multitude of foci and outcomes of reflection might be expected. A lack of acknowledgement of a multiplicity of truths may explain the on-going lack of recognition of the actual benefits of reflection to practice rather than the often-repeated claims. This understanding provides the backdrop to the physiotherapy context of this study; a more in-depth consideration of the physiotherapy context of practice is given in chapter four.

Summary of what was already known

Smith and Trede (2013a) propose that assessment of reflection is a wicked problem. It would seem from looking at the literature so far, that evaluating the outcomes of reflection is equally wicked, given Smith and Trede's (2013a p446) summary of reflection in practice as fluid, invisible, responsive to context and interconnected to practice itself.

There is no direct exploration of the relationship between reflection and practice, and very little attention has been given to qualified practitioners. Where qualified practitioners have been included it has either been within the context of student education or the reflection has been focused specifically on the clinical decision-making process. The focus of much reflective research conducted by academics is on the teaching and learning of reflection, the educational benefits of reflection, examining the process of reflecting, or examining the process of learning or assessment. Perhaps due to the focus on students of physiotherapy, there is a significant emphasis given to written modes of reflection, most notably journal writing in various forms and the subsequent issues with grading such writing. There is clear evidence that journals can capture the learning experiences which students have on placement, but no direct evidence that this learning was through the process of either reflection or writing. There has been a limited amount of recognition that the benefits of reflection in practice may not only be to patients, and that affective outcomes of learning have an impact on practice. Validation of current practice may also be an acceptable outcome of reflection (Smith and Trede 2013b).

The scholarly papers suggest that reflection can address the artistry of practice and knowledge and is associated with higher intellectual skills and professional growth. Some researchers have begun to address the idea of higher intellectual skills by exploring reflections as an aid to improving clinical decision making skills where a guided framework was found helpful; however, this has not provided information on how practitioners reflect in their day-to-day practice. Smith and Trede (2013a) suggested that there is no single way of reflecting and that reflection is personal, individualised, and context- and practice-bound. In some papers, where practice changes have been reported, clear evidence of this is not provided in the paper, most often because the focus of the study was not to explore practice changes.

Whilst Burton's (2000) consideration of reflection and its outcomes may have been too narrow to capture practice changes, it is clear that reflection is a multi-faceted concept with different modes, foci and ways of thinking. The emphasis on change or the limitations on the parameters of change have restricted our recognition of the benefits that might be possible. When exploring the outcomes of reflection, reflection has been defined too narrowly, which has limited our understanding of what reflection may have to offer our practice. Nevertheless, even when broadening the scope of reflective processes and the evidence deemed acceptable, there is still a gap in understanding reflection in physiotherapy and the contribution reflection may make to practice. Perhaps because objective measures of reflection or potential patient outcomes arising from reflection do not exist, it is the findings gleaned from the qualitative studies, where personal accounts are valued rather than dismissed, which offer the most helpful insights into the potential benefits of reflection in practice.

This study aimed to address some of these gaps by using a qualitative research approach to explore the reflection of qualified physiotherapists in their day-to-day practice, being open to all forms of outcomes of reflection in relation to physiotherapy practice.

Chapter Three: Models and Modes of Reflection

Introduction

Interest in the topic of reflection has grown since the work of Dewey (1910) which led to reflection becoming the focus of health care practitioners following the association with expert practice made by Schön (1983). The literature on reflection contains explorations by theorists from different backgrounds leading to a range of reflective practices being proposed. Health care educationalists draw on a variety of these practices in order to guide students' practice of reflection. My decision to not limit the scope of the research through not restricting participants to any one definition or perspective of reflection required that I had some knowledge of the breadth of practices or modes of reflection that I might encounter. An overview of some of the approaches encountered in the physiotherapy literature is provided in this chapter through reference to the most commonly found definitions, models and modes of reflection.

Walsh (2009 p389) observes that 'the term "reflection" is frequently used very loosely', with overlap of meanings and terms. Nevertheless, despite overlap of ideas, different authors appeared to have developed differing conceptions of reflection which can be distinguished from each other. The term 'modes' is used by Walsh (2009) in her discussion on the competing requirements of reflection for the individual, the workplace, and education. 'Mode' is defined as 'a way or manner in which a thing is done' (Allen 1991), which makes this an appropriate term for embracing the variety of reflective practices; other terms in use include categories (Taylor 2006) and types (Johns 2005). Within different modes of reflection, different definitions of reflection may be more, or less, applicable. Moon's (2004 p80) broad description of reflection as 'a process which seems to lie somewhere around the notion of learning and thinking' exemplifies Walsh's observation of 'looseness'; however, the lack of precision in this description invites a more particular examination of other definitions. I have not attempted to include all authors, all modes or all definitions of reflection. This

overview draws on those understandings of reflection which have informed reflection in health care practice and which the physiotherapy participants might be familiar with. This is relevant because these understandings may have shaped the participants' use of reflection in their practice, which may, in turn, have shaped the benefits of reflection to their practice. This overview will also cover those understandings which occur frequently in the health care and educational literature, understandings which I have found helpful or insightful for my own grasp of reflection, and understandings which can be found in the physiotherapy literature. Some of the models and modes of reflection which will be considered from major theorists in the field are those developed by Dewey, Schön, Gibbs and Johns, before some of the less well-known modes of reflection are presented.

Models and theories of reflection

Dewey

The work of John Dewey provides an historical beginning to contemporary reflection. Dewey (1910 p2) distinguished 'reflection' from the 'disconnected material that floats through our minds in relaxed moments' which constitutes 'random' thinking. He considered that reflection is ordered thought, and defined it as 'active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusion to which it tends' (Dewey 1910 p6). Dewey described the elements of reflective thinking as a state of perplexity, hesitation or doubt, and an active search or investigation directed towards resolving this state. There is always something which evokes this state of perplexity and the investigation involves a tentative plan which is then explored. Dewey provides a hint towards the later-named anticipatory reflection (Van Manen 1995) in his problem of the forked road, where the problem lies (literally) before the man who needs to know which is the right road. Dewey's reflective thinking is regulated by the purpose of resolving the perplexity. Dewey saw the regulation and planning involved in reflective thinking as an experimentation phase in which one proposes various solutions, working them through mentally to see if they resolve the perplexity. For these proposed solutions, he

used the terms suggestion, conjecture, guess or signification in the earlier chapters of his work and the word hypothesis in the later chapters. It may be this diversity of terms which led Donaghy and Morss to link Dewey's work firstly to an interpretive approach (Donaghy and Morss 2000) and later to a hypothetico-deductive approach (Donaghy and Morss 2007), and Mackintosh (1998 p553) to identify Dewey firstly as mirroring the empirical research process and subsequently (Mackintosh 1998 p554) to contradict the process of hypothetico-deductive thinking. Fendler's (2003 p19) historical review of reflection suggests that Dewey's reflection is viewed as rational and scientific reflection in contrast to Schön's ideas which are viewed as artistic reflection (see below), although Kinsella (2009) considers both Dewey and Schön to have built their ideas around the artistry of experience. While Dewey used text rather than diagrams to set out his ideas, I have expressed this in diagrammatic form in Fig. 1.
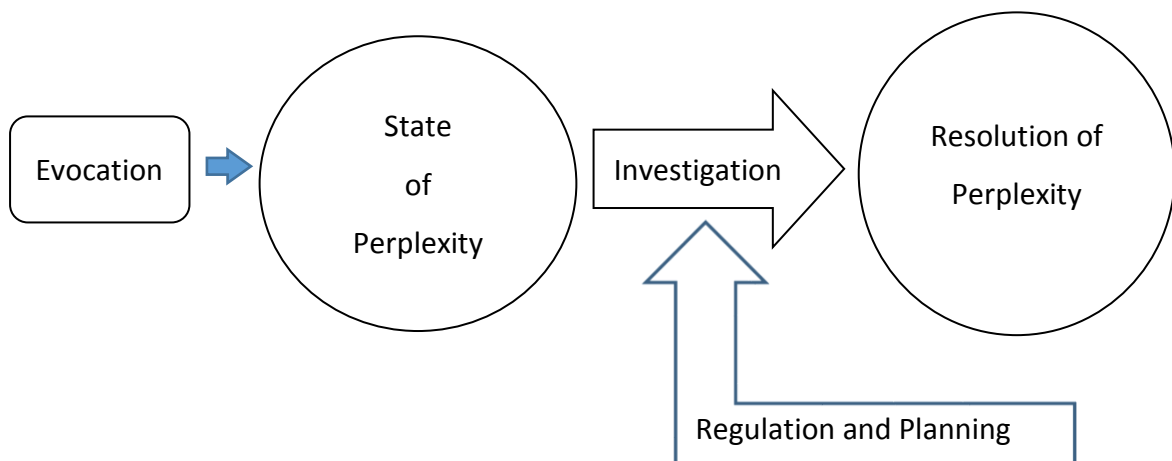
Fig. 1: *Dewey's reflective thinking in diagrammatic form*

In the regulation of reflective thinking, the 'planning' involves generating ideas which can then be tested to see how well they answer the problem – a form of experimentation. It is possibly this generating and testing of hypotheses which has led to the view noted by Fendler (2003) that Dewey is aligned with positivism, although Dewey's philosophical approach was pragmatism (Slater 2011, Denzin and Lincoln 2011).

Donald Schön was one of the later educationalists to explore reflection and, as has been already mentioned, was the catalyst for the adoption of reflection in health care (Hannigan 2001 p279, Quinn 1995 p85). The reason for the adoption of reflection was the link Schön made between reflection and expert practice; however, for this overview it is his understanding of reflection which is presented here. In exploring the intuitive processes used by practitioners in situations of uncertainty, Schön suggested that when practitioners cannot say what they know, their knowing is tacit and implicit in our actions – that our knowing is *in* our action (Schön 1983 p49). Schön suggested that even in the midst of such tacit knowing-in-action, practitioners think about what they are doing, sometimes as they are doing it. Reflection on this knowing-in-action is stimulated by some puzzling, troubling or interesting aspect of the experience which the practitioner then tries to make sense of and responds to with further action. This process of reflecting on our knowing-in-action Schön called *reflection-in-action* (Schön 1983 p50). He proposed that reflection-in-action occurs when intuitive performance leads to surprising, pleasing or unwanted results. It is interesting to note that in contrast to much of the reflective practice promoted in health care, the stimulus for reflection can be a positive outcome as well an unwanted or negative outcome. Schön's writing focuses on this reflection-in-action; however, he also recognised *reflection-on-action* (Schön 1983 p61) when practitioners reflect *on* their knowing-in-practice. In this case, practitioners look back on something they have done or experienced and then proceed to explore the understandings they brought to the experience. In contrast to Dewey, Schön suggested that this reflecting-on-action can be 'in a mood of idle speculation' (Schön 1983 p61) or in deliberate effort.

Schön also introduced the idea of temporality into reflection, although in doing so he blurred the distinction between reflection-in-action and reflection-on-action. He suggested that reflection-in-action may be rapid and take seconds, or in contrast, if the 'action-present' – the zone of time in which the action is occurring – extends over days, weeks or even months, then the reflection-in-action may also take place and extend over days, weeks or months. One more aspect of learning that Schön proposed

is that if someone becomes very familiar with their field of practice, such that practice is repetitive and routine and their knowing tacit, then they no longer question their understandings of practice, and can be said to have 'over-learned' what they know (Schön 1983 p61). Schön also recognised that reflection can be focused on any aspect of the experience or practice, depending on what surprised or pleased the practitioner. He suggests that reflection-in-action has a structure of appreciation, action and re-appreciation (Schön 1983 p132). In the action phase of this structure, the practitioner may try various responses and, in this sense, it is a form of experimentation in practice which echoes Dewey's stance. Schön's understanding of reflection has been called a model of reflection by some authors, although it is more appropriately a theory of reflection. Schön (1983 p130) stated that the art of practice is a kind of reflection-in-action, and it was his attention to the artistry of practice that professions such as nursing valued highly (e.g. Benner 1984, Rich and Parker 1995), as has been explained in chapters one and two.

Boud, Keogh and Walker

Following swiftly after the publication of Schön's work, Boud, Keogh and Walker's (1985) publication of *Reflection: Turning Experience into Learning* has also acted as a seminal work in understanding the place of reflection in the health professions. Although Schön's work is cited, these authors constructed their understanding of reflection not from an understanding of the relationship between reflection and practice but, building from Kolb, Rubin and McIntyre (1971), from an exploration of the relationship between reflection and experiential learning – these are two distinct contexts in which to consider reflection. From this background in training and education, they arrive at a point where they view reflection as an active process of exploration and discovery in which the outcomes might be unexpected. Their model of reflection (Fig. 2) is worthy of note for recognising iteration as part of the reflective process, and for identifying a variety of possible outcomes.

Not included in their diagram is their view of reflection as a three-stage process, which includes as the first stage preparatory reflection (Boud, Keogh and Walker 1985 p10).

This is the exploration that a student begins when they explore what might be expected of them in the learning situation. The second stage is the actual learning experience during which students may have little time to process their learning. The third stage happens after the experience where students begin to make sense of their experiences and may try to provide what they think the teachers require of them. Boud, Keogh and Walker draw upon Dewey's work in identifying the reflective process as purposeful but differ from Dewey in suggesting that the goals of reflection may not be clear to the learner or the teacher at the time, that the student may not know what they have learned from an experience until the outcome of their reflection. Other points of interest in their model are their recognition of the affective dimension of learning and their understanding that iterative reflection, where later stages of reflection re-examine assumptions at a deeper level, may not be sequential: the phases of reflection may overlap, may be simultaneous or may be omitted. Their often-cited definition of reflection is 'a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations' (Boud, Keogh and Walker 1985 p19). The suggestion that reflection necessarily leads to new understandings and appreciations may be another claim for the benefit of reflection which is not yet supported by research. However, they state that this definition is for reflection in the context of learning (where, perhaps, learning is being assumed), and while acknowledging 'unconscious reflection', Boud, Keogh and Walker take a position in contrast to Schön's reflection-in-action by being interested only in conscious reflection, which they believe can allow 'active and aware decisions' about learning.

| Experience(s) | Reflective processes | Outcomes |
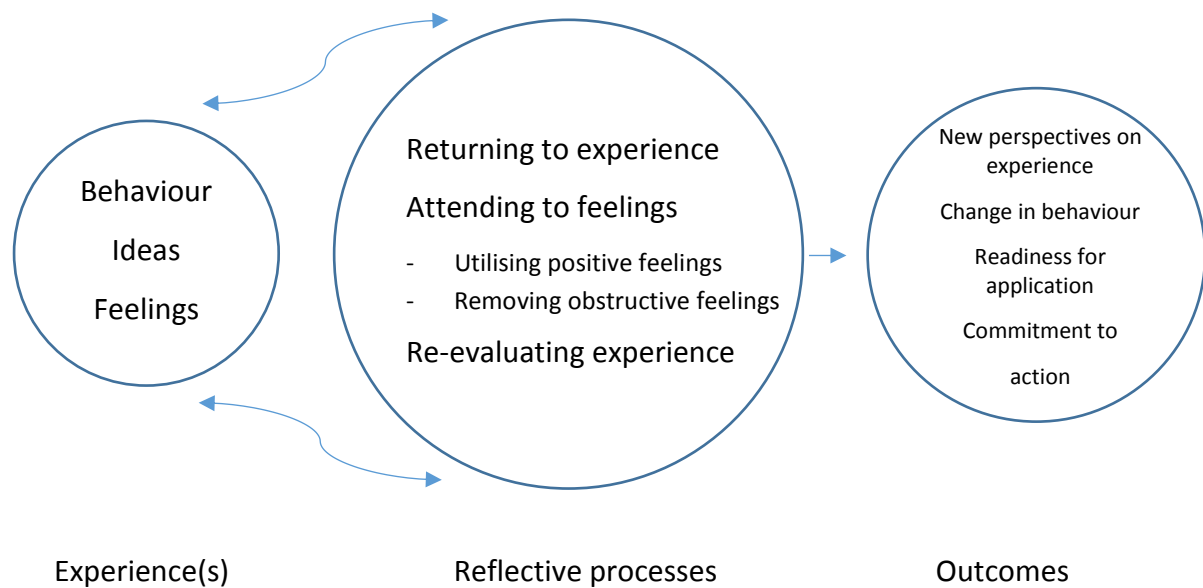
Fig. 2: *Adapted from A model of reflection (Boud, Keogh and Walker 1985 p36)*

Having presented the three steps of the process of reflection reported above, they later present a slightly different set of three elements or stages of reflection: firstly, returning to experience; secondly, attending to feeling; and thirdly, re-evaluating the experience.

Gibbs

The understanding of reflection which arises from Gibbs' (1988) work is ubiquitous in health care education. Amongst my reasons for including it here are that it was the first format of reflection that I was taught when teaching in a college of nursing in the mid-1990s and thus the introduction to my own grasp of reflection. I have worked with undergraduate and postgraduate students of physiotherapy and other health care professions, facilitating their reflection for 22 years. From this time, I have observed that many students choose to use this structure because they perceive it to be simple. Having met the structure in pre-qualifying education they then recommend it in turn to their students; therefore, this was a structure I anticipated that the participants in this study would be familiar with. This structure was designed for use as part of a dialogical reflective approach for structured debriefing after experiences (Gibbs 1988) (Fig. 3) although it is my observation that few practitioners seem aware of this. This is

36

not surprising given that ever since the commencement of mandatory continuing professional development in nursing in 1995 – the time I started teaching in the college of nursing – it has been presented to nurses as a model for written reflection; this has not changed. The simplicity that is so attractive to some students can lead to a lack of depth in their reflections and it is this that causes me to prefer other models in my teaching. Theoretically, the structure also switches some of Bloom's levels of learning by placing evaluation before analysis. Gibbs himself noted that learners often have trouble moving cleanly from one stage to the next.

As with Boud, Keogh and Walker's model, Gibbs' structured debrief focuses on event analysis, a concern for nurse educators when striving for the reflective practitioner vision suggested by Schön. Likewise, Boud, Keogh and Walker's model appears to start at the same point of event analysis, although their stage of preparation is usually omitted from the model in usage.
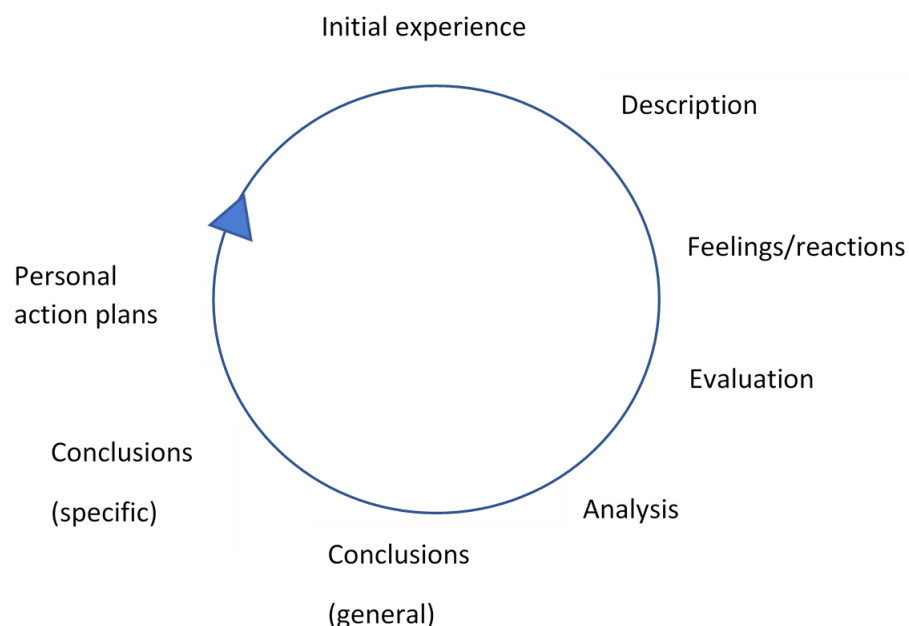
Fig. 3: *Stages of structured debriefing (Gibbs 1988 p94)*

Johns

Like Boud, Keogh and Walker's model and Gibbs' structured debrief, Johns' approach to reflection begins with an event analysis. Unlike previous authors, his model is developed specifically for nursing practice. Johns takes a different approach to conscious reflection: his Model of Structured Reflection (MSR) arises from Carper's ways of knowing in nursing practice (Carper 1978), which explore the different epistemologies which are part of practice. Johns continued to refine and adapt his model over time, such that the first published version was the fifth edition in 1993 (Johns 1993) and the ninth edition was published in 1994 (Johns 1994).

Although later versions are in print I have returned to the most frequently cited version, the tenth edition, because of the point of its introduction to nurse education (Fig. 4). Johns acknowledges that practitioners have 'generally struggled to frame the development of their personal knowledge within Carper's ways of knowing' (Johns 1995 p230), which he suggests is due to personal knowledge being poorly articulated and understood. Johns also acknowledges that practitioners are unfamiliar with the categories of knowing and that guidance is required. This might also explain to a degree the popularity of Gibbs' structured debrief.

Write a description of the experience	
Cue questions:	
Aesthetics	What was I trying to achieve?
	Why did I respond as I did?
	What were the consequences of that for
	The patient?
	Others?
	Myself?
	How was this person feeling? (or these persons?)
	How did I know this?
Personal	How did I feel in this situation?
	What internal factors were influencing me?
Ethics	How did my actions match my beliefs?
	What factors made me act in incongruous ways?
Empirics	What knowledge did or should have informed me?
Reflexivity	How does this connect with previous experiences?
	Could I handle this better in similar situations?

(Reflexivity, continued)	What could be the consequences of alternative actions for
	The patient?
	Others?
	Myself?
	How do I *now* feel about this experience?
	Can I support myself and others better as a consequence?
	Has this changed my ways of knowing?

Fig. 4: A model of structured reflection (Johns 1995 p227)

Modes of reflection

The models of reflection above represent models that I anticipated, from my work as an academic with undergraduates, postgraduates, and qualified professionals, participants might be familiar with. These are by no means all the models of reflection available and do not include physiotherapy specific models which will be addressed in a subsequent section. Before physiotherapy specific reflection is considered, this overview will now move to a broader consideration of some different aspects of reflection, which are not necessarily specific to a particular model. For these aspects of reflection, I have adopted Walsh's (2009) term, modes.

Productive or external reflection

Walsh's (2009) discussion of modes of reflection focuses on 'productive reflection' – a term coined by Boud, Cressey, and Docherty (2006) to refer to workplace or collective reflection. Productive reflection is also referred to as team reflection in the health care literature (Ghaye 2005, Sutton and Dalley 2008). Alternatively, the term 'external reflection' is used – directed towards the workplace, rather than 'internal reflection' or self-reflection which is directed towards the self (Walsh 2009). Walsh observes that in productive reflection no learning or development is identified for the individual learner, only for the workplace. However, productive reflection may result in outcomes for the individual as well as for the workplace, even though those outcomes are not captured or recorded. Therefore, Taylor's (2006 p91) statement that 'categories of reflection are artificial, contrived, and not mutually exclusive', is pertinent here. Walsh's use of the word 'development' appears to mean academic

recognition, rather than any broader meaning of the word, which may limit her recognition of learning.

Academic and informal reflection

While Walsh's (2009) paper focuses on productive reflection, for many advocates of reflection it is individual reflection which attracts more interest. Moon (2004) offers some ideas on reflection which provide a useful starting point for reviewing modes of individual reflection. Moon distinguishes between academic reflection and informal reflection, which Walsh (2009) appears to be referring to when she uses the terms formal reflection and general reflection. However, Moon does not use consistent terminology, also calling informal reflection a 'common-sense' view of reflection which she describes as 'a form of mental processing – like a form of thinking' which is 'applied to relatively complicated, ill-structured ideas for which there is not an obvious solution' (Moon 2004 p82), although she does not explain how it differs from just thinking. In contrast, Moon's academic reflection has specific requirements, set in advance of the reflection, with a stated purpose, and evidence of learning or behaviour change is expected (Moon 2004 p83). The distinction between academic reflection and informal reflection can be helpful when discussing the topic of reflection in health care practitioners, whose understanding of reflection is usually from within an academic context. Health care practitioners may find it difficult to relate the demonstration of reflection required during training to the practice of their individual reflection in the workplace and any exploration of their reflective practices needs to acknowledge both modes.

Dialogical and written reflection

From the literature on reflection in physiotherapy, and from my own experiences of higher education, it would appear that academic reflection is predominantly assessed though students' reflective writing; therefore, a brief mention of reflective writing is appropriate. Moon (2004 p80) suggests that the representation of reflection, for example, through writing, can result in secondary learning – that further learning is experienced through the process of writing about the experience and associated

thought processes. This introduces the idea that the process of reflection and the presentation of reflection might be different modes of reflection. In addition, in dialogical or verbal reflection (Clouder 2000a), the process and the presentation of reflection can occur simultaneously as people converse about their experiences.

Appreciative reflection

The idea of appreciative reflection is proposed by Ghaye (2011 p16). Ghaye suggests that in a strengths-based reflective framework the intention is to appreciate and understand one's own (or others') gifts or talent. The starting point for this mode of reflection is something that is successful. An appreciative consideration of success at individual or team level can lead to a consolidation of that success into routine practice or it may act as a spring board for further improvement. This focus on success is a refreshing change from the focus on negative aspects of practice which event analysis orientated models appear to lead to, or the state of perplexity, hesitation or doubt of Dewey's theory. However, if the reflection is being submitted for academic assignment, it can be difficult to demonstrate the levels of analysis required for the award of higher academic marks, and perhaps this is why this is not promoted in education. It may be that it is more suitable for practice than for education, although if this is not taught in education it will not be adopted easily in practice. Ghaye and Lillyman (2010 p10) suggest that focusing on deficit-based reflection is a form of oppression which drains our efforts and that strengths-based reflections bring positive engagement to our work.

Technical, practical and emancipatory reflection

Taylor (2006, 2010) identifies three main categories of reflection, which she has named after the relevant categories of knowledge, following Habermas's division of knowledge (Habermas 1972). Thus, reflection that is focused on technical interests or empirical knowledge Taylor names technical reflection; reflection concerned with practical interests or interpreting human interaction is practical reflection; and reflection concerned with emancipatory interests or with challenging power to result in liberation is emancipatory reflection. These terms are epistemologically consistent,

although Taylor is writing for health care practitioners and physiotherapists who, with the practical nature of their role, might consider that 'practical' concerns the 'practice of physiotherapy', and equate this with the idea of considering the practical technique applied. If this conjecture is correct, then these terms might be confusing for physiotherapists without some explanation. Physiotherapists might be more at ease with Dewey's concept of practical reflection (Dewey 1910 p68) which concerns how to get something done. Nevertheless, Taylor's distinction between modes of reflection by what is being reflected on is helpful when exploring the practice of reflection by physiotherapists.

Interestingly, Taylor (2006 p124) appears to value the modes of reflection by what they can offer. Technical and emancipatory reflection she considers to be concerned with change, while practical reflection is concerned with understanding, which for Taylor is more limited in its usefulness. This suggests that, for Taylor, reflection which leads to a change in action, perhaps something which can be observed, is more valued than a change in understanding which may not be observable or measurable. If this is the basis for her judgement of value, this in turn suggests that Taylor does not expect changes in understanding to lead onto changes in behaviour, which seems to limit the concept of practical reflection. Dewey also placed greater value on some modes of reflection than others; however, Dewey considered his concept of practical reflection (closer to Taylor's technical reflection than her other modes) to be of a rudimentary level, and making sense of an observation a more complex form of reflection, although such 'making sense' might be addressing either Taylor's technical reflection, or her practical reflection in its content. Taylor's epistemological positions on reflection differ from Johns. Johns' use of all four patterns of knowing is different from the idea that a single reflection may focus on just one way of knowing. One may draw more on one way of knowing than others; however, Johns implies that all four ways of knowing are present in nursing action, albeit in varying proportions. In addition, working through Johns' empirical ways of knowing does not necessitate an exploration of empirical

theory to inform the reflective insight, merely to consider in detail the experience of the event, even if this is not as Johns intended.

Depth of reflection and critical reflection

Several authors distinguish between differing depths of reflection, although the depth is not always presented in the same way. Moon's (2004 p93) explanations of distinctions of depth suggest that deep reflection is something sufficiently different from superficial reflection that they could be considered to be different modes of reflection. Deep reflection, she suggests, has a critical orientation to one's own and others' understanding and uses more internal experience than less deep reflection which uses more of an external focus. Moon (2004 p98) suggests that deeper reflection yields better quality learning; her observation that superficial reflection may not be effective for learning leads to some confusion about whether superficial reflection is reflection or not, or perhaps to whether reflection inherently implies learning or not. Moon also connects deep reflection with critical reflection.

For Walsh (2009), critical reflection is where the experience together with the social and political context are examined (compared with 'reflection' which is merely focused on self). Similarly, earlier authors proposed that critical reflection includes multiple perspectives, situated in historical and socio-political contexts (Hatton and Smith 1995). In addressing the socio-political context of experience, Walsh's critical reflection may become Taylor's (2006) emancipatory reflection – depending on the outcome of the reflective process – whilst identifying the contexts which might be critically examined is both more specific and broader than Moon's concept of deep reflection. For Avis and Freshwater (2006 p219) critical reflection is not just specific in the areas examined, but is a particular way of thinking. They consider that critical reflection is where evidence acquired through experience is subjected 'to a critical thought process in a way that is open to scrutiny and contributes to a community of fellow thinkers'. They draw on an understanding of 'critical thinking' as something which is applied to the scientific process and use the term critical reflection when this is applied to evidence which comes from experience rather than objective testing.

43

There are indications in the literature set out below that the academic 'higher' levels of reflection are believed to equate to the 'deeper' modes. It is interesting to consider for a moment the opposite direction inherent in the two words, higher and deeper. Perhaps the grading of reflection academically concerns the outward appearance, or external face, of reflection and the technical-rational view of knowledge. Perhaps, also, the deeper levels of reflection are concerned with the internal modes of reflection and deeper explorations of multiple truths. The deeper the reflection, the higher the academic grade, which suggests that the relationship is an inverse one. In the least deep modes of reflection, for Moon (2004), there may be only 'description'; whilst description is an important part of reflective writing, this absence of evidence of either thinking or learning may arise from the requirements of grading academic assessment rather than any concept of reflection. Johns (2005), who discusses depths of reflection from a clinical perspective, only acknowledges reflection which results in change in practice, while Taylor (2006) makes a distinction between whether 'change' is a primary aim of the reflection, or incidental to it, which may be an artificial distinction.

Transformatory reflection

Deep reflection is also connected to transformatory learning (Moon 2004). However, in contemporary texts on transformatory learning, there is a distinction not just of depth, but of the nature of what is being considered. Watson (2005 pvii) presents the idea of moving deeper from reflective practice, to contemplative practice, then mindful practice and finally 'conscious-intentional caring-healing for self'. This deepest level is concerned with 'inner work which transforms the outer work' or 'reflecting upon reflection' (Watson 2005 pviii). Deeper reflection for Watson comes from 'heart centred practices', which include daily contemplation, meditation, prayer, connecting with nature, poetry and music (Watson 2005 pix) and is part of the development of our 'being'. The description has moved into using the language of the inner religious life; indeed, prayer has previously been referred to as reflection by religious authors (e.g. Byrne 1988 p70). This is a radical departure from other authors' descriptions of the various modes of reflection.

Johns (2005) is also concerned with transforming ourselves; he presents the idea of depths of reflection in a typology. This choice of word has further echoes of the religious, since it refers to the study of types, especially from the Bible (Allen 1991). The more superficial types are 'doing' reflection and the deeper types are 'being' reflection (Johns 2005 p6). The two modes of doing reflection are reflection-on-experience, which is reflecting after a situation to inform future practice, and reflection-in-action, which is pausing within a situation in order to proceed to desired outcomes. Johns' two modes of being reflection are reflection-within-the-moment (being aware of self and dialoguing with self in the unfolding moment, with a possibility of change) and mindful practice (being aware of self within the unfolding moment with the intention of realising desirable practice). Both Watson's and Johns' views of deep reflection would be very challenging for health care professionals if these were a regulatory requirement for their profession, because both involved a change to our sense of 'being' – or who we are.

Transformation is more about unlearning than learning (Rohr 2012), hence the religious tradition of repentance (a turning away from). Mezirow (1991 p104) suggested that reflection is a process of assessing the content, process or premise of the meaning of our experiences. Content reflection concerns the content or description of an event or problem. Process reflection concerns the strategies and procedures we use in solving the problem, sometimes in the process of using it. Premise reflection concerns the assumptions we make, the generalisations, the perspectives we hold about the nature of the problem itself. He also identified these three processes as instrumental reflection, communicative reflection and critical reflection respectively (Mezirow 1990). For Mezirow (1991 p110), premise or critical reflection is the focus of attention that can lead to perspective transformation, and perspective transformation can change our beliefs. Such a transformed meaning perspective would require a leaving behind, or turning away from, the beliefs or perceptions held previously. Such transformations can be transformations of points of view or transformations of habits of mind (Mezirow 2000 p19). Similarly, Brookfield

(1995) identifies reflection as identifying our assumptions and critical reflection as questioning those assumptions. Transformation of self is alluded to in Brookfield's (1995 p2) statement that 'we *are* our assumptions. Assumptions give meaning to who we are and what we do.' Changing our assumptions can lead to changing who we are and what we do, which can be a radical change.

The models of reflection may contain modes (or forms) of reflection. Some modes of reflection exist independently of a model. Within the overview of the models of reflection there can be found the following modes of reflection:

- anticipatory reflection (implicit in Dewey's work)
- reflection in and on action (Schön)
- preparatory reflection (Boud, Keogh and Walker)
- event analysis (Gibbs and Johns)

Other modes of reflection addressed above are:

- productive or external reflection
- academic and informal reflection
- dialogical and written reflection
- appreciative reflection
- technical reflection
- practical reflection
- emancipatory reflection
- critical reflection
- transformatory reflection, which includes:
    o content reflection
    o process reflection
    o premise reflection

I needed to be open to all of these modes of reflection in order to listen and be sensitive to the participants' accounts of their reflections.

Reflection in physiotherapy

Having considered some models and theories of reflection which provided the basis for a physiotherapy understanding of reflection, and then considered some of the modes of reflection which might be found, I shall now consider theories and models of

reflection specific to the field of physiotherapy. Educationalists and researchers in physiotherapy have drawn on a wide range of theories and models for their understanding of reflection, including the theories presented above. For example, key authors from the early stages of reflection in physiotherapy, Clouder and Cross, drew on Dewey, Schön and a wider variety of literature from education and learning in practice fields (e.g. Cross, 1993, 1998, Clouder 2000a, 2000b). Cross developed a model of continuing professional development (CPD) in which reflection played a part (Cross 1998) and Clouder considered the use of and attitude towards reflection by physiotherapists (Clouder 2000a, 2000b); however, neither author explored the theoretical notion of reflection per se.

The focus of much of the literature on reflection in physiotherapy has been on the teaching or learning or assessing of reflection. The assessment of reflection was the concern of Donaghy and Morss (2000), who adapted Boud, Keogh and Walker's definition of reflection to provide the first physiotherapy definition of reflection:

> the higher order intellectual and affective activities in which physiotherapists engage to critically analyse and evaluate their experiences in order to lead to new understandings and appreciations of the way they think and operate in the clinical setting.
>
> (Donaghy and Morss 2000 p6)

When developing their framework, these authors perceived Dewey to have a phenomenological perspective and Johns' work to be based on the humanistic beliefs of Carper, both of which they considered not transferable to the hypothetico-deductive approach of physiotherapy. Although the framework they proposed to both facilitate and assess reflections was the first to be specific to physiotherapy, they chose to focus the reflection onto one component of the physiotherapy process, the gathering and analysis of patient data. This made their study very focused and permitted evaluation; however, in taking this approach, they excluded other parts of the physiotherapy process. The guided dialogue is presented in Fig. 5.

| **Initial Dialogue Questions (followed by, If so how/what/why…)** |
| 1. Do you recognise any assumptions that you made? |
| 2. Do you think the patient sees the problem differently? |
| 3. Do any of the problems in your list link or form a group? |
| 4. Are these problems what you would expect from this condition? |
| 5. Are all of the problems physiotherapy problems? |
| 6. Did you consider any other factors that may have affected the physiotherapy process? |
| 7. Are there any other data available which you found difficult to deal with? |
| 8. Are there any other data available which you have deemed to be not relevant in forming your list? |
| 9. Are any of the problems outside your remit as a student physiotherapist? |
| |
| **How did you decide which are the most important problems?** |
| 10. Do you think the patient would order them in the same way? |
| 11. Is there a mismatch between the patient's and your priority list? How would you resolve it? |
| 12. How do you know what the patient's priorities are? |
| |
| **Did you find that the construction of a problem list helped to interpret the data and information available to you?** |
| 13. How do you feel about creating a problem list? How did this help you? |
| 14. What were your difficulties? |

Fig. 5: Initial dialogue questions for the guided reflection (Donaghy and Morss 2000 p10)

Chartered Society of Physiotherapy

In addition to the work of Donaghy and Morss, another source of theory on reflection which may have informed the understanding of practitioners is from the Chartered Society of Physiotherapy (CSP). The CSP provides materials that support practitioners' continuing professional development (CPD). The 'Learning from doing' prompt sheet (CSP 2016a) presented here is developed from Kolb's (1984) work on experiential learning and is just one option from a range of prompt sheets. Other options include 'Gibbs' prompts for structured debriefing' (CSP 2016b) based on Gibbs' (1988) work and 'What? So What? Now What?' (CSP 2016c) based on Borton's (1970) text. Since

this chapter has already addressed the work of Gibbs, I have only reproduced the 'Learning from doing' (Fig. 6) and 'What? So What? Now What?' (Fig. 7) content here.

Describe briefly a recent significant experience in your professional life	
What did you do…	And why?
What went well…	And what could have been better?
What would you do differently, if anything, if faced with a similar situation again?	How did you feel during the experience?
Describe what you learnt from this experience (learning outcomes)	
What is your action plan from this incident?	

Fig. 6: *Template for Learning from doing (CSP 2016a)*

What? (This is the description and self-awareness level. All questions start with the word what e.g. What happened? What did I do? What was I trying to achieve? What was good/bad about the situation?)
So What? (This is the level of analysis and evaluation. All questions start with the phrase so what? e.g. So what is the importance of this? So what more do I need to know about this? So what have I leant about this?)
Now What? (This is the level of synthesis. All questions start with the phrase now what? e.g. Now what could/should I do? Now what do I need to do? Now what might be the consequences of this action?)

Fig. 7: *Template for What? So What? Now What? (CSP 2016c)*

There is one more source of understanding that I should record here, which is not directed towards any understanding which the participants might have, but to acknowledge that I brought my own understanding of reflection to the research as interviewer and analyst. I have included here two pieces of evidence from my academic engagement with the subject of reflection. The first is my own attempt to produce a guide for reflection (Dalley 2007) which was produced in order to guide students to success when writing reflective assignments. This table included all the

required elements of reflection that were expected in their assignments. Like other physiotherapy academics before me, I did not attempt to consider reflection philosophically or theoretically for physiotherapy practice. It was also not an attempt to create a new model or new insight into reflection. In the process of reviewing existing models of reflection, I noted that there were common elements to them – these were the elements I drew together in the guide to writing reflectively (Fig. 8).

Elements of Reflection	
Description	What happened? Might include details such as: Where? Who? When?
Exploration	How did you feel or act? What did the experience mean to you? Why did things happen as they did? Is there relevant background information or significant details?
Insights	Did you come to any conclusions? Have you come to any conclusions since? Do you see things differently now? Is there anything you understand better? What have you learned?

Further development	What ideas or plans have you for improving things?
	How have you changed your:
	    approach?
	    attitude?
	    ideas?
	    or your actions?

Theory and practice links	You might use literature to explore your experience, to gain insights or to plan for next time. What insights have you gained from literature? Where does your experience link with the literature?

Fig. 8: *Elements of reflection (Dalley 2007)*

During the course of this research, as part of my developing understanding of the process of reflection, I developed a model of reflection (Dalley-Hewer 2013). In contrast to the many linear and structured models available, I considered that

reflective thinking, in practice as in life, might happen in a more heuristic (which is to say developing over time, possibly in stages), non-linear, less tidy manner. In this I differed from Dewey's conception of reflection as ordered and planned. I recognised that the trigger for reflection can be a wide variety of circumstances, or may be a succession of events or a juxtaposition of events, or something heard, read or observed. I also considered that people might use a variety of strategies to facilitate reflection, other than writing. These strategies might include talking to others or using a visual model such as the River Kawa (Iwama, Thomson and Macdonald 2009). While this model is in the public domain in the context of physiotherapy education in practice, it has not been subject to peer review (Fig. 9).

Summary

The most commonly drawn on models, theories and definitions of reflection for the field of physiotherapy, as well as less well-known modes of reflection, have been presented in this chapter. I have also included a very brief mention of some of my earlier work in this field, which represents some of my knowledge. In this study, I was not trying to refine my earlier work on the elements of reflection, nor was I trying to develop my Fluid model of reflection. This study explored the reflections of qualified physiotherapists working in practice. In doing so, I needed to hold these understandings in mind as I conducted the interviews and the data analysis, so that I would be sensitive to the forms of reflection being expressed by the participants. The Fluid model of reflection was developed as part of my growing understanding of real-world reflection from the stage one interviews, and this added to my understanding of reflection that I took into the second and third stages of the research.
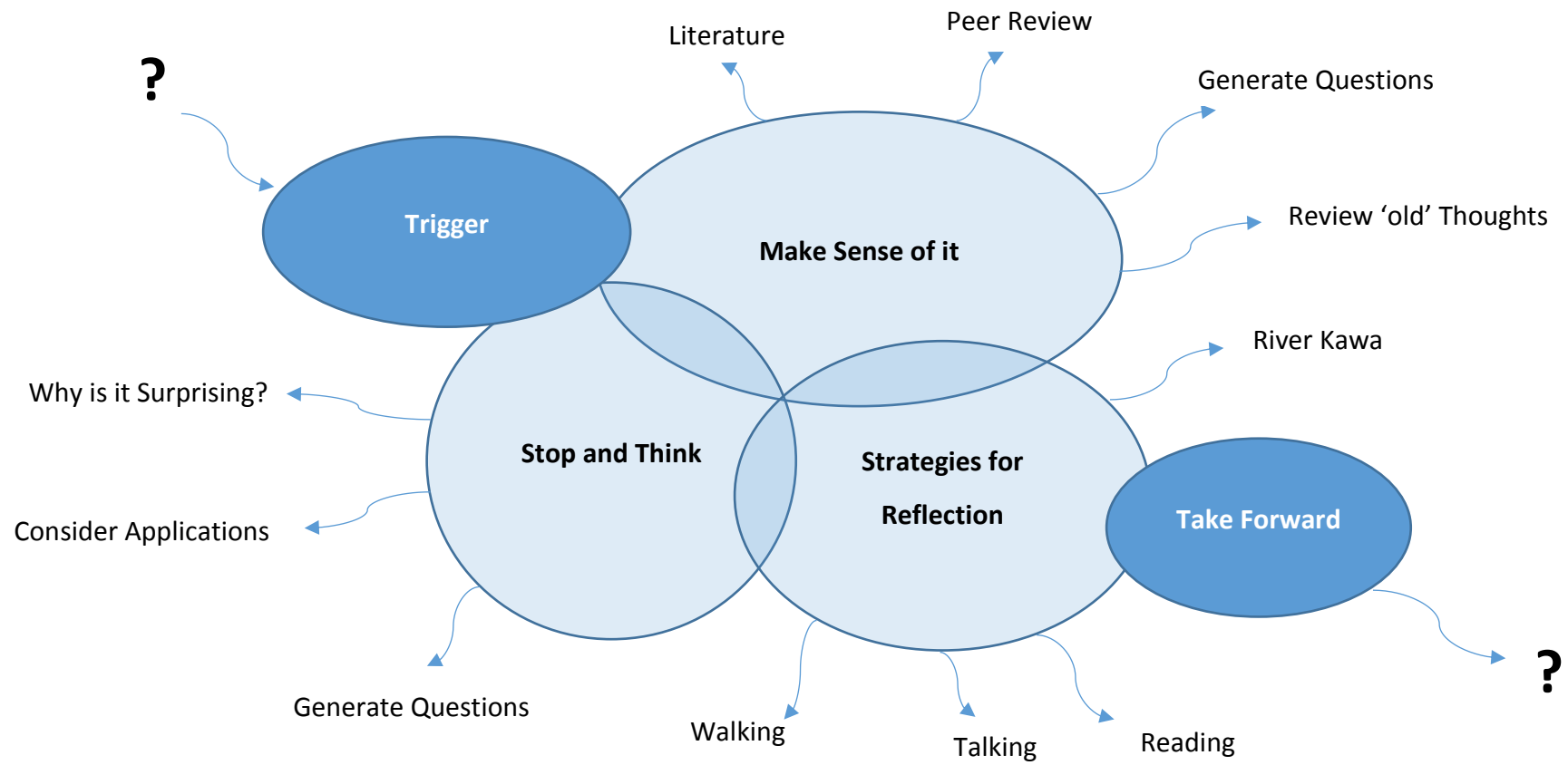
Fig. 9: *The Fluid model of reflection (Dalley-Hewer 2013)*

Chapter Four: The Context of this Study

Introduction

An overview of the professional context in which the research is situated is given in this chapter. This includes the development of physiotherapy in the United Kingdom (UK), the nature of physiotherapy education and the influences on professional knowledge development. An overview of the professional influences which have accompanied the development of the profession is provided, in particular the close association with the medical profession, which has led to the profession having an underpinning technical-rational philosophy most recently shown in the allegiance to evidence based practice. This context is necessary in order to understand the physiotherapy setting in which reflection is being studied, rather than the broader setting of health professionals. This is necessary because professional learning is interdependent with how it is learned and the nature of the context in which it is learned affects what knowledge is used (Eraut 1994 p20). The historical and political factors that shaped the profession of physiotherapy are part of the context which shapes the nature and scope of reflection in physiotherapy that I investigated.

Reflection in a professional context is usually first encountered in undergraduate education, which has resulted in much of the developing theory in this field being generated from the perspective of health educator academics, including those in physiotherapy. This being the case, the context of physiotherapy education is also considered. Understanding the professional context of the reflection may also help to understand some of the perspectives of reflection from the practitioners participating in this study. Finally, an overview of my engagement in reflection which led to my interest in this research field is also provided.

The development of physiotherapy (UK)

Physiotherapy began when two British nurses, specialised in the use of therapeutic massage, wished to create an environment in which therapeutic massage could be more widely used. This required the differentiation of 'respectable' medical rubbing (as it was then called) from the disreputable massage parlours associated with 'ladies of the night' (Barclay 1994 p23). To this end, they aligned themselves with the medical profession in order to establish their respectability and credibility, taking referral only from doctors. From the beginning, high standards were required as part of the credentials for obtaining this respectability for the profession and achieving status and respect for the practitioners. This illustrates the ideology of professionalism which includes such values as service, trustworthiness and reliable standards (McIntyre 1994 pviii). This orientation towards respectability and credibility continued to shape the later development of the profession, as I explain below.

The two nurses gathered together other like-minded women and formed the Society of Trained Masseuses in 1895 (CSP 1994 p6A). In addition to only giving massage under medical direction, the other rules of the Society were that massage was not to be given to men (unless at a doctor's special request) and that no advertising should be presented anywhere other than in medical papers (Barclay 1994 p27). From this it can be seen that the attempt at gaining respectability through allegiance with the medical profession was very strong. The first 100 years of the Chartered Society of Physiotherapy can be viewed as the continued campaign for respectability and status in order to allow patients to benefit from physiotherapy skills. After some years of searching for an influential president to increase the status of the incorporated society, Queen Mary became patron in 1916 and a Royal Charter was granted in 1920. The purpose of gaining the charter was to give legal status – another mark of respect. The chartership gave legitimacy and recognised professionalism and competence, the pursuit of excellence and adherence to ethical and moral values (CSP 2010).

The search for credibility did not just include external recognition of respectability. The Society looked internally as well, to the standards of the practitioners. Over time, the scope of practice increased, as did the length of training for masseuses and their teachers. The first course for the training and examination of masseuses was three months long (CSP 1994 p6A). Following the Boer War, exercise and remedial exercises were included in the training to respond to the health needs of the nation (Barclay 1994 p8) and the extension of the scope of practice had begun. The Society became incorporated as a professional body (rather than a trade) in 1900 as a further move to maintaining standards, and the motto *Digna Sequens* ('following worthy things') was adopted (Barclay 1994 p31). By 1913, six months of training were required before an examination for Swedish remedial exercises, and the first examination for teachers of massage and remedial exercises was introduced (CSP 1994 p6A).

The deliberate exclusion of men from the profession in order to maintain respectability began to change after the First World War, with the admission to the register of members of the Association of Certified Blind Masseurs in 1919 (Barclay 1994 p79). Following this, the principal restriction on male registrants was the lack of places where they could train. The longstanding existence of this barrier may be demonstrated by my own place of physiotherapy training, the Queen Elizabeth School of Physiotherapy. The first two male students (in a cohort of 20) were admitted as recently as 1979, the year after I started training. The reason for the delay, which was the lack of male changing rooms, may hint at a lack of prioritisation of the changes that would increase the number of men in a predominantly female profession. While the lack of places for male students is no longer an issue, the predominance of female applicants remains, which is reflected in the gender ratio of participants in my research. Öhman, Hägg and Dahlgren (1999 p60), acknowledging the gendered nature of career choices, reported that in Sweden only 20% of physiotherapists were male. In contrast to the progress being made in training and scope, it is interesting to note the similarity in the wording of the examination certificate in 1895, 'This is to certify that *name* has been instructed in the theory and practice of massage and we consider

her to be fully qualified to carry out treatments by massage…', to my own certificate in 1981, which is worded 'this is to certify that *name* has passed an examination which admits them to membership' (of the Society). The principles of being examined, reaching an acceptable standard and being admitted to membership remain the same. In 1943, the Society's name changed to become the Chartered Society of Physiotherapy (CSP 1994 p6A).

On the creation of the National Health Service, the Minister for Health expected physiotherapists to be part of the new organisation (Purves 1994 p44A), and by 1947 the training time was three years. The introduction of the Professions Supplementary to Medicine Act in 1960 was a move to ensure the supply of well-qualified staff for the NHS (Barclay 1994 p194). However, the subsequent compulsory nature of this state registration, and the eight medical practitioners and nine physiotherapists who were responsible for the Physiotherapists' Board (Barclay 1994 p195), show the continued association with doctors. This began to change when the chairman of the Society was a physiotherapist instead of a medical practitioner for the first time in 1972 (Barclay 1994 p224) and the requirement for a referral from a doctor was removed in 1977/1978, which gave physiotherapists professional autonomy for the first time (CSP 1994 p7A). Today, many physiotherapists working in the NHS do so in a system where patients can only receive an appointment after referral from a doctor, although this is now due to resource allocation factors rather than principles of professional autonomy. Dixon (2003) noted the move of the profession from the early medical affiliation towards clinical autonomy, suggesting that progress was only made once medical dominance was resisted. Nevertheless, the influence of this historical association with medicine is still present.

Returning to the widening scope of practice, members had carried out joint manipulations for years; however, in 1967 the society assumed responsibility for courses in such techniques (Barclay 1994 p206), and the last element of modern day physiotherapy was in place. One hundred years after the formation of the Society of

Trained Masseuses, the first objective of the Chartered Society was 'to improve the training, education and professional status of persons engaged in the practice of massage, medical gymnastics, electrotherapeutics, or kindred methods of treatment and to foster and develop the use of these' (Robinson 1994 p8A), an objective remarkably consistent with the historical beginnings. Massage, medical gymnastics, electrotherapeutics, or kindred methods of treatment were what physiotherapists did and these methods of treatment came to be utilised in a wide variety of clinical specialisms. Although the clinical areas are many, the three core areas of clinical work are considered to be in the specialities of cardiorespiratory, neurology and neuro-musculoskeletal (Coventry University 2016). Forms of massage (or manual techniques), electrotherapy and exercise are performed by physiotherapists in each of these areas.

For readers less familiar with physiotherapy practices, in cardiorespiratory physiotherapy, the work of breathing and coughing may be facilitated with manual techniques, with machines such as the Bird respirator, with breathing exercises or general exercises such as walking. In neurological physiotherapy, the return of movement and control of the body is facilitated with manual techniques, electrotherapy to stimulate muscle action, or exercises such as balance exercises. In neuro-musculoskeletal physiotherapy, recovery after injury to muscles, joints or tendons is facilitated with manual techniques, electrotherapy to promote healing and exercises to restore muscle strength or flexibility. These three core clinical areas are represented in the participants for my research (although there was no attempt to compare reflection between specialities).

The development of physiotherapy worldwide

While this account of the development of physiotherapy has considered only physiotherapy in the UK, physiotherapy has developed worldwide, albeit at different rates in different countries. The World Confederation of Physical Therapy (WCPT) was founded in 1951, with the hopes of developing the profession around the world and providing better services to patients (Friend 2001). One of the aims of the organisation

is to encourage high standards of physical therapy research, education and practice (WCPT 2013). Using the term 'physical therapist', the WCPT states that 'Physical therapists provide services that develop, maintain and restore people's maximum movement and functional ability. They can help people at any stage of life when movement and function are threatened by ageing, injury, diseases, disorders, conditions or environmental factors' (WCPT 2013). While my research is situated in the UK, the literature from physiotherapy from other countries informs the current theoretical understanding of reflection and so has been included in the consideration of the literature reviewed in this study.

The development of physiotherapy education

The massage, exercise, electrotherapy and kindred forms of treatment mentioned above are known as the 'four pillars' of physiotherapy (CSP 2013a), which continue in the 2007 definition of physiotherapy:

> Any activity undertaken by an individual physiotherapist that may be situated within the four pillars of physiotherapy practice where the individual is educated, trained and competent to perform that activity. Such activities should be linked to existing or emerging occupational and practice frameworks acknowledged by the profession and be supported by a body of evidence.
>
> (CSP 2013a)

From this it can be seen that issues of training and standards of practice endure as a focus of attention, which is a continuation of the profession's desire for credibility and respectability, perhaps now framed as respect and status rather than respectability. To these professional standards the concept of evidence for practice has now been added.

Some of the early development of physiotherapy education has already been mentioned. Rather than chart subsequent changes step by step, it is pertinent to be aware of the more recent change to degree level education. Firstly, the qualification

became diploma level and then in 1992 the profession became 100% graduate entry in the UK (Thornton 1994 p18A). At the time of this study, the UK professional qualification was an honours degree with some academic institutions offering master's pre-registration programmes. Outside of the UK, there was also advancing educational attainment; for example, from 2015 all programmes accredited with the American Physical Therapy Association offer doctoral level entry-level programmes with only a small number still offering master's level programmes (APTA 2016). This transition of physiotherapy training in the UK from the NHS to the Higher Education sector was accompanied by a greater focus on academic abilities alongside the practical skills of physiotherapy. With this progression came an emphasis on the academic qualities of research and performing at the higher levels of the cognitive domain of educational achievement (Bloom et al. 1956), analysis, synthesis and evaluation, compared with the earlier training model. Brook (1994 p23A) observed that these changes required lecturing staff in turn to hold higher academic qualifications, to participate in research and to contribute to furthering the knowledge base of physiotherapy.

As physiotherapy education became increasingly focused on the research and evidence to support practice, the development of evidence based medicine (EBM) (Sackett 1997) was gathering momentum and was in turn adopted by physiotherapists as evidenced based practice (EBP), in common with other health and social care professionals (Swinkels et al. 2002). Sackett et al. (1996 p71) defined evidence based medicine as 'the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.' Although Sackett et al. include clinical expertise in their understanding of the application of EBM, it is this first sentence which is most often cited, and the first statement presented on the CSP website for EBP (CSP 2017). Sackett et al. (1996 p71) understand clinical expertise as the proficiency and judgement that is acquired through clinical experience. It may be that reflection is part of the acquisition of proficiency and judgement, but this is neither explicit nor implicit in Sackett et al.'s statement. From this, the resulting attention paid to Randomised Controlled Trials (RCTs) as the gold standard of evidence

can be understood as another example of physiotherapists making choices in order to develop their status and influence. This educational development was another factor in reinforcing 'the traditional medical-based hierarchy of evidence' (Swinkels et al. 2002 p337).

As reflective practitioners, physiotherapists are expected to integrate research findings into their clinical practice (Sackley 1994 p27A). Sackley further suggests that lack of this integration was due to a lack of research training; however, she does not explore the lack of reflective practice training which might also be a factor. Both qualitative research and reflection might be seen as 'evaluation approaches' offering an alternative to the RCT form of evidence (Swinkels et al. 2002 p342). Nevertheless, Jones et al. (2006 p2) observed that qualitative research is excluded from the hierarchies of evidence in the evidence based practice approach. Given that Jones et al. consider this to be because the measurement of observable phenomena is held most highly, it is unlikely that reflection will appear in the hierarchy at all. While Jones et al. (2006 p4) and Swinkels et al. (2002) argue that qualitative and quantitative forms of research (and thus evidence) should be recognised alongside the RCT, the question of establishing any rigour in the individual and subjective process of reflection excludes reflection from this discussion. The relationship between EBP and reflection has been considered in occupational therapy, where it has been noted that there is little overlap between EBP and reflection in the literature, that the two topics are typically discussed separately and that they are also taught separately to students. To address this, Bannigan and Moores (2009 p345) propose a model of professional thinking which could be seen as a model of reflection, where reflection includes using literature. However, their suggestion that EBP is associated with research modules and reflection with practice based modules, and that individuals tend to align themselves with one or the other, further emphasises the differences, rather than drawing them together. The difficulties with drawing EBP and reflection together are shown in the proposal that theoretical discourses are based on epistemological stances which are constructed by language and that the languages of EBP and RP make them incompatible. Mantzoukas

and Watkinson (2008) further suggest that each legitimate word within an epistemology or discourse has a binary opposite, with the discourses of EBP and RP using language in binary opposition to each other. However, these authors argue that the two are not incompatible and suggest that shifting back and forth between two different forms of knowledge can be achieved. However, the idea that to use both one needs to shift gear in some way only serves to underline the difficulty with using them together. In the profession of physiotherapy, with its alliance with the traditional medical-based hierarchy of evidence, this may have placed reflection as a lesser form of evidence.

That Mantzoukas and Watkinson (2008) and Bannigan and Moores (2009) feel that the connections between EBP and reflection need promoting serves to highlight the lack of connection often seen between the two. The arguments of Jones et al. (2006) and Swinkels et al. (2002) for both qualitative and quantitative research to be recognised are evidence that qualitative research is less esteemed by physiotherapists. Physiotherapists' espousal of EBP may not always be acted out in practice but the claim and desire to do so have their influence on the profession. Physiotherapists have accepted evidence based practice to a greater extent than other professions (Swinkels et al. 2002). Least accepting of EBP in Swinkels at al.s' study were nurses, who found it failing in helping them to view the patient holistically, and social workers, who were antagonistic to medical explanations of problems. These perspectives on EBP from nurses and social workers serve to highlight the contrast with the physiotherapy acceptance of medical traditions, which may stem from the historical origins of the profession.

Bradbury et al. (2010 p3) and Swinkels et al. (2002 p336) linked the growth of the audit culture and managerialism together with a search for efficacy as further influences fuelling a demand for evidence. Sackley (1994 p25A) had previously suggested that the move towards efficient NHS management forced physiotherapists to consider objective measures of their treatment outcomes. The move to objective and

quantifiable evidence is illustrated by the debate at the Physiotherapy Congress in 2015 of the motion that physiotherapists *only* use treatments which have been validated by research as being effective (although the vote was defeated). Relevant to this discussion is that one of the arguments in favour of the motion was that this would help in our capability to engage in high-quality self-regulation (CSP 2015a). This desire for status and high standards is still shaping the profession even as it debates the best way forward. Hyatt (2004) referred to the changing nature of academic work in American universities being shaped by the quantifiable measures of the corporate audit culture. This culture is not restricted to American universities, which suggests that physiotherapy academic staff have influences from their clinical and academic contexts towards objectivity.

Öhman, Hägg and Dahlgren's (1999 p65) exploration of the perceptions that women physiotherapists had of the profession and professional development found that the informants perceived themselves as clever, efficient, successful and ambitious, with a history of graduating with high marks. Öhman, Hägg and Dahlgren called this the 'Clever Girl' category within the core category of the 'Competent Woman'. It is possible that this history of being the competent woman, and the need to be seen to be efficient, is a factor in the adoption of EBP, evidence for audit and the need to demonstrate efficiency through objective outcomes. Given this desire for objective outcomes, the subjective nature of reflection may be a factor which has delayed a professional exploration of this topic with regard to physiotherapy practice. All of these influences, EBP, audit and accountability, and validation of practice, reinforced the medically inherited, positivistic paradigmatic way of understanding the world in which we practise. The proposal to only draw on validated research to shape practice and the emphasis on objectivity in this stance do not encourage professional debate on the place of reflection in practice.

The body physical

There is another factor which has influenced and continues to influence the profession of physiotherapy and that is the professional focus on the body physical. The quest for legitimacy led the original nurse-masseuses to adopt the biomechanical view of the body, with biomechanics and anatomy being emphasised in training right from the beginning (Nicholls and Gibson 2010 p498). This scientific anatomical training was in order to view the body dispassionately and thus avoid any implication of sensuousness or eroticism, as a response to a concurrent public scandal regarding massage (Nicholls and Gibson 2010 p500). In striving for credibility and respectability, the early practitioners marginalised the subjective elements of human experience (Nicholls and Gibson 2010 p500). While this account is historical, this influence remains: physiotherapy persistently remains biomedical in approach and the psychosocial subjects are not liked by students and are not thought to be relevant to physiotherapy (Roskell 2009).

Physiotherapists define themselves by what they do, rather than by what or how they think, and their task orientated approach to therapy has been influenced by existentialism, which focuses on actions, not principles or purpose, and post-modernism, which considers there to be no grand theories or standardisations (O'Hearn 2002 p5). O'Hearn argues that we do not have a grand theory of physiotherapy because we are too focused on the physical here and now. The only grand theories attempted are the movement continuum and the pathokinesiology theory, which are both focused on the body's physical functions. This is once again putting an emphasis on the physical body that is central to our professional identity because it is the site upon which we work (Nicholls and Gibson 2010 p497). Clinicians find integrating the biopsychosocial model into clinical practice challenging (Jones, Edwards and Gifford 2002), being less well developed in the psychological and social dimensions (Jones, in press) due to a lack of formal training in these areas (Singla et al. 2015), which implies that the move towards a broader perspective is not yet embedded in practice. Gibson and Teachman (2012 p475) noted that professions hold

a tacit and on-going professional understanding of the attributes which are associated with power and prestige for their profession and suggested that continuing to largely view disability as a biological impairment is an example of such tacit understanding. Some of these professional strategies have been successful, as was shown by a study by Dalley and Sim (2001), which reported that rehabilitation nurses perceived physiotherapists as having longer training than nurses (it is the same length), being more specific, defined and measurable in their work (and thus more objective), and having more autonomy over their work, which was perceived to give physiotherapists greater status than nurses. The nurses in Dalley and Sim's study (2001) also saw the physiotherapists as 'doing' things of a physical nature, concentrating on physical goals. The emphasis in physiotherapy has been on the practical, hands-on techniques (Öhman, Hägg and Dahlgren 1999 p59), with physiotherapists often typified as 'doers'. Öhman, Hägg and Dahlgren (1999 p60) suggest that the embracing of EBP is the academicization of a hands-on profession seeking respect and status in the academic hierarchy. Knowledge without a positivistic scientific base has not been accepted as valid within the profession (Noronen and Wikström-Grotell 1999 p176), although Noronen and Wikström-Grotell believed that by the end of the 1990s physiotherapy was in a phase of accepting qualitative research as complementary to the existing quantitative research methodology. A decade later, Roskell (2009) noted that physiotherapy persistently remained biomedical in approach and that students did not like the psychosocial subjects and did not consider them relevant to physiotherapy. In 2016, this acceptance is only now becoming visible in the profession. For example, the majority of UK physiotherapy undergraduates choose a quantitative research proposal for their independent research and the 2015 UK physiotherapy conference only contained a few qualitative studies amongst the papers presented.

There are two important points to make about the professional focus on the physical and on the biomedical approach. The first is that the biomedical approach is the basis of much of our professional expertise and, as such, is not unworthy, nor is this discussion intended to undermine our professional values and influences, only to

highlight them. The second point is that despite this physical focus on the body as machine, there *is* an interest in the profession on the skills of reflection and the learning that is believed to contribute to practice, as was shown in chapter two. The initial adoption of reflection as a way of evidencing personal development presented in chapter two may have been a parallel example of the focus on evidence, albeit in the realms of more subjective forms of evidence such as the personal account. Reflection has been considered as valid evidence of an individual's knowledge and understanding and learning, and is strongly linked with the concept of continuing professional development (CPD) (e.g. Cross 1993, 1996, CSP 2016a, 2016b, 2016c, 2016d, 2015b, 2015c). The need to evidence professional development is recognised by the profession for the measurable and non-measurable aspects of practice alike. The personal and subjective nature of such professional reflections may be contributing to a lack of trust in the influence of reflection on practice, which may, in turn, have contributed to the paucity of research into the reflective practice of physiotherapists.

The researcher

The historical development of physiotherapy and the development of physiotherapy education, with a brief acknowledgement of the global presence of the physiotherapy profession, has been presented in this chapter so far. Some of this development I have observed personally, as indicated above. Therefore, it seems important to provide more insight on my professional involvement in reflection over my career, as part of the transparency and reflexivity expected of qualitative researchers. I have included further personal explorations in subsequent chapters as they become relevant. I am a qualified physiotherapist and member of the Chartered Society of Physiotherapy. I trained in the NHS before diploma or degree level qualifications or university physiotherapy education. After 15 years as a clinician, I studied for an MSc in physiotherapy and subsequently entered Higher Education (HE) to work as an academic. My first post in HE was an 18-month secondment to a (then) college of nursing to teach nurses rehabilitation skills. This was just as the nursing college was making the transition from NHS-located training to an HE-located School of Health. The

organisational changes which made possible the secondment also exposed me to an intense learning curve of both nurse education and university culture. At the same time, nurses were just commencing their mandatory requirement for professional development for re-registration, Post Registration Education and Practice (PREP) (UKCC 1994), and the associated personal portfolio in which to record it. This is where I met the concept of reflective practice for the first time. In the politically sensitive climate of being the first physiotherapist employed to teach nurses in that establishment, the 'non-nursing' speciality of teaching reflection was allocated to me. The approach to teaching nurses about this new subject of reflection drew on Gibbs' (1988) model of reflection, along with Brown's (1995) text on portfolio development for nurses. As part of my own induction into this topic in order to teach it more informatively I also attempted my own first portfolio.

During my time with the college of nursing, in addition to being introduced to reflection, I learned much about andragogy (Knowles 1990), a philosophy concerned with adult learning much admired and utilised by the nurse educators. I was also introduced to Carper's ways of knowing (Carper 1978, Johns 1995). Later, after a further spell in the NHS, where I was expected to transfer my understanding of reflection and portfolios to the physiotherapy staff in the department, I moved to another institution, this time teaching physiotherapy students. Here, my involvement with the promotion of reflection grew, together with my interest in this subject. During my time in physiotherapy education, I furthered my understanding of the theory of knowledge and ways of knowing through teaching the theoretical subject of professional expertise. These interests have grown in subtle, incremental and overlapping layers to my current exploration of reflection as part of physiotherapy practice.

Altogether I have 22 years of experience in HE institutions. In this time, I have taught on BSc and MSc programmes, worked with clinicians supervising our students and clinicians attending our PG programmes, and taught cross-faculty modules for a wide

range of health and social care students. Thus, I have engaged over some time with the challenges and joys that reflection as part of an educational process can bring at undergraduate and postgraduate levels of study, and with students and qualified practitioners of various health professions. My experience of teaching reflection to physiotherapists and other health and social care professionals was that many of the students, and some of the staff, struggled with this non-objective, non-measurable topic.

Summary

Key milestones in the development of physiotherapy in the UK have been reviewed in in order to provide context to reflection in physiotherapy practice. These key milestones have illustrated the continuing drive for respectability, status and recognition in order to benefit patients. This drive resulted in the striving for standards, and the growth in the length of training, the move to professional autonomy and the rising academic level of qualifications. The nature of physiotherapy practice presented in the widening scope of practice, the 'four pillars' of practice and the core specialities have also been outlined. The longstanding allegiance to the medical profession and medical ways of approaching clinical matters appear to have influenced the contemporary perspectives of physiotherapists. Other factors are the professional focus on the physical body, the acceptance of EBP and the dominance of quantitative paradigms of research, the 'Clever Girl' history of many practitioners, and the practical nature of physiotherapy. I have also given a brief introduction to my own journey from a clinical therapist to an academic and my interest in the topic of reflection.

Chapter Five: The Philosophical Approach, Research Approach and Methods

Introduction

The philosophical approach taken in this study is introduced in this chapter, together with the rationale for my choice of methods. The original objective of the study was to explore whether physiotherapists' reflective practice resulted in any benefit to physiotherapy practice; this was re-focused during the study to exploring the nature and process of their reflections on practice. The choice of a qualitative research paradigm for addressing this research objective has been explained first in this chapter, then the selection of the grounded theory approach to conducting the research. Grounded theory is a contested approach from researchers and scholars that work within a grounded theory approach and from those that look in from outside; this complicates what stands as grounded theory today (Charmaz 2011 p364) and thus it is necessary to explain the approach to grounded theory taken in this research and identify the specific choices of methods made.

The choice of a qualitative research approach

A paradigm is a basic set of beliefs that guides action (Guba 1990 p17) and contains the researcher's epistemological, ontological and methodological premises. Denzin and Lincoln (2011 p12) define epistemology as the relationship between the inquirer and the known, ontology as the nature of reality or being, and methodology as about how we know the world or gain knowledge of it. Crotty (1998 p3) explains methodology as the strategy, plan or design behind the choice and use of particular research methods, which links the choice to the desired outcome; he suggests that methodology is informed by the theoretical perspective (philosophical stance), which is in turn informed by epistemology. The set of beliefs which guided the choices and actions for this particular research study have been set out in this chapter on methodology.

I knew what area of practice I wanted to explore; however, when I looked to see what was known already, I found there was very little known about reflection as experienced by practitioners, there was little previous research exploring reflective physiotherapy practitioners, and there was very limited information on practitioners' reflective practice in other health professions such as nursing. The literature on reflection in physiotherapy presented in chapter two illustrates that this was still a largely unknown area which needed further exploring. The starting point for choosing the philosophical approach for this research arose from a simple idea – that positivist research has an 'explanatory' purpose, to test ideas and discover causal relationships, and qualitative research has an 'exploratory' purpose, to find out what is happening. Robson's (1993) explanation of these terms suggests that explanatory research could be qualitative or quantitative although he does acknowledge the strong link between an explanatory purpose and experiments to test causal relationships. My rationale was that if there was no evidence for the benefits of reflection to practice, then it was not understood well enough to progress to testing. Because the nature of the evidence was unknown, there was the potential for evidence of various types of knowledge, such as objective and subjective knowledge, to occur and thus the starting point of the research should be to find out what benefits, if any, there might be. Thus, the research had an exploratory purpose and a qualitative approach was preferred.

Qualitative research is often explained by comparing and contrasting it to the dominant research paradigm, that of quantitative research, which is most usually linked with the positivistic paradigm. Some qualitative researchers have expressed the opinion that qualitative research should not always be compared with quantitative research, since qualitative research 'represents a legitimate mode of social and human science exploration without apology or comparisons to quantitative research' (Creswell 2013 p6). This option was considered; however, the eventual choice of grounded theory as the foremost research approach raises many debates and contentions that arise from the tensions between the quantitative and qualitative research paradigms, which Carpenter and Suto (2008 p1) describe as the 'historical

contest between proponents'; therefore, the classic approach to begin by comparing these two paradigms has been taken.

The positivist paradigm is based on the epistemological idea that research is trying to discover the knowledge that is 'out there' – objective knowledge, which is true for all. Crotty (1998 p19) suggests that it was originally looking for divinely revealed truth, although contemporary thinkers outside of a theological arena might consider that searching for the 'divine' is somehow unsound and unscientific. Objective knowledge is measurable, and verifiable; the related ontology suggests that truth, or what is considered reality, is singular and the same for all – a single objective reality. Qualitative research, in contrast, is usually described as sitting within the interpretive paradigm, where the epistemological idea is that research is trying to explore and interpret knowledge that is within us, knowledge which is subjective and thus can only be interpreted; that, ontologically, truth or reality is multiple, and different for each of us. These qualities of exploration and interpretation were a good fit with the research aim of exploring a little-known area.

Qualitative research is typically presented in these quite broad and simple terms because there are many forms of qualitative research, based on different approaches. Carpenter and Suto (2008) suggest that 'qualitative research is an umbrella term for the concepts and assumptions and methods shared by a complex and interconnected family of research traditions'. Creswell (2013 p11) structures his text on qualitative research into five approaches, but does not claim that these are the only approaches, listing numerous others in addition to the five. His chosen five were those he considered to be most frequently seen, processing systematic procedures for inquiry, and representing discipline orientations. In addition, within each approach, there may be different branches. For example, in phenomenology one can find descriptive phenomenology or interpretive phenomenology, and in grounded theory one can find constructivist and post-positivist approaches. Recent developments in research approaches include the socio-materialistic, which is said to be a method rather than a

methodology, and which was developed to recognise the relationship between the material world and social, cultural and personal perspectives (Fenwick et al. 2011 pvi). Although Fenwick et al. (2011 pvi) argue that they are not proposing a new ontology, the idea that the reality of learning is both subjective and objective appears to suggest a more complex understanding of the way in which people exist in the world.

The breadth of the qualitative research field necessitated the choice of an approach to the research which would best answer the research question. On initial reading, the approaches of participatory inquiry, phenomenology and grounded theory seemed to offer realistic possibilities for exploring the research question. All of these are exploratory in nature, for use when the nature of the phenomenon or theory is unknown, and guide the researcher in discovery of the topic. Blumer (1969) believed that the researcher should select an approach in which the perspective and methods were congruent rather than incongruent with one another; the challenge when faced with two or three possibilities was to select the best one. Each of these approaches is briefly presented and the final choice of grounded theory explained. Creswell suggests that:

> Whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research.
>
> (Creswell 2013 p15)

I was aware of some of my pre-existing beliefs about qualitative research, some of which I share here:

> *Over time as a student and academic, I had developed the understanding and belief that because qualitative research is interpretive, a key feature is the requirement to be transparent. If the researcher is transparent about their choices and decisions, then the research (interpretation) that emerges can be judged firstly in the light of those decisions, and secondly with any known assumptions or bias understood and accounted for by the reader of that research. I also held the belief that 'good' research is performed with integrity. Integrity could mean using the correct method, but also means with honesty – another form of openness and transparency, particularly in qualitative research*

where the researcher, rather than aiming for the detachment which positivism demands, can be 'present' in the research, and indeed, should be present so that their presence is overt rather than covert. This overt presence leads once again to the opportunity of the reader of research to judge accordingly.
(Research Diary: Thoughts from an evening walk, Llangennith, July 2013)

Due to my belief that researcher presence is overt, much of this thesis is written in the first person. These points have also influenced other choices that I have made at different stages and which are explained as each arises in the study.

Considering participatory research

Participatory inquiry is a research approach which permits adapting the methods to the research question rather than following some pre-defined rigid protocol (Northway 2010), which was attractive. The use of the participatory approach would recognise the physiotherapy community of practitioners as having a minority voice in the development of physiotherapy theory, against the dominant voice of physiotherapy academics (adapted from Northway 2010), and since my interest is reflection as it is practised, rather than reflection as it is theorised, this was considered. For a full participatory approach, the participants would determine the research question, and therefore also the end point. In this study, the overarching research question is set by the researcher, and the end point is the researcher's thesis – a feature which contradicts the power sharing ethos of participatory research, and I considered that it was more honest to be open about whose agenda was being followed. Nevertheless, the sense of objectivity of positivism, which deems that participants are referred to as 'subjects' and, in so doing, become 'objects' to be studied, was rejected, and the desire to recognise the contribution that participants make to knowledge development suggested that there were principles within participatory research, with regard to how participants are included in research, that could be adopted. Furthermore, I was comfortable with participants gaining their own desired end points as part of the research process, so that, for them, participating in the research might lead to them exploring their own process and practice of reflection, although this is not particular to

participatory research. I decided not to use a participatory approach while including those elements of the approach which respected the contributions which the practitioners made.

Considering phenomenology

The research approach of phenomenology is concerned with finding out the participant's perception of a phenomenon by uncovering the 'real' meaning of phenomena to the participant together with the underlying assumptions, values and parameters which that individual holds, referred to as the 'essence' of the phenomenon in question (Carpenter and Suto 2008). There are different schools of phenomenology; those of Husserl and Heidegger are mentioned here. Husserl developed descriptive phenomenology, which is concerned with detailed descriptions of experiences and uses a form of questioning known as 'phenomenological reduction' to uncover the basis of these experiences. Husserl also suggested that the researcher's experiences and consciousness could be placed in brackets – a process referred to as 'bracketing'. The idea that research values can be 'bracketed' and put to one side contradicts an understanding of human interaction with the world where human understanding and interpretation of events is always related to the previous experience, knowledge and concepts that are held. This did not fit with my understanding of a subjective, interpretive epistemology.

Heidegger's development of interpretive phenomenology, or hermeneutics, sought to look beyond a universal essence and focused instead on the meanings of common practices as people experience them – the situated meaning (Flood 2010). However, for my study it was not the meaning of reflection which was being explored. Heidegger disagreed with bracketing because he thought it was not possible (Bradbury-Jones et al. 2010) and considered the expert knowledge of the researcher to be a valuable guide to inquiry (Flood 2010). These ideas place interpretive phenomenology in an interpretive approach to research and, therefore, one that I should consider. The analytical method in hermeneutic phenomenology is that of moving backwards and forwards between an overall interpretation and an interpretation of part of the

phenomenon in the hermeneutic circle (Walker 2011), or between researcher interpretation and participant experience (Bradbury-Jones et al. 2010, Flood 2010). This sounded good, although when I explored this idea I had already explored the feature of grounded theory that was concerned with theory development, and thought that phenomenology offered a similar, but not a superior nor a more fitting process. The equality of regard for the participant which is possible in Heideggerian co-constitution was consistent with the attitude I wished to maintain but is not confined to a phenomenological approach.

The choice of grounded theory

The approach I chose for this study was the grounded theory approach. This approach is named for an emphasis on the 'grounding' of theory in the data from which the theory arises. Grounded theory, like phenomenology, recognises individuals' multiple truths, gives voice to the participants and explicates the reality of people's perceptions (Carpenter and Suto 2008). Rather than promoting the idea of bracketing, or constructing elaborate methods to avoid doing so, grounded theory recognises that the researcher brings their own bias and assumptions to any interpretation of the research, and deals with this overtly and transparently by declaring this. The phenomenological idea that to stay true to the participant the research can only use participant data is replaced in grounded theory by a recognition that when discovering something new about the world – in creating new knowledge or theory – we do not only draw on one source of information. Acknowledging the ways in which theory is developed, it recognises that it is not only interviews and observations which form the data, but also that theory which is already known and the researcher's own knowledge are sources of information on the subject. This flexibility to draw on a multitude of sources for data and the recognition that the researcher is part of those sources was consistent with the interpretive approach I wished to take in this study. As with phenomenology, there are different branches to be found within the approach. A brief overview of grounded theory approaches from the key authors in the field will now be presented, including some of the key concepts identified with the approach.

Glaser and Strauss

Grounded theory began with Glaser and Strauss. Their development of this approach was an attempt to give primacy to generating new theory in sociology research rather than the emphasis on verification of existing theory which was in place at the time (Glaser and Strauss 1967). They were concerned with the systematic collection of data, and the coding and analysis procedures. A major strategy for coding and analysis in their approach was the method of comparative analysis, or constant comparison, in which they sought to replace the use of explicit coding procedures (where all relevant data are coded with an hypothesis in mind and afterwards is analysed) with a new approach. Two significant features of this new general approach were, firstly, *jointly* coding and analysing, and secondly, explicit procedures for both. Furthermore, the coding and analysis was conducted simultaneously with data collection.

Strauss and Corbin

Following their initial development of the theory, Glaser and Strauss each wished to progress the approach in different directions. Although the changes over time in the approach were step by step and sometimes by small increments, there are points in time at which can be seen significant changes. One such point in time is the approach reached by Strauss and Corbin, who developed and refined the coding systems to include axial coding and the use of a conditional matrix. The degree of detail in their explanations of analytical processes was in order to guide researchers unfamiliar with social science processes through to successful analyses. Rather than considering grounded theory to be a specific methodology, Corbin and Strauss (2008) consider 'grounded theory' to be a generic term about developing theoretical constructs derived from qualitative data analysis. They suggest that grounded theory has been, and should be, used and adapted according to context (Corbin and Strauss 2008 pvii).

Charmaz

Charmaz is recognised as a key author in developing the constructivist approach to grounded theory. Charmaz (2006 p9) suggests that grounded theory is a set of principles and guidelines, not prescriptions or rules. Like Glaser and Strauss at the

beginning, Charmaz also rejects the idea that theory is discovered only from the data, suggesting instead that it is constructed from our past, our present, and our interactions with people and ideas. She aims for interpretive analysis that acknowledges our constructions and emphasises examining processes, studying action and creating abstract interpretations of the data. Charmaz (2008 p61) argues repeatedly for flexible approaches rather than mechanistic guidelines, suggesting that axial coding is not required by those who are comfortable with ambiguity.

Epistemology of grounded theory

Grounded theory has been given multiple epistemological labels. It has been identified as quantitative epistemology, and/or: qualitative, pragmatist, interpretivist, subjectivist, transactional, positivistic, violating positivist assumptions, constructivist, realist, relativist, post-positivist, postmodern, objectivist, dialectical constructivist, based on critical realism or modified objectivism (e.g. Annells 1996, Heath and Cowley 2004). Grounded theory has also been identified as an approach in which theory is discovered or emerges or is constructed (Charmaz 2009) through researcher distance, or researcher integration with growing understanding of the data. Grounded theory has been named an approach, a method, a methodology (Crotty 1998) and a research design (Creswell 2013). Different critics' judgements of the epistemology and ontology of grounded theory are not always in agreement depending on what criteria they take as the basis for their judgements. For example, Strauss and Corbin created a system of coding which Heath and Cowley (2004 p146) suggest 'dictates' the analysis process and 'forces the researcher towards positivist linearity' – turning the emphasis to rules rather to interpretation, while, elsewhere, Annells (1996) judged that Strauss and Corbin had moved towards a subjectivist, interpretivist position due to their recognition of the researcher as a part of the method, not independent from it.

Goulding (1999 p7) observes that in nursing researchers are advised to specify which grounded theory approach they are using – e.g. Glaser and Strauss (1967), Glaser (1978) or Strauss and Corbin (1990) – due to what are seen as significant differences between the authors over the principles of the approach. Heath and Cowley (2004

76

p147) suggest that it is the coding processes (rather than the whole approach) which must be distinguished between Glaser, and Strauss and Corbin, because this is where the philosophical underpinning differs. There is much confusion over what grounded theory is, was and should be (Charmaz 2011 p362). This confusion is not helped by contradictions in the texts of the original authors. Charmaz (*ibid.*) suggests that there are three versions: constructivist, objectivist and post-positivist. Mills, Birks and Hoare (2014 p114) use the labels traditional, evolved and constructivist. Such categorisation of grounded theory may offer clarity for the new-comer to the topic but does not provide the breadth of understanding of the variations and possibilities in each incremental development. Furthermore, attempts to allocate different stages of the coding process to each of these three evolutions of grounded theory does not acknowledge the contradictions which may be found within each evolution. Given these complexities, a detailed history of grounded theory approach is not attempted here; rather, the philosophical approach which underpinned my subsequent choices will be clarified. In order to do this, it is necessary to return to the matters of epistemology and ontology.

Lincoln, Lynham and Guba (2011 p116) refer to constructivist, participatory and critical theory approaches to research as all being examples of interpretive inquiry. Some authors, for example, Smith (1992), distinguish between interpretive research and qualitative research, although Smith's three distinctions between the two, self-reflection, attitude towards rules such as member checks, and procedural choices not constrained by objectivity, fail to recognise the 'emerging confluences' between research approaches observed by Lincoln, Lynham and Guba (2011 p97) and thus serve to underline the similarities rather than differentiate differences. Phenomenology and grounded theory have been considered in this chapter. Each of these approaches has, in turn, a number of differing schools of thought, each identified as being more or less positivistic, objectivist, or interpretivist. The placement of each school of thought sits along a positivist-interpretivist continuum. Along this continuum, the distance away from objectivity and the closeness towards some form of interpretation is what

defines each form; therefore, some consideration will now be given to the nature of interpretation in qualitative research.

The word 'interpretation' means the act of explaining something, to bring out the meaning of something, or to understand something in a specified manner (Allen 1991). In qualitative research, this refers to the explaining of such things as the nuances of human experiences, or the multitudinous nature of people's differing experiences of the same phenomena – phenomena which are not able to be examined in an objective way. Exploring human experience is exploring an internal perception of events where not only is an individual's experience a personal internal truth for them – their interpretation of meaning – but also the understanding of that meaning by another can be only an interpretation of what has been explained, leading to layers of interpretation that Smith (1992) recognised. I understood reflection to be something that each person might have different experiences of, experiences which could not be examined in an objective way. I also welcomed the recognition that any understanding that I reached of people's experiences would be itself an interpretation.

My stance within the grounded theory approach was to choose an epistemological understanding which proposed that knowledge is within us and knowing is therefore subjective, and I chose an ontological approach which considered truth to be multiple. However, when grappling with this position for guiding a grounded theory approach, there are further subtleties to be considered. Schwandt (1994 p118) states that proponents of constructivist and interpretivist approaches share the goal of understanding the complex world of lived experiences and that the act of interpretation is ontologically a way of being in the world alongside the 'object' (*ibid.* p122) of investigation. There is not only a multitude of truths from the different perspectives of the people concerned, but also a plurality of truth because it is expressed in a variety of forms, symbols or language, and truth is also plastic because it is stretched to fit human intention (Schwandt 1994 p125).

Lincoln and Guba's (1985 p41) naturalistic inquiry is a form of constructivist research where the research design is allowed to unfold because it cannot be determined beforehand, because it is not known what knowledge will be constructed between the inquirer and the participants. Lincoln and Guba (1985 p83) also state that the constructed reality which arises from the research should represent the multiple constructions of individuals. This may imply some degree of group consensus, or the researcher's construction of the multiple constructions of participants. However, if reality is multiple then some degree of variation on this consensus must also exist. There may be commonality of truth or understanding because, while knowledge is individual, it is socially constructed and intersubjectively shared (Schwandt 1994 p127). Thus, my ontological position is that I believe there are multiple internal realities with common ground between individuals. I anticipated finding common ground between the participants regarding reflection in practice, while acknowledging there would be degrees of variation from individuals.

Constructivists consider that meaning is individually constructed, while social constructionists assume that meaning is defined by relationships (Mills, Birks and Hoare 2014). While it might be possible to explore the relationship between each individual and their reflection, given that reflection is an internal reality, not an external reality, it was more appropriate to explore the meanings constructed by each individual. Nevertheless, if some consensus between individuals is recognised through the analysis, a theory which has wider applicability than those it was derived from might be possible. This is made more achievable by moving to a conceptual level of analysis and away from an instrumental analysis. Within a conceptual analysis many individuals may be able to recognise their own individual way of reflecting as being contained with some of the overall concepts. Charmaz (2014 p14) reported that early social constructionist approaches to research did not take into account the researchers' processes of constructing the research; her deliberate adoption of the term constructivist was to acknowledge the subjectivity and the researcher involvement in construction and interpretation of the research. However, she also

observed that social constructionism has evolved over the years and that its stance today is now consistent with her approach (Charmaz 2014 p14). More important than which word is used is which set of assumptions is being drawn on. Therefore, I used a constructivist approach which assumed individual understandings of reflection and the subjective involvement of the researcher.

However, Charmaz not only adopts a constructivist epistemology, she uses constructivism from the theoretical perspective of symbolic interaction, which she acknowledges is not the only path through grounded theory (Charmaz 2014 p261). Symbolic interaction emphasises human actions as constructing self, situation and society (Charmaz 2014 p262), with language and symbols playing an important role in forming meaning and actions. It was the emphasis on action, and action shaping interpretation and meaning, both individual and collective action, that I deemed incongruent with my research objective. I was not exploring the meaning of reflection to the participants, nor any meaning derived from their actions or language. (In the event, while I was not intending to explore the meaning of reflection, it is the nature of this methodology to be receptive to what is in the data and I did reach an understanding of some of the meaning that reflection has for physiotherapists.) The emphasis on action can be seen in Charmaz's (2014 p15) approach to analysis, which includes 'analysing actions and processes rather than themes and structure', and also in the encouragement to code with gerunds (Birks and Mills 2015 p19) for 'a strong sense of action and sequence' (Charmaz 2014 p120). Because of this emphasis, I chose not to adopt a symbolic interactionist perspective. Likewise, I also did not adopt Mills, Birks and Hoare's (2014 p112) suggestion of including the interactions between myself and the participants as part of the analysis.

In summary, I chose a grounded theory approach for its grounding of the theory in the data and the flexibility of this approach to allow the research design to unfold in response to the data. I anticipated a co-construction of the grounded theory to an extent which would be more limited than participatory inquiry research. I hoped for

the generation of new theory through adapting the approach according to my context, using flexible methods. I chose a subjective epistemology with a multiple reality ontology which recognised common ground amongst individuals. This led me to a constructivist approach but not to the use of symbolic interactionism, either as an analytical tool or a theoretical lens. Instead, I drew on an understanding of interpretation for the analysis of the data.

Grounded theory methods

Various authors have listed the key concepts of grounded theory, with some degree of consensus (e.g. Charmaz 2006, McCann and Clark 2003). Typically, these are: theoretical sensitivity, coding, memos, constant comparison and concept development. Points of dispute exist over exact procedures for each of these, possibly because some authors view these processes as aligning a particular grounded theory approach with a particular epistemology (e.g. Mills, Birks and Hoare 2014 p114). However, this often appears as more of an historical alignment than an epistemological alignment. For this study, the decisions about procedures for each step did not strictly follow either Glaser, Strauss and Corbin, or Charmaz, but have been selected according to a pragmatic approach which aligns the research process with the interpretive constructivist epistemology. The Grounded Theory Institute (2008) states that grounded theory is not a qualitative method, because it is a general method – it is neither qualitative nor quantitative – although it is more usually used with the qualitative forms of data for which it was devised. It is not the method which makes the philosophical approach, but the philosophical approach which directs the methods. Asking questions of the data, memos and constant comparison are part of the 'thinking strategies' used in a grounded theory approach. These three thinking strategies, together with theoretical sensitivity, coding and concept development, form the six concepts of grounded theory that I drew on for this study. Because of the contested nature of grounded theory, I will explain my choice for each of these six concepts. In this way, I am following Corbin's (Corbin and Strauss 2008 px) advice to researchers to 'use the procedures in their own way'.

Theoretical sensitivity

Firstly, because of its impact on the research process, theoretical sensitivity is presented before the research process is discussed. The other five concepts are all concerned with aspects of data analysis and are presented in chapter six with the overview of the process of analysis. Theoretical sampling is the process of jointly collecting data, analysing data and deciding what data to collect next and where to find them. It is a process controlled by the developing theory (Glaser and Strauss 1967). Theoretical sensitivity is something that operates alongside theoretical sampling and influences the data collection, analysis and emerging theory. The term theoretical sensitivity is used with three different meanings in the grounded theory texts, although these meanings are closely related.

The first meaning refers to what is known before the study. There are two approaches to knowledge of the subject prior to the study. One is to attempt to know very little about the subject in order to avoid pre-conceived ideas and the other is to attempt to know much about the area of interest in order to be informed about what to look for and to later recognise something meaningful in the data when it occurs. Glaser (1978) suggests that the first step is to enter the research with as few pre-conceived ideas as possible so that sensitivity is maintained by remaining open to what is actually happening. Strauss (1987) later suggests that research may begin with a partial framework of knowledge which may indicate where to begin the data collection and the coding and analysis processes. Kelle (2007 p197), however, observes that pre-conceptions are unavoidable, and the idea that they could be put to one side belongs to an 'out-moded view of science'.

The second meaning refers to what is being made known or discovered from the data by the analysis. Corbin and Strauss (2008) describe it as being in-tune to the meanings embedded in the data. Again, the researcher can attempt to begin the analysis with as few preconceived ideas as possible or they can be informed about the subject in order

to recognise what is meaningful in the data; this is different from having pre-conceived coding frameworks.

Being informed about the subject is the stance most often advocated. Strauss (1987) suggests that wide reading in the literature of the field and related disciplines provides perspectives and ways of looking at things. Strauss and Corbin (1990) consider that previous reading and previous experience lead to an awareness of the subtleties of meaning of data, giving the attributes of insight and a capacity to understand which arise from knowing what might happen, how things work in the field, and why things work this way. Corbin and Strauss (2008 p19) suggest that insights into data happen to 'prepared minds'. Bowers (2009 p125) rejects Strauss's (1987) description of sensitivity, considering this to be recognising frameworks or concepts already encountered, which she describes as 'seeing your pet concepts in the data' or finding a theory to explain something rather generating new theories.

Several authors comment that theoretical sensitivity develops as the research progresses. The analytical process itself provides theoretical sensitivity – the insight and understanding increase as you interact more and more with the data. Charmaz (2014 p245) suggests that theoretical sensitivity is developed through the process of theorising – seeing possibilities, establishing connections and asking questions; 'theoretical playfulness', 'whimsy and wonder' can lead to seeing the unexpected and the novel. Strauss and Corbin (1998 p42) recognise the difficulties between maintaining objectivity and sensitivity at the same time, defining objectivity as 'openness, being willing to listen, hearing what is said and representing that as accurately as possible'. Since data collection, coding and analysis are conducted in parallel, the first and second meanings become blurred; therefore I will treat them as one.

The third meaning refers to characteristics and skills of the researcher, which are independent of the study topic. Glaser (1992) describes it as the ability to

conceptualise ideas, rather than describe the data. Bowers (2009) also considers it as an ability to perceive data in abstract or conceptual terms, which moves it to a more theoretical level. Holton (2007) suggests that theoretical sensitivity requires an analytical temperament, which is the ability to remain distant from the data, tolerate confusion and trust in the pre-conscious processing for conceptual emergence, and an analytical competence, which is the ability to draw from various sources and types of data.

Considering my own theoretical sensitivity, at the beginning of this study I had been an academic for nearly 20 years, teaching and facilitating reflection to students of nursing, physiotherapy and other health professions. It would have been impossible to have commenced without awareness and some knowledge of the topic I was investigating. In addition, my decision to be open to a spectrum of forms of reflection required some understanding of what that spectrum might include. I was also aware that it would be possible to re-invent an idea about reflection through lack of knowledge about previous educational thinking in this area. I wanted to be 'sensitive' and aware of what I might be seeing in the data, even though this posed the challenge of seeing something new in what might be familiar territory. Discussions with supervisors provided a means of checking my sensitivity and openness to new ideas. With regard to the characteristics of the researcher, I believed I had good analytical ability and was able to explore topics conceptually. I knew I could be comfortable with temporary confusion. Nevertheless, I was aware that these qualities had not previously been tested to this level.

> *Thinking back on my use of theoretical sensitivity, in practice, I read literature on reflection to prepare for this study and for the ethics committee review. Much later, I re-read the literature on reflection and extended my reading. I noted that my understanding and observations on the literature in the later stages were at a different level from my initial reading. My theoretical sensitivity had indeed developed with the progression of the research.*
>
> *(Research Diary, 5th March 2017)*

Data collection methods

I now turn to considering the data collection methods. Typical of grounded theory studies, this study has several stages of data collection, each one developing the research ideas further. The first stage of the research was to explore the research problem in order to inform subsequent stages of data collection; this was achieved through photo-elicitation interviews with physiotherapists. The second stage explored in more depth the relationship between reflection and physiotherapy practice; this was achieved though the means of audio diaries kept by physiotherapists. The third stage of the research was a verification stage where the grounded theory developed during the research was presented to participants to examine the extent to which they recognised the theory in their own experiences of reflection. In parallel with the second stage, although it is reported sequentially for the purpose of coherence and clarity, an exploration was made of the process of reflection used by physiotherapists through strategies such as walking and other routinized, non-cognitively demanding activities. Data analysis was performed at each stage, but was performed in parallel with data-collection and continuously across the stages. Before the data collection methods are described, an overview of the participants will be presented.

Participants

Participants for this study were qualified practising physiotherapists drawn from a network of colleagues who expressed an interest in the research (for confidentiality, pseudonyms have been used). This focus on practising physiotherapists, rather than students, enabled the focus of any potential benefits of reflection to be on the development of practice, rather than the initial achievement of becoming a physiotherapist, and on real-life reflection, rather than classroom reflection. It also addressed the gap in the literature for studies exploring real-world reflection.

To permit close scrutiny and the development of in-depth understanding in this field, a small number of participants was aimed for. The primacy of theory generation rather than theory testing in grounded theory does not require extensive data (Glaser and

Strauss 1967). This is particularly the case in the first stage of a study where the purpose is to indicate areas of interest to be further explored in subsequent data collection – as was the case here. Seven participants took part in stage one of the study, including two that had been sought out for their reputation as physiotherapists who were actively anti-reflection. Some participants from stage one were keen to be involved in stage two; other participants in stage two were new to the study. Nine participants took part in the second stage. For the third stage (verification), four participants took part. One of these participants was new to the research, one had taken part in stage two and two had taken part in all three stages (Fig. 10). Because some of them took part in more than one stage of the study, between them they made 20 contributions to the research.

Participant (Pseudonym)	Stage One Photo-elicitation interviews	Stage Two Audio diaries	Stage Three (Verification) Audio diaries
Alison	✓		
Macey	✓	✓	✓
Claire	✓	✓	✓
Julia	✓		
Florence	✓		
Pete	✓		
Fiona	✓		
Morgan		✓	
Grace		✓	
Joy		✓	
Diana		✓	
Sadie		✓	✓
Emily		✓	
Brianne		✓	
Tess			✓

Fig. 10: Distribution of participants across the three stages

The characteristics and backgrounds of the participants were explored with respect to the data; however, nothing was found that influenced the evolved theory. Therefore, in order to maintain not only confidentiality but also anonymity of the participants, a

detailed list of backgrounds has not been given, only an overview. In total, 15 physiotherapists contributed to the study; the number of years they had been qualified for at their first involvement with the study ranged from 3.5 to 30. Thirteen of the participants were female and two were male. The participants were encouraged to choose their own pseudonym; some participants preferred to be given an alternative name, although one participant disliked the name I had allocated her and subsequently chose her own, and one of the men chose a female name. The areas of physiotherapy practice represented by these participants were neurology (five), respiratory (three), musculoskeletal (two), paediatrics (three) and community (four); the areas of practice were not all mutually exclusive. One participant worked in private health care, one participant worked in both a private health clinic and the National Health Service (NHS), and all of the others worked in the NHS.

Photo-elicitation interviews

The first stage of the study used initial interviews with physiotherapists in order to explore the general problem area of reflection in practice. This approach is advised when little is known about the area of interest. Glaser and Strauss (1967 p45) suggest that the initial decisions for data collection are based on a general problem area, rather than a pre-conceived theoretical framework, with subsequent data collection being shaped by analysis of the initial data. Corbin and Strauss (2008) suggest that specific research questions are developed from the 'research problem'. This current study began with a specific research question; nevertheless, given the lack of prior knowledge of this area, the first issue was to gain background information rather than to assume that physiotherapists reflected on their practice. This being so, the general problem area or research problem was defined as: 'Do physiotherapists reflect on their practice? If so, what is their reflection like? What do they reflect on and do they think this reflection makes a difference to their practice?'

This general inquiry into the research area of interest was made using photo-elicitation interviews. Interviews are the most common way of finding out about people's experiences in context (Woolner et al. 2001) and the inclusion of visual research

methods enhances this by using visual items such as pictures or photographs to provide an immediate way into discussions about their experiences (Harrison 2002). Much of the research using visual methodologies has used visual phenomena as the topic of study; however, there is also work which uses the visual as a means of accessing data about other topics of interest (Rose 2012). Photo-elicitation uses previously produced images as eliciting techniques during interviews, when asking people what they see in an image can help to explore their orientation to the topic (Rose 2012).

Typically, photo-elicitation uses photographs produced by the participants, which are then discussed in the interview; a less widely used method uses previously produced pictures provided by the researcher (Raduenz et al. 2012). This was considered the most appropriate method for this study given its focus on exploring perceptions of an abstract idea – that of reflection – rather than exploring perceptions of something concrete which has a related visual image. Images are reviewed with research participants with the intention of eliciting their perceptions and narratives of the topic (Cohen and Ferrari 2010). Any meaning that the photographs have is constructed by the viewers (Rose 2012). Thus, through the viewers' explanations of the meaning of the picture in a particular context, perceptions are elicited, providing the researcher with narrative data regarding the pictures being shown. The subsequent discussions around the pictures and meanings in this study facilitated the construction of meaning between the researcher and the participant (Richard and Lahman 2015). The advantage of using photo-elicitation and, in particular, decontextualized images which were not related to the participants nor to reflection (Richard and Lahman 2015) was that the unfamiliarity of approach avoided any practised rhetoric of reflection in practice which physiotherapists might have. Although all the elements of photo-elicitation used in this study can be found across the literature mentioned above, the way that photo-elicitation is used in this study is a development of the more frequently found ways of using it.

Participants were interviewed by the researcher about their experience with reflection in practice. The participants' views on both practice and reflection were sought in order to explore the interaction between the two. A broad understanding of reflection was deemed to be appropriate in order not to restrict any insights into how practitioners used reflection; therefore, no attempt was made to define reflection or to explore only certain forms of reflection. Interview questions were initially developed though reading the literature, and discussions with other researchers interested in this area, and were further developed iteratively throughout the process. The interview schedule guided the interview in a flexible way during the interview (see below). The interview schedule can be seen in Appendix B.

A wide range of photography subjects were provided (n=46) through the use of a selection of glossy coloured greetings cards. At the beginning of the interview participants chose pictures which they considered were meaningful to them in terms of their work (three pictures were suggested), and in terms of reflection (three pictures again). Participants were then asked why they had chosen the particular pictures and what their choices meant in terms of their view of their work and their view of their reflection. The conversations around reflection and practice were then developed in a naturally flowing manner from the meanings of their chosen pictures. Areas of interest to the researcher were explored through questioning as they arose in the conversation. Finally, the interview schedule was checked prior to the conclusion of the interview, to ensure all relevant areas had been covered. It is not possible to include copies of the pictures used in this study due to copyright issues.

Re-focusing the research aim

Stage one had confirmed that physiotherapists do reflect on their practice. It was noted that the participants' accounts were primarily of reflecting-on-action and, whilst this was no doubt shaped by the retrospective accounts being requested, I considered that there were rich data contained in their accounts and that the time which participants spent on reflection-on-action indicated that this was a substantial way in which they experienced reflection with regard to their practice. The participants

reported using cognitive rather than written forms of reflection, mixed with dialogical forms of reflection. Also of interest were the amount of time they spent reflecting, the places they reflected in (which were often outside of the workplace) and the activities they were engaged in while reflecting. The data contained some indications of their perceptions of the value of reflection to their practice; however, at this point, I considered that there was significant information about the way in which physiotherapists reflected which was not represented in the literature and which was worthy of further exploration. This being the case, I considered it inappropriate to continue to explore the benefits of reflection to practice before examining these aspects more deeply. At this point, the focus of my research shifted in response to the data, which is entirely consistent with an exploratory approach to research when examining what has previously been unknown ground. While keeping in mind the potential for reflection to benefit practice, I became more focused on the different ways in which physiotherapists used reflection as part of their practice. This was a subtle shift in some ways; however, I was no longer focusing on outcomes of reflection.

Audio diaries

The second stage of the study used audio diaries with physiotherapists in order to explore further the relationship between reflection, practice and possible benefits to practice. This stage was shaped partly by the initial research question and partly by an understanding of the relationship between reflection and practice that had been developed from data in stage one. The audio diaries were made with the use of digital voice recorders which participants used to record their diaries in the form of spoken narrative.

Diaries have been frequently used in health and social research where researchers are interested in precise accounts of behaviour (Bryman 2001); however, Hislop et al. (2005) suggest that paper diaries limit insights into embedded behaviour in its social context. Audio diaries have previously been used as a means of collecting examples of non-formal learning across a range of practice settings in health care practitioners

(Finnerty and Pope 2005) and reflection on practice in midwives (Nugent et al. 2011),
providing rich data in both studies. Concerns have been raised over the accuracy of
recall in reflection (Burton 2000, Newell 1994), although clinical decisions are made
based on practitioners' recollections of evidence and reflection, notwithstanding the
accuracy of those recollections (Rolfe 2005). In addition, the recall of more meaningful
information in practice increases with greater expertise (Allen and Casbergue 1997),
suggesting a change in the focus of interest between novices and experts rather than a
lack of skill in recall. The use of audio diaries in this study permitted the capturing of
participants' accounts of their experiences while these were still fresh in their minds
(Elliott 1997), whilst avoiding intrusive research strategies in the workplace. Hislop et
al. (2005) suggest that audio diaries are more acceptable to participants than paper
diaries and allow access to otherwise inaccessible data. Worth (2009) notes that
participants valued the convenience of the audio diary. Given the time spent in
reflection which some participants reported, the time efficiency of audio diaries
(Hislop et al. 2005) offered a practical means of diary keeping.

Participants in this study were asked to use the audio diary for one week, recording
any thoughts on their reflections, the situations which prompted them, the focus of
their reflection and any outcomes which may have been reached. The participants'
attention was directed to the area of interest by the use of an audio diary guide
(Worth 2009), which can be found in Appendix C. Participants were encouraged to
make one diary entry each day, although they were free to make as many or as few
entries over the week as they wished; they could also choose which week they made
their diaries in. Nugent et al. (2011) observed that participants needed to use their
diaries in a way that fitted in with the flow of their day-to-day lives.

Stage three audio diaries – the verification stage

The verification stage of a grounded theory approach is undertaken when the theory
has evolved from the data, has been refined and appears stable based on the available
data. Verification is not a commonly found feature of published grounded theory
studies; the grounded theory approach was developed in order to counteract the focus

of the research community on the testing of theories and to facilitate the ability of researchers to generate new theory. This change of focus from testing to generating theory can be seen through the first text of Glaser and Strauss (1967). Verification in later grounded theory texts assumes the function of evaluating the quality of the research (Strauss and Corbin 1998 p226), rather than as a way of testing any hypothesis arising from the analysis. Corbin and Strauss (2008 p305) suggest that the degree of 'fit' between the findings and the participants, and between the findings and interested professionals, is a criterion of the quality of the theory. Charmaz (2006) uses the term 'resonance' as a criterion for a grounded theory study and asks:

> Does your grounded theory make sense to your participants or people who share their circumstances?
>
> (Charmaz 2006 p183)

The evaluation of a grounded theory study is covered more fully in chapter six. In the third stage of this study, the theory was taken to those people whose experiences it concerns to see whether they considered that the theory fit with their experiences. Generalisability is also not the aim of this stage, so a small number of participants was deemed sufficient. The theory was presented in terms that I thought would make sense to them (Appendix D). This acts as a test of the theory – to see if it can be recognised by the participants. Some of the terms were slightly moderated from the concept labels I had been using in the analysis, to ease their recognition. Audio diaries were chosen once again, so that participants could compare their current, real-world reflections with the grounded theory, rather than previous, perhaps partially remembered reflections. A copy of the audio diary guide for this third stage can be found in Appendix E.

Exploring reflection in practice

During this study, I was not only a researcher, but also a senior lecturer in physiotherapy. It was inevitable that new or deeper understandings I found through my research would enhance my teaching of the subject of reflection. In addition to the

three stages of research reported above, during and parallel to the second stage, I actively explored through my teaching practice the ideas about real-life reflection that I had gained from stage one. I trialled various strategies to aid reflection – as previously mentioned, walking (Dalley-Hewer and Opie 2016, Dalley-Hewer, Opie and Knowles 2015) and ways of making space to reflect – in order to facilitate students towards the attitudes, dispositions and skills of reflection rather than academic demonstrations of the same through written models. I did not discard reflective writing, nor the use of models of reflection, but tried to address some of the limitations of previous approaches. A more detailed examination of this exploration is not included here; it is mentioned because this aspect of the practice of reflection changed my understanding of reflection in practice significantly and was the reason for choosing to explore this further rather than focus subsequent stages on the outcomes of reflection.

Evaluation of a grounded theory study

The rigour, quality or soundness of research conducted within the positivistic research paradigm is assessed through reliability, validity and reduction of bias. For qualitative research, these constructs lack applicability and so cannot be used as a guide to rigour. For example, the act of asking questions of someone may cause them to rethink their ideas so that if they were asked the same questions at a later date, their responses could be different and thus reliability – the repeatability of data – cannot be established. In an endeavour to demonstrate that research is worthy, is of good methodological quality, and has rigour, there is a requirement to demonstrate that the explanation that is being proffered by the researcher is as close to the explanations of experience which the participants shared as possible – that the interpretation is 'valid'. Various alternative terms for rigour have been proposed, such as Hall and Stevens' (1991) concept of 'adequacy' and Morrow's (2005) preferred term, 'goodness'. The concept of naturalistic research being 'trustworthy' was proposed by Lincoln and Guba (1985 p289-301) and their criteria for trustworthiness are credibility, transferability, dependability and confirmability.

Credibility concerns the degree to which the constructed or interpreted findings truthfully represent the ideas of the participants, so that the findings are credible to the participants. Transferability is the degree to which ideas from the findings might be transferred to another context or another group of people. The extent to which this can be inferred relies on the match between the participants in the study and the participants or contexts elsewhere, which requires the details of the participants and their context to be made explicit. Dependability is the criterion which refers to consistency of the data. Confirmability is the degree to which the characteristics of the data are confirmable. Confirmability is described by Sandelowski (1986) as being achieved when credibility, dependability and transferability are established, a stance which implies that these criteria are not as easily distinguished from each other as the concepts of reliability and validity are in positivistic research. Indeed, Lincoln and Guba (1985 p318) discuss the difficulties of strategies for ascertaining dependability which are distinct from those which ascertain credibility or confirmability, and conclude by suggesting the *process* of the inquiry should be 'in good order'. Lincoln and Guba (1985 p316) also acknowledge that establishing transferability is 'in a strict sense, impossible' and propose that rich description should be provided in order for others to base their judgements on. One way to summarise the many strategies by which the trustworthiness of qualitative research can be judged is to say that all stages of the research should be transparent.

Transparency is a basic requirement of all qualitative research (Hiles and Cermak 2007 p2), which includes being 'explicit, clear and open about the assumptions made (fully axiological or otherwise) and the methods and procedures used'. Such transparency includes procedures of interpretation and acknowledgement of the heuristic nature of the researcher's developing understanding. In order to be transparent in the decision making process, this would seem to demand an acknowledgement of the way in which my own creative and interpretive thinking proceeds. Feyerabend (2010 p161) proposed that, in science, 'there is not a single rule that remains valid under all

circumstances', due to the 'complex and difficult world which we inhabit', which Kerry, Maddocks and Mumford (2008 p406) interpreted as meaning that methodological constraints may curb the generation of ideas that leads to new knowledge. This is not an argument in support of any quick process, nor an attempt to avoid considerable time spent with the data and ideas. Simon (2001) explains that new ideas arise from people spending 'an enormous amount of time learning or thinking about their science or art' and building upon their own earlier ideas as well as the ideas of others. Lincoln and Guba's (1985) ideas have been criticised for beginning in the positivistic paradigm, and for their attempts to create qualitative equivalents to positivistic criteria rather than acknowledge the inappropriateness of such criteria. Nevertheless, the problem of establishing some judgement of rigour remains and the need for this is probably the most significant factor in the widespread acceptance and use of Lincoln and Guba's criteria (Shenton 2004 p64).

In grounded theory research, Glaser (2004) comments that Lincoln and Guba's (1985) criteria are not applicable for grounded theory due to their positioning as post-positivistic paradigm researchers, although this is contrary to Glaser's stance that grounded theory exists outside of a methodological paradigm because it is a method which can be used by a variety of paradigms. In addition, Glaser suggests that Lincoln and Guba's constructs are all concerned with accuracy in one form or another, and Glaser refutes the idea that grounded theory is based on accuracy, suggesting that the nature of grounded theory generates concepts (which are not facts) that apply as explanations.

This may, in part, explain why trustworthiness does not feature frequently in the grounded theory texts, sometimes having no mention at all (e.g. Bryant and Charmaz 2007). One exception to this is Corbin and Strauss (2008), who list ten conditions for fostering good research, 13 criteria for judging the quality of such research, followed by an additional three criteria. Birks and Mills (2015) provide a brief descriptive overview of the various criteria used by different grounded theory authors, then

proceed to suggest three quite different ways of approaching evaluation – researcher expertise, methodological congruence, and procedural precision – which they suggest give a more comprehensive evaluation than previous criteria. However, Birks and Mills (2015) observe that criteria for evaluating a grounded theory will depend on who is making the evaluation and for what purpose they are making it. This picture of many possibilities in some way reflects the situation in qualitative research in general, where Rolfe (2006 p306) notes that after a quarter of century there is still no consensus on what quality criteria are but that there are many different viable positions. Rolfe (2006) also commented that the quality of a research study is revealed in the writing up of that research and also resides in the written report. An examination of the criteria used for evaluating grounded theory research throughout the grounded theory literature shows that there are two areas of interest for evaluation: one is the soundness of the theory which has been generated; and the other is the process of the research which has led to the theory.

Being mindful of the need for the evolved grounded theory to be judged and for the research process to be judged, for the theory I adopted Glaser and Strauss's idea of 'fit' between the theory and the data, and Charmaz's (2014) idea of 'usefulness'. Usefulness is the idea that the theory might be used by people in their everyday worlds. For evaluating the process of the research, I have tried to be transparent and thorough in detail, so that readers can judge for themselves, while including some features that might be expected in contemporary qualitative research, such as participant validation, peer review, and reflective diary keeping. In addition, I have presented evidence of an audit trail, which shows where the theory is demonstrated in the data. I am aware that different readers will have their own judgements of worth, be they based on methodology, constructive alignment, process, originality or the extent to which this report meets academic criteria. It is neither possible nor desirable to address every possible criterion for every possible purpose of evaluation; therefore, the strategies listed here are not exclusively the measure of soundness, goodness or trustworthiness: the reader is invited to make their own evaluation of worth.

Ethical statement

The Coventry University Ethics committee approved each stage of this research. Copies of this approval can be seen at the front of this thesis and the full documentation can be found in the appendices. For each stage of the research, participants received a Participant Information Sheet (Appendices F, G and H) and a consent form (Appendices I, J and K).

Confidentiality has been maintained for the participants through the use of pseudonyms. I was also mindful of anonymity, and when selecting data for use in illustrating the theory I passed over data extracts which contained information such as personal hobbies, and work or life circumstances which I thought might be identifying, in favour of data extracts without such identifiers.

Chapter Six: Grounded Theory Analysis

Introduction

The key concepts of analysis found in the grounded theory approach are presented in this chapter, along with an explanation for the choices made for this study. In doing so, this chapter combines methodological discussion and specific detail of how each concept was applied. Where it might be helpful, examples from this study are given to clarify the application of the concept. Much of the grounded theory approach used by Glaser is devised for areas of research about which nothing is known – in contrast to my study in which I already had a particular focus of interest. Much of Strauss's analysis, as explained by his examples, is about teaching the analytical process and developing the analytical mind, rather than recipes for research processes. Thus, neither approach appeared to be ideally suited as an appropriate analytical strategy for this study.

The process of coding in grounded theory is presented as a broad range of options, but one by which the soundness of a study may well be judged, despite Urquhart's (2013) acknowledgment of the difficulties for researchers in providing the wealth of detail of the analysis in publication. While some authors have advocated taking the approach of a particular experienced grounded theory researcher (e.g. Goulding 1999), this study has taken a pragmatic approach to selecting the process for analysis, which is guided by the data, the emerging ideas and the researcher's strengths. Some scholars have assigned particular philosophies and epistemologies to one grounded theory author or another, although there is dispute amongst them which depends on which criteria they have selected for their judgement (as discussed in chapter five). The ambivalence of possible epistemological origins of the analytical processes may contribute to the potential for selecting different components from across the analytical methods without switching epistemological stance.

It is not uncommon in published studies using the grounded theory approach to provide audit trails from initial code through concept, then category, to theory. What is important for the robustness of research is not whether an audit trail can be produced, but whether the integrated theory can be found in the data. This study will identify where the integrated theory can be found in the data or from stages in the analysis. Examples of selective coding, memos and theoretical coding are shown here to demonstrate thoroughness of approach. However, the only meaningful audit trail is the link between the end theory and the participants' data, either from the transcripts of audio diaries or interviews, or from the event analysis process (Appendices N, O and P). The degree of 'fit' between theory and data is one way of evaluating the rigour of the theory which has been developed, as was discussed in chapter five.

The key concepts and methods of analysis

The first of the six key concepts of grounded theory, theoretical sensitivity, has already been addressed in chapter five. The remaining five concepts, which all pertain to data analysis, have been presented in this chapter. These key concepts are: coding; the thinking strategies of asking questions of the data, writing memos and constant comparison; and, lastly, concept development. To aid concept development I used a theoretical coding family which had evolved from the analysis. In addition to these five concepts, I also used haiku (a form of Japanese poetry) and storyline development. Although these were not part of the main analysis, being applied after the theory development, they served as a useful check on the developed theory and my ability to express it clearly and consistently. While both the haiku and the storyline are presented in chapters seven and eight with the findings, the explanation for both of these processes is given in this chapter.

Coding

Coding forms the initial stage of the analysis of data in grounded theory research, which has given grounded theory its strong reputation for being a coding process. The term 'code' in grounded theory is closely connected to the terms: *coding*, *code*,

concept, and *category*; however, as Bryant and Charmaz (2007 p17) observe, some writers use two or more terms synonymously.

Coding is the process of applying labels to a section of text known as a 'unit of meaning' (Carpenter and Suto 2008). The section of text is often referred to as a 'segment' in grounded theory literature – or an 'indicator', because the text indicates the evolving theory. The term *incident* in Glaser's 1992 text seems to mean the same as Carpenter and Suto's unit of meaning, although this is not explicit; however, Holton (2007) explains that incidents in the data are indicators of theoretical ideas, which supports this similarity of meaning. I used the phrase 'unit of meaning' because this stayed close to why I might have chosen to code a section of data. I have not adopted the term 'indicator', considering that it is only later in the analysis that I will know if the unit of meaning is an appropriate indicator or not. Star (2007 p83) views a code as a matter of both attachment (recognition of something known) and detachment (an objective observation) simultaneously, which gives some insight into this labelling process. I have used coding to mean the process of applying labels, or naming – not the whole process of analysis, of which coding is but a part.

The term 'concept' is also used throughout the literature on grounded theory; Glaser (1978) suggests that codes should be conceptual, thus beginning the development of conceptual ideas from the start of the analysis. Glaser suggests that describing the data is not developing theory and that, therefore, descriptive labels should be avoided. In this study, I have used the term concept to mean an idea. I have used concept words for codes. I have also used non-concept words, which will be explained below.

The last term to be considered alongside coding is the term 'category'. Glaser and Strauss (1967) advise that codes can be sorted into categories, which suggests that categories are groups of codes. Glaser (1992) and Corbin and Strauss (1998, 2008) explain category as a type of concept with a higher level of abstraction. In this study, the term category refers to a higher-level idea, under which several codes may be

grouped, or just one. This interpretation of category is similar to the themes which are generated in thematic analysis (Braun and Clarke 2006). The code label from initial coding was carried through to a category label if it fitted.

The process of coding

The quest in coding is theoretical meaning (Glaser 1978); however, the original text by Glaser and Strauss (1967) omitted specific information on 'what to do'. Strauss (Strauss 1987, Strauss and Corbin 1990) later attempted to provide the missing detail for the benefit of novice researchers without a sociological background. This detail notwithstanding, Strauss and Corbin (1990) explain that analysis is a process of making interpretations, which does not imply rigid adherence to a particular process. It is a free flowing, creative process which moves swiftly back and forth between types of coding (Corbin and Strauss 1998). This process of analysis will now be explored through the steps of open coding, choosing codes, the approach to coding, and coding mechanics.

The coding process begins with initial or open coding. Initial simply means the first codes that are created; some authors prefer the term open coding to emphasise that the aim of coding at this point is to 'open up' the inquiry, and that every interpretation is tentative at this point (Strauss 1987). According to Charmaz (2006), the openness of initial coding can spark thinking which speed and spontaneity help. Despite the early simplicity of 'name the code' (Glaser and Strauss 1978 p30), in the later literature there are a variety of approaches to choosing the words for codes. One approach is to use in-vivo codes, which are codes that use the words of the participants (Glaser and Strauss 1978). Charmaz (2006) recognises three types of in-vivo codes: the ones that everyone knows; the innovative term that captures experience; and the insider term specific to a particular group of perspectives. Examples of these three types of in-vivo codes or phrases from my data would be: 'reflection to direct self-learning' (Alison, stage one interview); 'gunshot reflection' – the reflection that practitioners have to do for their appraisal as a condition of further employment (Pete, stage one interview); and 'the R word' – a derogatory term used in a particular setting to denote the

unbalanced emphasis on reflection over practical skills (Pete, stage one interview). In this study, concept words, descriptive words, substantive, in-vivo or action words were all used for codes in order not to constrain the insights into the data. For example, in the first interview transcript I used the conceptual code 'timing', the descriptive code 'constant change' and the action code 'looking differently' (Alison, stage one interview).

Simultaneously with naming the code, the ideas generated by coding need to be captured and collated. Glaser (1978 p71) gave some practical advice on what he called 'coding mechanics', advising researchers to write in the margins of the page, which keeps the code and the unit of meaning close together. In this study, I began with reading and listening to whole interviews or audio diaries and the transcripts. On a practical level, this allowed checking on participants' meaning, the amending of transcripts, and indicating where tone of voice suggested a meaning which differed from the written transcript. Since it is impossible to 'not think' about what has been read and heard, early ideas arose, which were then noted. For this I kept a research diary which contained my thoughts on my own processes in the data collection and data analysis stages, and analytical memos about possible meaning or patterns in the data. I wrote codes in the margins in the first instance, coding line by line. After comparing apparently similar incidents and codes across the data, which was mostly a mental exercise, I began to recode some of the data for best fit. I switched back and forth between making comparisons between codes and making comparisons between incidents. Then I used the collections of similar codes (categories) to further explore ideas and begin to identify the nature of the categories.

During this process, I experienced a challenge to my understanding of analysis through the coding process, which is explained here:

> *I had the first two interview transcripts; I had read and re-read them, listened to the audio recordings, made reflective and reflexive memos and had completed line-by-line coding. I was not using the form of constant comparison coding*

*which requires painstaking definitions of each code and continual comparison with previous instances of that code before proceeding and so was able to generate codes and ideas freely. I left the transcripts a while whilst musing, reflectively, on the 'problem' of what was in the transcripts – what was the truth contained in them that I was seeking? In this reflective mode, I made sense of the information and mentally suggested certain themes in the data. I went back to the transcripts with the intention of drawing the appropriate codes together to explore these ideas further. I had performed this exercise before in other research and wasn't expecting a problem. To my shock, none of the ideas I had for possible themes were in the codes. So, did this mean I had completely invented these ideas? I reviewed the transcripts, and the ideas which I had generated **were** in the data: I could legitimately re-code, and then draw the appropriate sections together for further exploration. What I couldn't do was to provide a direct audit trail from codes to themes without presenting the re-coding as initial coding; however, this would have opposed ideas I held about the transparency of the research process. Nevertheless, I could provide a direct link between themes and data; I had not 'made it up'. I was equally certain that without the line-by-line coding process I would not have arrived at the insights to be found in the data.*

(Research Diary, 5th April 2012)

This challenge caused me to look further at the process of the analysis and interpretation of research. Two authors in particular have attempted to distinguish between the two processes, Wolcott (1994) and Spiggle (1994). Wolcott (1994 p11) recognises that part of the transforming process includes 'all that other intangible stuff in one's head' and Spiggle (1994 p497) observes that interpretation is of an 'intuitive, subjective, particularistic nature'. This returns to the idea that, even where the process of data transforming is systematically undertaken, there are unmeasurable, unchartable connections of thought at work. To emphasise this point, while there may be features in research which could be recognised as being more analytical, or more interpretive, even the analytical stages (and, indeed, the descriptive stages) are an interpretation; thus, all processes and all conclusions are interpretations, which concurs with Denzin and Lincoln's (2011) conception of qualitative research as a set of interpretive activities.

Wolcott (1994 p10) considers analysis to extend beyond description of facts, to be a 'systematic way of identifying key factors, and relationships among them', while

interpretation is 'to make sense of what is going on, to reach out for understanding or explanation' of the data. Spiggle (1994 p491) refers to the dual process of analysis and interpretation as 'inference'. Spiggle (1994 p492), like Wolcott, observes that there are generally no distinctions made between analysis and interpretation, suggesting that both terms are used to refer to the process of reaching conclusions, and to the product of those conclusions. Spiggle reminds the reader that analysis is about breaking down something into smaller parts, which she considers can be achieved by dissecting, reducing, sorting, and reconstituting data; Spiggle calls this *data manipulation*. Spiggle considers interpretation to be where one construes the sense or meaning of something, and elaborates that this can be 'higher-order, more abstract conceptual layers of meaning' which are constructed from the data.

Despite the extensive consideration of the separateness of the analytical and interpretive processes, Wolcott (1994 p11) nevertheless considers that they are not mutually exclusive processes, that the line between them is not clear, and that it would be difficult to present either analysis or interpretation in a pure form, suggesting that they are rather varying emphases. However, in Spiggle's (1994 p493) classification of the operations which may be involved in the process of analysis, she suggests that the operation of abstraction can move empirically grounded categories into 'higher-order conceptual constructs', and that, through abstraction, analysis can go beyond the identification of patterns in the data. The proposal that analysis can move beyond identification of patterns in the data suggests that Spiggle and Wolcott have drawn the metaphorical line between analysis and interpretation in different places, which underlines the possibility that these two processes are not distinct. Spiggle's use of the phrase 'higher-order conceptual constructs' for both the process of analysis and for the explanation of interpretation also implies that the two processes are not dissimilar, and instead may be similar, overlapping processes. Spiggle's use of the umbrella term 'inference' further indicates the closeness between the two processes, which likewise suggests that they are not separate, even if there are, as Wolcott suggests, different emphases.

Furthermore, in the operation of 'reconstituting data' listed by Spiggle, a researcher must surely need to move into synthesis rather than analysis, with the resultant new shape into which the data are reconstituted being an interpretation. This echoes Wolcott's recognition that even description is not objective because not only does a researcher decide what to observe, what to notice, they also choose how to share the observations with others. What they share may create something similar to but, according to Wolcott, never exactly the same as what was observed. The attempt by Wolcott and Spiggle to differentiate between analysis and interpretation has drawn out the difficulties of doing so; this difficulty may arise from the underlying issue, which is that both are part of the interpretive approach to qualitative research, and neither process is objective: both require subjective, personal thought processes.

The preferencing of strict systematic processes would seem to stem from an inherent distrust in anything of an un-objectifiable nature, and, therefore, an espoused theory or theory-in-action (Argyris and Schön 1974 p7) of using qualitative, interpretive characteristics whilst showing a theory-in-use (Argyris and Schön 1974 p7) which uses positivistic objective characteristics. Smith (1992) observes that, for interpretive researchers, observation is not objective because there is no external, single reality from which one can be properly detached. He suggests that the term 'subjective' has negative associations of lack of objectivity, and thus a failure to remain detached from the research, rather than a positive valuing of interpretation. This lack of value for interpretation stems from the positivistic requirement for research to be replicable. The generation by Glaser and Strauss of the highly systematic process of analysis was acknowledged by them to be a response to achieve recognition (from a positivist research community) of qualitative research. The standards of quality for positivist research are not appropriate for this qualitative study and the standards for evaluating a grounded theory study have already been explored in more depth in chapter five. Moving on from the process of coding in qualitative research, I now consider the remaining key concepts of the grounded theory approach.

Thinking strategies – asking questions of the data

Corbin and Strauss (2008 p67) suggest that 'thinking strategies' are analytical tools which can help to make sense of the data. Three thinking strategies are asking questions of the data, writing memos, and making comparisons. All of the authors advised using the strategy of asking questions of the data (e.g. Glaser 1978, Strauss and Corbin 1990). Some of the questions proposed seem to arise from the particular approach of the research, whether it is sociological, symbolic interactionist, constructivist or using situational analysis. Often the questions are in series, for example:

- What process is at issue here?
- How does this process develop?
- How does the participant act while in this process?

(Charmaz 2006 p51)

Another example of sequential questions is:

- What is the main concern being faced by the participants?
- What accounts for the resolving of this concern?

(Holton 2007 p275)

Corbin and Strauss (2008) suggest that there are eight groups of questions which can be asked. As an example of the range of these questions, three of these groups are:

1. Temporal questions about frequency, duration, rate and timing
2. Spatial questions about the size of the space, where the space is, whether it is open or closed
3. Sensitising questions that aid insight into what is going on, what this may mean to the people involved, what their definitions might be

(Corbin and Strauss 2008 p71)

Corbin and Strauss (2008) suggest that, as the questions are asked and answered, the researcher is developing concepts and then finding their dimensions and properties;

however, Star (2007) suggests that abstracting (conceptualising) does not require a full specification of the properties.

The implication of the long lists of potential questions from Corbin and Strauss, and the variety of questions from different authors is that there is no definitive set of 'grounded theory questions'. The overall aim is to discover what is in the data; the questions are a device to facilitate insights. In this study, the questions I asked were:

What is in this data?

What patterns are there?

What is there that I already know (recognise)?

What is going on here?

What is this data telling me?

What is there here about the value of reflection?

What concepts are relevant to my research question?

What phenomena are interesting?

What is surprising?

What is hard to understand?

What are physiotherapists doing for their reflection?

These are the questions that I began the analysis asking. The questions evolved over time with the developing theory; examples of later questions are:

Is this an example of the category of *Understanding* or is it *Seeking?*

What information from the data am I using to decide?

I did not attempt to use the questions for the purpose of full specification of properties; however, I did return to the data to analyse it further when questions and their answers seemed to offer meaningful insights.

A second thinking strategy is the writing of memos. Like coding, this is recognised as being one of the key aspects of grounded theory and is listed as a key characteristic in several texts. Holton (2007) explains that memos are theoretical notes about the data and the conceptual connections between categories. Holton considers that the basic goal of memo writing is to develop ideas with complete conceptual freedom and to transcend initial descriptive coding to a conceptual level of abstraction but advises that memo writing differs from writing detailed descriptions. This is in contrast to Strauss's advice on detailed memos which record the dimensions and properties of concepts and categories. Corbin and Strauss (2008) advise the reviewing and sorting of memos as part of the analysis; this is 'sorting' by idea. Holton (2007) observes that the researcher's own memos can in turn be coded, which extends Glaser's coding of the researcher's field notes. Memo writing facilitates analytical thinking about the data, although there is some diversity of thought over the content of memos and whether particular systems should be used. In this study, I wrote memos in the form of a reflective diary. I captured ideas that arose from the data and any possible connections between the ideas. For example:

> *Potential concepts from the research so far?*
>
> - *Self-monitoring/checking/policing – backward looking?*
> - *Questing/seeking/searching – forward looking?*
> - *Finding answers/posing solutions/pathways to solutions – looking to now?*
>
> *Are these practice benefits?*
>
> <div align="right">(Research Diary, 12th October 2012)</div>

I did not use memos for detailed description of all codes or concepts generated. I sorted through the memos to revisit ideas and monitor the development of ideas, although I did not perform analysis on my own memos. I recognised my role as co-creator of theory; however, I wanted to stay as close to the participants' views as possible. I shared some memos with my research supervisors as a way of communicating my current thinking on the analysis and for feedback. This sharing of

my evolving thoughts, of the latest iteration of the theory and of the words used to label the ideas added to the rigour of the research. If an analytical idea had merit, rather than explore my memos, I returned to the data to perform further analysis there.

Thinking strategies – making comparisons

The last thinking strategy to be considered is that of making comparisons: this is known in the grounded theory approach as 'constant comparison'. In the original text, Glaser and Strauss (1967 p101) describe constant comparison as being the process of jointly coding and analysing. Alternatively, this term refers to an analytical process of comparison of different pieces of data for similarities and differences (Corbin and Strauss 2008); these comparisons can be performed within cases and across cases (Strauss 1987). Charmaz (2006 p53) suggests that comparing dissimilar events is also helpful. For Corbin and Strauss (2008 p65), the researcher can also make theoretical comparisons which can stimulate thinking about the properties and dimensions of categories. In this study, comparisons were made between data within and across cases, between data and developing ideas, and between data and theoretical understandings of reflection. Much of the time, these comparisons were made in my head; only those comparisons which yielded insights or contradictions to be explored were recorded.

Conceptual development

The last of the key concepts of grounded theory to be considered is that of conceptual development, which is whether and/or how the analysis is lifted to a conceptual level which might provide a theory, rather than merely description of the data (which has its place). This may be where various authors diverge the most in terms of the process of analysis. Broadly, Glaser advocates moving through selective coding to theoretical coding drawing on theoretical coding families, while Strauss advocates selective coding followed by axial coding and the use of a conditional matrix. Both of the originators of the approach refer to selective coding, and once again have different concepts of what this might be. Charmaz (2006) explains that, following initial coding, the researcher

then selects the most useful initial codes – this becomes 'focused' coding, which uses the most significant of the initial codes to sort, synthesise, integrate and organise the data. For Charmaz, this begins the theoretical integration, which is more conceptual than initial coding. For Glaser, selective coding is part of the process of delimiting categories, leading to a core category from which the relationship to other categories can be explored. Strauss (1987 p33) explains selective coding as coding systematically *for* the core category. He then advises delimiting coding to only those codes which relate to the core category, which is subtly different to exploring the other codes in relation to the core category. Glaser and Strauss (1967) considered that the number of cases required is not critical: a single case can generate a conceptual category and coding need only be enough to generate or suggest theory. In this study, codes which appeared to be more meaningful were selected for further analysis. Codes were deemed meaningful if they added to the current theory, or if they captured a variation of an idea, captured something unique, or captured a contradiction. In this analytical process of selective coding, re-coding and amendments to theoretical ideas were continuously performed.

Theoretical coding families

Given Glaser's (1978) statement that the quest in coding is theoretical meaning, it is not surprising that he refers to *theoretical coding.* Glaser (1978) describes theoretical codes as codes which conceptualise how the substantive codes may relate to each other; theoretical codes are hypotheses which may be integrated into the theory. A category may be part of the emerging theory; however, Glaser's (1978) understanding of theoretical codes expands the idea of categories to include relationships between ideas. The beginnings of Strauss's later axial coding can be seen in this early attention to the relationships between other codes. Glaser (1978) proposes theoretical codes of 'cause and effect' and 'conditions for'. Glaser (1978) gives in detail some examples of what he calls theoretical *coding families*, which he acknowledges represent traditional sociology. The coding families appear to be referring to sociological ideas as theoretical codes – i.e. role, status, power relationships etc. However, his emphasis is the

emergence of theory – thus, the theoretical coding families emerge out of the data as connections between categories and their properties (Glaser 1992).

Charmaz (2006) observes that there are no criteria for identifying coding families, while Kelle (2007) critiques Glaser's coding families for their mixture of formal and logical categories, and substantial sociological concepts or theories. Charmaz (2006) observes that the analysis may take into account several of Glaser's coding families, which are neither exhaustive nor mutually inclusive. Charmaz (2006) suggests that using concepts from your discipline may help the analysis if the concepts help explicate what is happening. After I had been coding and analysing for a while, I realised that I had developed from my reading of the data a coding family which drew on elements of theory from the reflection literature for its framework. For example, in my study the prompt or trigger for participants' reflection acted as a theoretical code. Fig. 11 shows my coding family and identifies where I drew the concepts from. For greater detail on the origins of these concepts, Kember (2001) discusses the broad nature of possible triggers to reflection, while my consideration of the content reflected on was informed by the ideas and authors presented in chapter three, on models and modes of reflection. The concepts of purpose, time and space were drawn from my analysis of the interview data in stage one of this study. The concepts of the nature of the effects, and the value of reflection were directed by a deliberate search to address the research aims of this study. This coding family was used as a framework for an event-by-event analysis of the reflections shared by the participants in stage two. Examples of an event analysis can be seen Appendix L; there were a total of 84 events analysed in this way.

Theoretical concept	Derived from
Triggers to reflection	Recognising patterns in the data from known theory
Content – what was considered	Recognising patterns in the data from known theory
Purpose of the reflection	New patterns noted in data
Timing – frequency, length of time	New patterns noted in data
Space – where was it performed (what activity being done at the time)	New patterns noted in data
Nature of the effect of the reflection	Purposeful seeking to address the research question
Value of the reflection	Purposeful seeking to address the research question

Fig. 11: *The theoretical coding family*

A word on axial coding

Rather than the terms 'theoretical codes' and 'delimiting the theory', Strauss (1987 p21) refers to the seeking of 'dimensions, properties and core categories'. A significant aspect of Strauss's approach is the core category: this is a category which is central to the integration of the theory, rather than merely a step in the analysis. Strauss and Corbin (1990) initially described axial coding as making connections between categories, later using the term 'crosscutting' for this process (Corbin and Strauss 2008). However, a fuller description of axial coding includes discovering the core category and analysing around the *axis* of one core category. Charmaz (2006) considers that axial coding may limit insights by restricting the codes which are constructed, indicating the tension between the ideas of a coding paradigm (core category/axial coding) or a theoretical coding family, and the avoidance of pre-conceived coding categories. Charmaz (2006 p61) suggests that those who prefer flexible guidelines and can tolerate ambiguity do not need to do axial coding: they can follow the leads that they identify in their empirical materials, developing subcategories and links as ideas as the data progresses rather than using formal procedures.

Conceptual development in this study

In this study, I did not use the formal procedures of axial coding; instead, I drew on theoretical concepts from the relevant theoretical field of reflection, such as modes of reflection, in the manner of theoretical constructs which were recognised in the data rather than as a pre-determined coding paradigm. Once categories were provisionally suggested, there was a process of delimiting categories in order to refine, clarify and check their validity. This drew on and simultaneously created my coding family, together with other variations I noted in the data, such as the direction of the reflective attention – forwards or backwards in time. These variations were dynamic and were modified over the course of the analysis as my ideas developed – part of the delimiting process. I already had the main theme of the research through the focus of interest, which was exploring any benefits to practice that reflection might offer. Whilst this did not act as a core category, it did shape some of the analysis through providing some of the questions asked, and contributed to the construction of the categories. Following stage one of data collection and analysis, I developed an interest in the relationship between walking and reflection which I then explored in some of my teaching (Dalley-Hewer and Opie 2016). My explorative deviation into walking and reflection can be seen as evidence of being open minded to what was in the data.

The process of analysis in this study

The key concepts of data analysis used in this study have been presented above. The key concepts were used across the three stages of data analysis for the most part. For transparency, a brief outline of the analysis through the three stages of the study is now given. The stage one interviews were audio recorded and transcribed, and copies of the transcripts were returned to the participants. This allowed them to judge if the written words of the transcript correctly captured their ideas, and also to modify content if, after some thought, they had clarified or changed their ideas. The data were then explored through initial coding of each transcript, followed by comparison across transcripts. The comparisons within and across transcripts began early in the data

analysis, to inform subsequent data collection. Selected themes which were thought to be significant were further explored through a return to the transcripts.

To check whether my analysis and interpretation were sound, I returned to the data to compare my ideas and, in addition, I shared some complete transcripts and developing theory with my research supervisors, and my analysis was subject to peer review by another researcher, who agreed with the findings and made further suggestions. From the stage one analysis, four forms of reflection were identified: 'monitoring', 'solving', 'questing' and 'obeying'; and the forms were labelled 'functions'.

The stage two audio diaries were also transcribed and transcripts returned to participants. This not only provided an opportunity to check the participants' perceptions but also provided participants with a written copy of their reflections for that week – a benefit of taking part in the study. Data analysis of this stage again began with line-by-line coding in order to be thorough, to ensure that attention was given to all data equally and to be open to what the data might contain. At the same time, I was aware of the new information I had gained from the first stage and attended to that in my consideration. It was during this second stage that I developed the theoretical coding family and used this as a framework for an event-by-event analysis of the data (see Appendix L). The forms of reflection being explored were now relabelled 'purposes', and two further purposes were identified: 'making sense' and 'examining self'. With continued analysis, the purposes were re-coded for best fit as they became more distinct and developed with the evolving theory. The final category labels arrived at were: *practising worthily, demonstrating worthiness, making sense of self, making sense of other, seeking a solution* and *questing* for better practice.

As I explored the data, one comparison that I made with theory was through the device of mapping. This mapping exercise looked at the reflections shown by the participants and 'mapped' them to modes of reflection that I recognised from the literature. I wanted to be sure that I was not just re-naming modes of reflection which

had already been recognised. To uncover distinctions between the theoretical categories, I asked further questions of the data. For example, 'If the category of *practising worthily* maps to Taylor's (2010) technical reflection, but is not the same, then what is the difference?' The answer to this question was that the mode of technical reflection concerns what is reflected on while the purpose of *practising worthily* concerns what is reflected for. *Practising worthily* may be a reflection on the technical aspects of practice but may alternatively be a reflection on other aspects of practice. Taylor's (2010) modes of reflection were a helpful comparison; in contrast, Schön's (1985) reflection-in-action and reflection-on-action were so commonplace that they gave no further insight or understanding.

Haiku

Poetic inquiry is a term that describes the use of poetic and creative thinking to analyse and draw conclusions in research (McCulliss 2013 p83). Poetic inquiry practices can be used for the representation of participant interviews or other data (Prendergast et al. 2009a p305). The process of writing poetry or thinking poetically, because poetry is characterised by compression and the economy of words (McCulliss 2013 p89), helps us to 'collect the most relevant themes and phrases out of the sea of information available to us' (Prendergast 2009b). The haiku is a very short form of Japanese poetry, often written in three lines with the pattern of five, seven and five syllables in each line (Wikipedia 2017a) which has been drawn on for presenting research (Prendergast et al. 2009a). I did not use the process of poetic inquiry as part of the main analysis of this data; however, towards the end of the analytical stages of the research, I performed the exercise of composing a haiku for each category to explore (or to 'test') whether each category contained a different idea of reflection. Russell (2003 p99) suggests that haiku can be used to 'position our thoughts'. As a tool to explore the position of my thoughts, I found it interesting to discover how the sense of each category can be captured through this form. I present them in this research with each purpose of reflection in chapter seven. My apologies are extended to anyone skilled in poetry writing.

Storyline

Writing the storyline is a tool suggested by Strauss and Corbin (1998) to assist in articulation of thoughts regarding the theory. This can be at a descriptive level, attempting to articulate the most significant features of the data, or at a conceptual level, writing the 'story' of the evolving theory. While I did not use storyline writing as part of the analytical process, it was useful as a tool for communicating the theory and distinguishing between the different reflective purposes. I used the storyline technique to create the 'constructed physiotherapists' that explain the thoughts and behaviour that typify each purpose in the grounded theory in chapter seven.

Chapter Seven: A Grounded Theory: The Purpose of Reflection for Physiotherapists

Introduction

A grounded theory of reflection used by physiotherapists is presented in the next three chapters. The elements of the grounded theory concerned with the purpose of reflection are presented in this chapter, the elements of the grounded theory concerned with the benefits of reflection are presented in chapter eight, and the nature and practices of reflection by physiotherapists which provide the practice context of the theory are presented in chapter nine. In this grounded theory, the central concept of 'purpose' provides a way of looking at the reflection that physiotherapists use. In this theory, I propose that there are three higher order purposes of reflection, which are *Understanding, Being Worthy* and *Seeking.* Each of these purposes or categories has two sub-categories. The reflective purposes will be explained using the narrative device of the 'storyline' technique suggested by Corbin and Strauss (2008). Each storyline will describe a typical physiotherapist reflecting for that purpose. These physiotherapists are not real: they are composite constructions. The constructed physiotherapists are all female because, of the 15 participants in this study, 13 were female, and this pattern of more female physiotherapists is repeated in other published studies for physiotherapy and reflection. Because these storylines are constructions, real-life examples from the participants will be used for illustration. There were many examples in the data which could have been used to illustrate the purposes of reflection. For brevity, I have included only one or sometimes two representative examples to illustrate each point. Some of the differentiating details between the reflective purposes are best understood by using some of the concepts from the theoretical coding family, so these are included in the descriptions along with an indication of the prevalence of each purpose. Finally, some tentative conclusions are proposed.

The purposes of reflection

In the course of exploring the nature of the reflection which physiotherapists reported as part of their practice, I developed the idea that physiotherapists reflected for differing purposes. The idea of modes of reflection is not new and has been reviewed in the chapter on models and modes of reflection, drawing on the work of Walsh (2009), for example. However, some of the ways in which reflection was used by the participants in this study did not seem to be explained by existing modes of reflection. Specifically, the modes of reflection previously identified did not recognise the different purposes for which physiotherapists reflect.
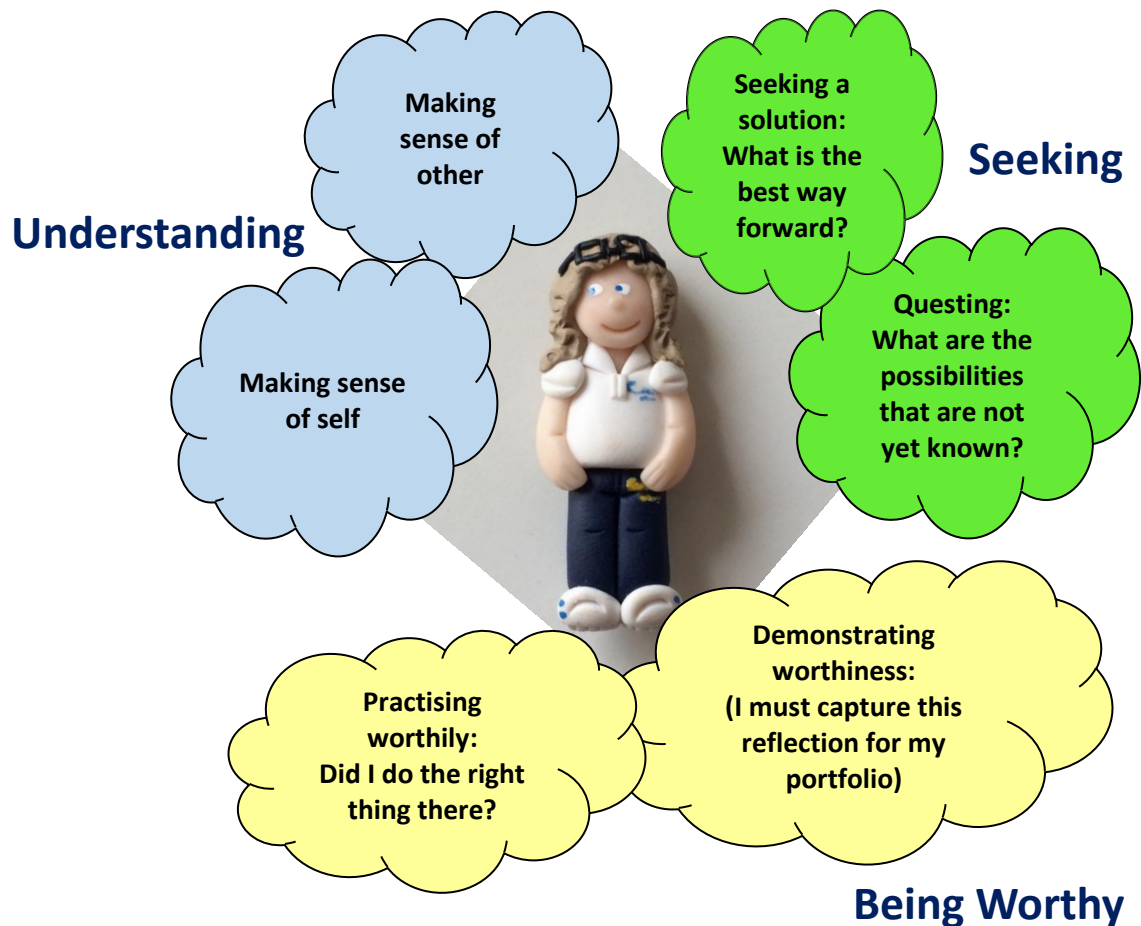
Fig. 12: *The purposes of reflection for physiotherapists*

Each higher order category of reflective purpose has two sub-categories. The higher order purpose of reflection for *Understanding* includes *making sense of self* (understanding self) and *making sense of other* (understanding others or other things). *Being Worthy* includes the purposes of *practising worthily* (monitoring own practice) and *demonstrating worthiness* (showing worthiness to others). *Seeking* includes the purposes of *seeking a solution* (seeking the best solutions to problems and situations in the near future) and *questing* (seeking the way to an inspirational level of practice). These are indicated in Fig. 12.

That different topics can be reflected on has been described before; for example, Ghaye and Ghaye (1998) proposed a model of reflection that focused *on* different areas of practice such as context, values and improvements, and Taylor (2010) proposed that reflection could be *on* technical interests, practical interests or emancipatory interests. However, the idea that this usage or purpose may shape the actual reflective process is a new way of understanding reflection and a helpful way to explore the value of reflection to practice that has evolved as the grounded theory has developed. These higher order concepts are now presented in more detail and the sub-category purposes explored. For each reflective purpose, a haiku is given. The haiku form was used to capture succinctly the nature of each purpose.

The purposes of Understanding

This reflective purpose has been presented first because it is closest conceptually to an understanding of reflection gained from the state of perplexity of Dewey's (1910) reflective thinking, the reflection-on-action of Schön's (1983) theory and the re-evaluating experience of Boud, Keogh and Walker's (1985) model of reflection presented in the chapter on models and modes of reflection. It concerns the way in which physiotherapists use reflection purposely for understanding or making sense of things.
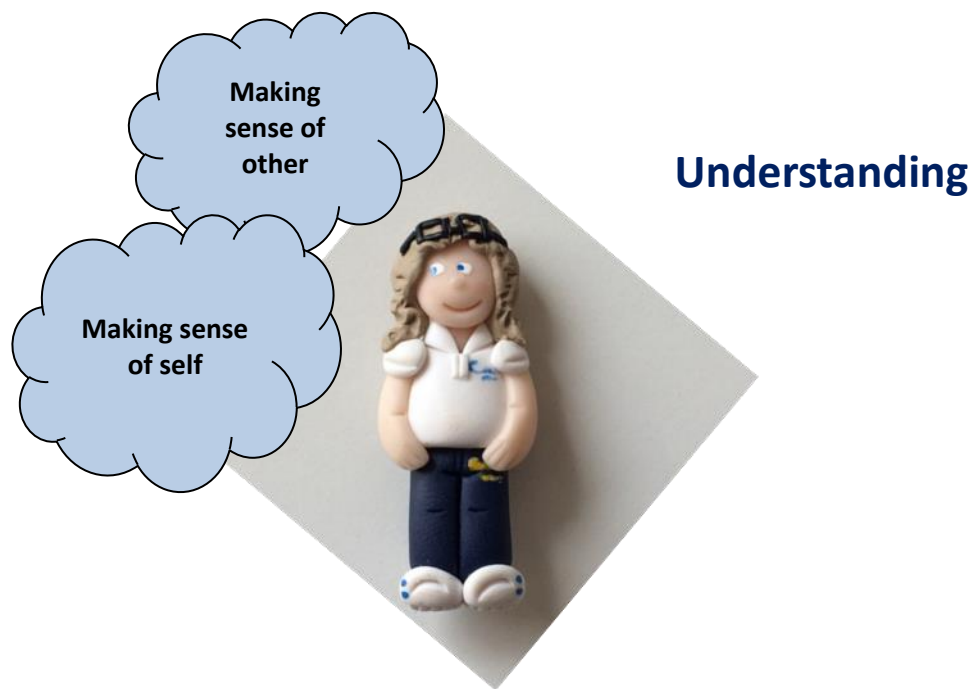
Fig. 13: *The purposes of Understanding*

The sub-categories are *making sense of self* and *making sense of other* (Fig. 13)*.* Reflecting for understanding is using reflection in order to make sense of experiences, usually for complex situations or for the unexpected. The idea of making sense of something is common in the literature on reflection and as such is highly recognisable as reflection. Looking at the storylines for the purposes of *making sense of self* and *making sense of other* will help to explain these reflective purposes further.

The purpose of making sense of self

Storyline: Ursula uses reflection in order to understand something about herself. She finds that it helps her to understand why she has acted or spoken in a particular way, or why she feels what she feels in response to an experience or to another person. This may be a simple understanding of behaviour in respect of her experience, or it may be an understanding of herself in respect of the whole of her approach to practice. She may reflect on herself as an individual, herself as a professional, or her assumptions of her professional role in a given context, and how she might best fulfil that role. In making sense of herself, she reflects on her responses, choices or pre-dispositions.

The questions which Ursula poses for herself include questions such as:

> Why am I uncomfortable?
>
> Why have I been reluctant to act?
>
> Why did I respond like that?
>
> Why do I find this so challenging?
>
> What type of physiotherapist am I?
>
> What is influencing my decision and is that right?

This may lead her to question what this means for her practice.

The participant Macey shared an example of this when she was faced with mobilising a patient who was 35–40 stone (222–254kg) in weight after his stay in intensive care. He was on a special bed which made standing difficult and there was no appropriate hoist:

> *So, over a course of four or five days, I am aware that he is on the caseload and we need to get mobilising him…he is still a little bit confused, I am still not very comfortable with the bed he is on and I am sort of a little bit stuck.*
> *(Macey, audio diary)*

After the physiotherapy team of four had made a first (safe) attempt to get him into a standing position, Macey reflected on the attempt and on her reluctance to deal with this earlier:

> *I have also reflected around the fact that, because I do not feel in control of the situation because he is quite a large gentleman and I am quite short, that I do not feel that I have been particularly proactive like I might be in other situations, so that has made me feel like it is an area I need to address in my own development, to become more comfortable with bariatric patients.*
> *(Macey, audio diary)*

It is a journey of discovery in order to find herself, and it may transform her. Ursula may discover a vision of herself in the professional role, and then seek to enhance or to change that enacted role, as the participant Morgan did:

I think as a physio I always want to go in there, feel as though I am able to do something to improve the patients a lot, maybe be very active with them, and I recognise now that I'm going into this thinking: 'Oh, I must do something, I must be positive, I must be able to do something,' and that's not always possible and I need to sit back and think about it a little more.

(Morgan, audio diary)

Storyline: Ursula's attention is usually directed to the recent past, although she may sometimes recall the more distant past. She uses an internal mode of reflection for this, reflecting on her thoughts, feeling, reactions, responses, fears and concerns. She may reflect on her values and her view of her professional role. Sometimes, Ursula will reflect on other people's values, where these trigger a reflection into the values that she holds or where the values or vision of physiotherapy held by someone else appear to be at odds with her own values and beliefs. At these times, she uses this comparison to reach a deeper understanding of herself.

A Haiku for *making sense of self*:

I look inside me,

I think, I feel. Understand

being human now.

The purpose of making sense of other

Storyline: Uzma uses reflection in order to understand something about another, where the 'other' means other than herself. She reflects on another person or other people, or an experience or observation that she has made. It is something outside of herself. Uzma reflects on the response of a patient to treatment, either their deterioration or their rapid progress. She also reflects on how the system of health care works for a particular patient or a group of patients, examining the system and system constraints and possibilities. Uzma uses it for trying to understand the context in which she works. Using reflection for *making sense of other* helps her to make sense of other people's behaviour or motivations. She finds that it can explain the unexpected – whether the unexpected was a pleasant surprise or an unpleasant one.

Uzma may also reflect on the relationship between two factors: for example, the impact of a patient's mood on recovery from a stroke. She also uses reflection for *making sense of other* in order to make sense of new knowledge, training or teaching in the context of her practice. At its simplest, she will use *making sense of other* to map things out, in a list or a description of factors. She makes this list to make sense of the situation before making a decision.

The questions which Uzma poses for herself include:

> What just went on there?
>
> Why did he act like that?
>
> Why isn't this working?
>
> What is the nature of the problem here?
>
> How does this compare to previous cases?
>
> Why is this so different?
>
> What is it that I don't know?
>
> Why is she upset; why does she appear angry?
>
> How did we help her?
>
> What are the options?

When using *making sense of other* for a mental review of the day, she finds that it helps in understanding what might happen next, what can be expected at the next encounter, or what she might do next. The participant Claire explains how she provides a role model of reflection for students like this:

> *I'd verbally talk through the arguments I have with myself about this problem, or suggestion, or whatever it is, so I will actually talk through what I'm thinking. What does that mean? Does it mean this? Does it mean that? Does it mean the other? What do I think it means? What do I think the person who's asked me to do it, what do I think they mean? …and then I said I've come to an answer for me and that helped me to sort it out in my mind.*
>
> *(Claire, interview)*

Storyline: Uzma's attention is usually directed to the very recent past – this morning or yesterday, for instance. Equally, she may direct her attention to the here and now, when she might ask herself, 'What do we have here?' She uses an external mode of reflection for this, reflecting on what is happening outside of herself in the behaviour and responses of other people, their possible thoughts and feelings. Uzma frequently uses *making sense of other* as a preparatory stage for the other purposes, although sometimes she uses it as an end in itself. The participant Morgan gives an example of this:

> *I was able to make an appointment to see one of the senior physios and, thankfully, she spent 20 minutes with me this morning just teasing apart what I had done with the patient, thinking about why the patient was acting the way they were, what the patient's choices were, what protocols we would normally suggest…thinking that I needed to draw a line in that I needed to accept that the patient declined and to see that as patient choice, but then also to think about my responsibility in the interaction but also the patient's responsibility in the action.*
>
> *(Morgan, audio diary)*

For some of the participants in this research, *making sense of other* included making sense of reflection prior to completing the audio diary entries. This was possible because the audio diaries were a snapshot of the participants' reflections from the day, not spontaneous reflection, and participants chose which reflections to share. Some of them reflected on the nature of a theoretical construct when they sought to understand reflection, either in terms of what was wanted for the audio diary, or the difference between reflection and doing, or reflective practice and 'normal' practice. When participants were reflecting on the distinction between reflecting and thinking, they drew on their thoughts and reflections, but their mode of reflection might be deemed an external mode because of the making sense of the theoretical categories of thinking and reflection. It was the questions that the participants asked themselves that determined that this was making sense of reflection, rather than making sense of their own thoughts, and this distinction determined that this reflection was an

example of *making sense of other* rather than *making sense of self.* As the participant Joy records:

> *My first piece of reflection is about what actually constitutes reflective working. There are no guideline notes and, having had a conversation with other members of staff, we really feel quite unclear as to when normal working practices stop and reflection begins.*
>
> <div align="right">(Joy, audio diary)</div>

A Haiku for *making sense of other*:

<div align="center">

Think on them, for the

insight there that hides itself

from my perplexed view.

</div>

The purposes of Being Worthy

This reflective purpose concerns the way in which physiotherapists use reflection purposely for maintaining and demonstrating their worthiness. The name for this category was chosen after being for some time in the analysis with the label of 'monitoring' because *being worthy* was deemed a better fit. The term comes from the motto of the Chartered Society of Physiotherapy, which is *Digna Sequens* or 'following that which is worthy'. This idea of worthiness was a part of the very conception of the profession of physiotherapy, which was addressed in the earlier chapters, and a perusal of our professional history shows that it has guided the actions of the CSP and its members ever since.

Being Worthy

Practising worthily:
Did I do the right
thing there?

Demonstrating
worthiness:
(I must capture this
reflection for my
portfolio)

Fig. 14: *The purposes of Practising Worthily*

The two sub-categories are *practising worthily* and *demonstrating worthiness* to others (fig. 14). Both categories mirror the concerns of the founders of physiotherapy as they sought to establish respectability and status for the betterment of patients. Whilst there may appear to be overlap between these categories in that they both involve a checking on practice, the focus, purpose and nature of each is different. The purpose of *demonstrating worthiness* also has other features which distinguish it from the other purposes of reflection for physiotherapists. Looking at the storylines for these two purposes will help to explain them further.

The purpose of practising worthily
Storyline: Wendy uses reflection in order to consider her own practice, which means that her reflection features a constant checking or monitoring of her practice. She mentally checks that everything she did was appropriate, that what she did was the best of all alternatives and that she left nothing out. She also reflects in order to check if she could add anything else to her treatment approach or if it is time to change her plan. Wendy likes to make sure that she has done her best, that she has been professional and given an acceptable level of service. At the back of her mind, she

knows she needs to have done the right thing in order to protect herself from complaints or legal procedures; however, the main reason that she uses reflection for *practising worthily* is not litigation protection, but rather to make sure that she has provided the most benefit for her patients so that she can be satisfied with her own practice. She uses reflecting for *practising worthily* in order to maintain standards of practice for the good of the patient, for the reassurance and satisfaction of knowing that she has done her best.

The questions that Wendy poses for herself include:

> Did I do the right thing?
>
> Have I missed anything?
>
> Was that the best thing to do?
>
> Did I do the best thing of all the options?
>
> Did I consider everything?
>
> Was my decision making process sound?
>
> Did I do everything I could have done?
>
> Do I need to do anything further – such as refer to multi-disciplinary team or higher management, or communicate with anyone?

Wendy reflects using *practising worthily* for a broad scope of reasons. This is not only checking what she has done but also why she did it (clinical reasoning) and whether her decision-making process was sound. She may also consider whether she understood everything, and whether she reported on everything that she needed to. Part of checking her own practice for the physiotherapist may include how well a patient is progressing in response to the treatment delivered or how well a system for service delivery is working. Her purpose may include protecting herself where health and safety issues are the focus of the reflection. She focuses on her actions, what she did, what she said, how she said it and what her general approach to the patient was, or what goal she was trying to achieve. Like this physiotherapist, the participant Alison uses reflection for *practising worthily* continually in her practice:

You know, just basically going back over things and thinking, you know, am I on the right track, have I done the right stuff? You know, have I got to improve? This is what I'm doing – as good as I can be. How can I improve that? ……did I do it in the best way?

(Alison, interview)

Storyline: Wendy may reflect on the actions of others where managerial or teaching roles are held, or might reflect on the patient response to treatment or approach, as the participant Grace did:

I reflected during treatment to try and analyse some of my decision making and try and modify my approach directly. I then reflected again whilst writing my notes…… The reflection was prompted really due to concern regarding the mobility status of this patient and the potential difficulty nursing staff may encounter, but also the potential safety risk for the patient when transferring.

(Grace, audio diary)

Like Wendy, Grace frequently checked her decision making; it seemed a constant part of her work:

The reflection took place whilst writing my notes, but also at the same time trying to give a verbal handover to a senior colleague. It was prompted due to a feeling of concern regarding the outcome for the patient. It was a critical discussion and reinforced my clinical reasoning, and whether anything could be done differently. [I re-visited it throughout the day.] By the end of the day it was beneficial because it highlighted my thought processes during the on-call situation.

(Grace, audio diary)

Storyline: In an alternative form, Wendy uses *practising worthily* when she is checking someone else's practice – particularly the practice of a junior member of staff for whom she holds managerial responsibility and where her own role has an impact on the junior's work. Although she considers the work of others, it is the implications for her own practice which make this part of her reflection *practising worthily.* Her purpose may be in maintaining the good standards of others where she has

responsibility for junior staff or students and for the safety and protection of patients, junior staff and other professionals such as nurses.

When Wendy is monitoring her teaching role, her questions might then become:

> What can I offer that will help someone else to understand this?
>
> Is my teaching working?
>
> How are others responding to my actions?
>
> Did they do it all right?

As the participant Joy reports:

> *We reflected on my band 6, acting as band 7 in my absence, and how that went, what were the positives and what were the negatives.*
>
> *(Joy, audio diary)*

Storyline: When using historical comparison as a reflective strategy, Wendy might ask herself:

> What have I done before that might be useful here?

Her attention is most often directed to looking back on something that had just happened, whether that was this morning, yesterday or earlier in the week. She looks further back in time if she is using historical events to inform her thinking on a current event, or back to some training she has had. She also directs her attention to what is happening right now, by reflection-in-action on an unfolding event. She uses an external mode of reflection when she considers what has been done in the world, either by herself or by others; however, she uses an internal mode of reflection if she is exploring her own decision-making process or if drawing from her memory for an historical event.

It is often the nature of the questions that determine whether a reflection is for *making sense* or for *practising worthily*. There is a close relationship between some forms of *making sense* and *practising worthily*; however, there are forms of each of these which are quite distinct and help to define the categories.

A Haiku for *practising worthily*:

I strive for greatness.

Work hard, learn, change, adapt to

help patients improve.

The purpose of demonstrating worthiness

Storyline: Winnie uses reflection in order to show other people or demonstrate that her physiotherapy practice is worthy. Winnie's concern is that others know her practice meets the grade. She may use *demonstrating worthiness* to show the standard of her clinical practice or to show that she is a reflective practitioner. Winnie shows, through *demonstrating worthiness*, that she has done what she should have done so that she might be seen to be doing what is right. She uses *demonstrating worthiness* when she needs to provide reflection to meet a particular purpose. Winnie's emphasis is on the evidence that she can produce, rather than on her own practice, even though the evidence is about her own practice. She aims for evidence to demonstrate her competence and to show that she has conformed to and met the relevant standard. Winnie's writing may take the form of written reflective pieces, portfolios or appraisal forms. Winnie's attention is given to showing that she has complied with the system for scrutiny. Winnie may wish to make sure that she gets through her appraisal or that she complies with professional standards by preparing her portfolio. From time to time, Winnie uses *demonstrating worthiness* in order to achieve success at interview by demonstrating reflective ability.

Winnie does not pose herself questions when reflecting for *demonstrating worthiness*; instead, she makes statements such as:

I must capture that reflection for my portfolio.

Winnie has implicit questions in her mind such as:

>Can I demonstrate reflection at my appraisal?

>Have I performed correctly for the system?

The participant Pete provides an explanation for why written reflection is different from learning from reflection, after reflecting on a patient:

>*Let's say I see this chap for a couple of weeks and then he is getting better: I think, 'that was good'; I will think to myself, 'glad I worked that out'. What I won't do is write it down and I won't go, 'I must write all of that out,' because I won't find that of any use to me, because I won't go back and read that.*
>
>*(Pete, interview)*

The participant Diana echoes this:

>*When I am doing reflections, if it's something I have initiated myself, [when] I am not doing a reflection for my CPD file because I have been on a course and I have to do a reflection, [then] but when I think about it, I probably do not spend as long reflecting on them at any one time than I thought I would have done, but I do revisit these reflections quite often. I think if I have got to do a reflection for my CPD folder because I have been on a course, the reflections take longer but they are over and done with and I very rarely return to them.*
>
>*(Diana, audio diary)*

Storyline: Winnie directs her attention to capturing past or capturing the now, in preparation for the future need to show worthiness. Winnie may write about an historical action but her focus is on a future anticipated point of scrutiny and the audience is always kept in mind. The participant Pete provided evidence for his portfolio which he viewed as driven by other people's needs:

>*I'd be sitting there going 'right, where's my evidence?' sort of stuff because you'd have to have evidence for all the KSF [Knowledge and Skills Framework] aspect. And so, you'd have to go 'okay, one or two pieces for all of these things, right.' I'd look at it and go, 'have you done it? Yes. Have you reflected on it? Is there evidence? No...' Okay, to satisfy a need of someone who is not me to have it written down. We have to, as in gunpoint. The boss is making us reflect and if*

The purpose *of demonstrating worthiness* is quite different from *practising worthily*. Unlike the paired sub-categories of the other higher order purposes, there is no point of continuity between them. *Demonstrating worthiness* is not about being worthy, it is about showing worthiness. The same historical echoes of worthiness of standards, respect and status may exist, but here it is about standards of appearance. The drive for worthiness which began the profession of physiotherapy in 1894 appears to be the same drive which typifies practitioners today. It might be questioned whether this is indeed reflection at all; however, it is included here because it is a form of reflection which is instantly recognised by many practitioners. With the emphasis on the written documentation of reflection which seems to have coloured so many practitioners' views of reflection, it is important, firstly, to recognise this purpose as a significant part of professional reflective practice and, secondly, to explore the great contrast it offers to the other purposes of reflection. Perhaps the reason that evidence of reflection contributing to practice is not seen in portfolios and reflective writing is because that is not what people are writing for. Professional portfolio entries are written to demonstrate learning or achievement, not practice contributions. While *demonstrating worthiness* is quite distinct from *practising worthily*, the reflective material for *demonstrating worthiness* can draw from reflections for *practising worthily* or from any of the other material. In this way, it always follows one of the other purposes.

A Haiku for *demonstrating worthiness*:

Get the tick, the badge.

I conform and show greatness;

permission to do well.

The purposes of Seeking

Reflecting for the higher order purpose of Seeking is about prospective reflection, looking ahead to an event or to possibilities, as in Boud, Keogh and Walker's (1985) preparatory reflection. This is usually complex, where the way forward is not clear, and incorporates *seeking a solution* or the best way to go about something or a proposed plan (Fig. 15).

Seeking

Seeking a solution: What is the best way forward?

Questing: What are the possibilities that are not yet known?
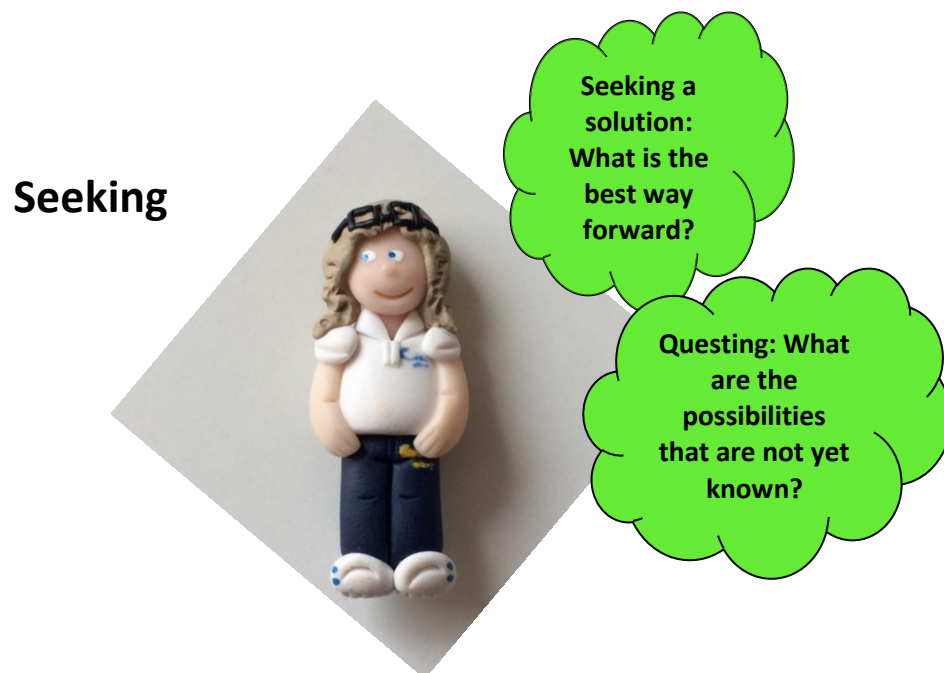
Fig. 15*: The purposes of Seeking*

Although close to the purpose of *practising worthily* at times, it is differentiated from *practising* worthily by the direction of attention. *Practising worthily* and *making sense of self/making sense of other* all begin with looking backwards, considering what was just done, before moving onto the implications of the reflection for the future action. Reflection for Seeking begins with an event in the future, which needs preparing for. Reflection for Seeking is not the forward element of planning that is made after a retrospective reflection; it is forward planning in response to a problem or potential problem in the future, although this may be the immediate future.

Because of the ongoing nature of some patients' treatments, especially in neurology or paediatrics, it can be found alongside *practising worthily*, where it is usually addressing a problem that has not yet been encountered in the course of that patient's therapy. This highlights that the difference between the two can sometimes be subtle. It may also precede *practising worthily*, where the plan which has been put into action is then reflected on in turn. In order to make successful plans, it may be woven together with *making sense of other*, in order that the plans draw on the best options.

The purpose of seeking a solution

Storyline: Sophia uses reflection for the purpose of *seeking a solution* in order to, as the title suggests, find a solution to a problem, usually a problem that she is anticipating or something in the future; a novel problem rather than a problem she has experienced in the past. In reflecting for *seeking a solution*, Sophia tries to work out what she needs to do, or how she needs to do it. Sophia will use *seeking a solution* for problems of an interpersonal nature, when she needs to go about something which involves other people, in the way best calculated to bring about the result she desired, or to gain her idea of the best outcome. Sophia uses it in order to prepare well for the forthcoming event, which might be a meeting with management, a meeting with junior staff, or a meeting with patient's relatives, for example. Sophia may also use it to decide whether to do something or not. Sophia also uses *seeking a solution* in relation to service delivery, where she might consider future service needs and her service-delivery planning. It may look similar to *practising worthily* where data is reviewed before the decision is made, however, Sophie's direction of attention is more to the present – what is available, what are the options, rather than a monitoring of what has gone on before. Sophia may include in her consideration, identifying the nature of the problem that is faced, and considering the influences on the problem. She may also consider issues in the light of preventing harm, where the safety of the patient or of other staff are involved.

The questions Sophia poses for herself are:

What is the best plan?

What is the best way forward?

What is my way forward?

What will we need in the future?

Should I do this or not?

Do I have all the information I need in order to decide?

What else do I need to know?

What options are there?

From the participant, Sadie's audio diary, here is an example of *seeking a solution*:

"I am covering for my clerk who is on holiday. She will be retiring [soon] and I'm sat here panicking about how we will manage or how I will manage and what I will manage really. It is not physio, but without the work she does, clinics wouldn't happen, appointments wouldn't be made, [gives long lists of tasks]. We have appointed a new member of staff but we don't know when she will be starting and she's not familiar with the health service so shall need training from scratch, and sitting in the office today and I'm thinking that we don't just start where we were before because she's left a good list of the work she does, but it is an opportunity to look at how the physios and TIs…use the clerk, what a clerk does, what the physios and TIs do. Are we using everybody in the most efficient manner? Are our office processes most efficient? We will use this time of change to not keep doing things as we have been doing"

(Sadie, audio diary)

The purpose of *seeking a solution* is finding the best way to go about something. It may include preparing self – for a meeting, for example, by gathering information or thinking about the possible outcomes. This may include thinking about the constraints and possibilities of the organisational system that is worked in – not 'what could I possibly do?', but 'what can I do here?' In this way, it differs from questing which is presented below. Its purpose is to come to a decision as to the best way forward. The participant, Claire thought all around the problem when asked to join a meeting at a special school to discuss the therapy programme the teaching staff had been asked to do, which was problematic:

"I thought about what might be the issue here, some of the issue is probably around the staff feeling quite vulnerable because they've got a new head teacher, I think she's making lots and lots of big changes, I also don't think that the head teacher understands the therapists' role within the school but I am making assumptions here, it may be that school staff feel, now that they've got a different head teacher with different ideas that they could actually use this as an excuse for not following therapy programmes, or there may actually be a real problem here, and that they are having a lot of other things put on them and they're just feeling over stretched and probably slightly demoralised. Or it may be that the head doesn't understand the impact of this particular therapy, or she may not even realise that her staff are refusing to do it"

(Claire, audio diary)

Storyline: Sophia directs her attention always forwards when reflecting for this purpose. She looks ahead; most often the immediate future but sometimes the longer-term future. Sophia considers what her future actions or approach might be. She mostly uses external reflection for this, considering the opportunities, possibilities and constraints, although sometimes she also uses internal reflection when she is considering what her personal goals might be. This differs from the CSP (2016d) reflection for action in that reflection for action concerns planned learning (as Boud, Keogh and Walker's (1985) preparatory reflection) whereas *seeking a solution* is anticipating an event, not a learning experience, and is looking for a solution, not aiming for a state of preparation.

A Haiku for *seeking a solution*:

Seek, what can I find?

The treasures of practice that

will answer the clue.

The purpose of questing

Storyline: Like Sophia, Stephanie uses reflection for the purpose of *questing* when she is trying to seek solutions to problems, although her purpose here differs from *seeking a solution* in the important aspect of imagining things that might be possible that have not yet been imagined. Stephanie uses *questing* when she is looking for a solution that

is not yet known to anyone. She is searching for a vision of imaginative, creative, new possibilities. Stephanie is seeking to be a better physiotherapist, but unlike when reflecting for *seeking a solution*, in *questing* she is trying to extend the boundaries of physiotherapy, possibly even creating new paradigms. The treatment of respiratory problems through mobilising the patient rather than through breathing exercises would be one such historical example of *questing*. Stephanie may reflect solely on her own practice to extend the boundaries of physiotherapy and imagining a new possibility of treatment to address the needs of a particular patient such as Julie did, for example. The participant, Julia, had chosen the photograph of a kingfisher in the photo-elicitation to represent reflection, because she said that:

> *"the Kingfisher is ploughing through the unclear water, through the muddy water, trying to find clues".*

Which she then followed up with:

> *"if I need to reflect, to go away and stand back and reflect on the case and relate it to previous cases or read up on evidence, I need time"*

While reading featured a lot in her reflection, Julia said that she did not rely on literature alone:

> Julia   *"I rely on my inspiration. That's a key word for me.*
> Jayne   *"Where do you think your inspiration comes from?*
> Julia   *Well, that touches a religious part as well*
> Jayne   *So if you have a difficult clinical problem and you're concerned, you would pray about it?*
> Julia   *I would do, though not actively pray. Also, I'm religious, but I will just keep thinking and then it comes – flying.*
>
> (Julia, interview)

While it is difficult to capture succinctly, it was clear from Julia's account of her way of working that she did not consider routine practice, or other people's routines of practice, to be limitations on what she might do to help a patient make progress.

Storyline: Stephanie may quest for a vision that will change the practice of physiotherapy, for a particular client group – to envision something new that all physiotherapists can adopt, to change the future of physiotherapy as the participant, Florence attempted to do:

> *"Yes, so for example, we are more aggressive now than we have ever been in how early and aggressively we mobilise post-op patients. And that is because I have pushed and pushed and pushed and mobilising a patient 150 meters on day two post-op is normal, not all looking at [the previous practice of] ten meters one day and 20 meters the next, 30 the next. I've moved to this point."*
> *(Florence, interview)*

Stephanie's quest may be for the individual or for the practice of physiotherapy, but her reflection is individual. The questions which Stephanie poses for herself are:

What is the best that physiotherapy can possibly be for this patient?
Is there something that no-one has thought of before?

This purpose of reflection was rare; only two participants (Julia and Florence) shared this purpose of reflection and a third participant (Macey) identified it the verification stage. While most physiotherapists tried to be the best that they could be within known parameters, only two tried to change the parameters of practice. This purpose contrasts with the purpose of *seeking a solution* where the solution concerns service delivery such as the participant, Sadie reports (see page 135), by this sense of seeking something which has not yet been thought of rather than seeking the best of known possibilities. The purpose of questing is always to offer the best to the patient that can possibly be offered, whether it is one patient and one individual practitioner's question, or all patients in a clinical group and the purpose is offering the best that physiotherapy can to all of these patients across all physiotherapists in this field. In contrast to *seeking a solution, questing* does not ask:

What could I do here?

But:

> What could I possibly do? Which might be followed by:
>
> How do I achieve that?

Storyline: Stephanie directs her attention to the future. It is difficult to suggest what might 'typify' this purpose on the basis of these examples, however, I tentatively suggest that it is the longer-term future that might be imagined here. Stephanie uses an external mode of reflection for a vision of something that has not yet come to pass, on what might be done rather than on her internal landscape, even though her thinking is an internal process.

I thought I had two brand-new, previous uncharted purposes – *seeking a solution* and *questing*, since these were the two that did not map well to established modes, but following a post-data collection conversation with Florence from stage one, it is possible that seeking-questing may map to Taylor's (2006) emancipatory reflection, in the sense that one has to see beyond the 'oppression' of our habituated practice/custom and practice and liberate our practice from that oppression. It is this liberation from our habituated practice which might lead to paradigm shifts of practice. In our post-interview discussion, Florence said that that "not enough questing is done". Florence thought that physiotherapists should be questing about what we can do or what can be done, not simply doing more of what we already do better, but of finding a different vision for practice. When I think of historical figures who might be examples of this, I think of Berta Bobath in neurological physiotherapy or Louis Gifford in musculoskeletal physiotherapy, both of whom were outstanding people with a radically different vision for physiotherapy practice in their area. That it is key historical figures who come to mind suggest that this is not normal or commonplace practice.

> A Haiku for *questing*:
>
> > What? How? Possibilities
> >
> > can my inner eye now see
> >
> > the future might be.

The purposes of reflection for physiotherapists

Firstly, a few words are required on the naming of some of the purposes. The label for the core category of 'purpose' arrived quite late in the research process, being 'function' in earlier stages of analysis. Function has other implications and associations, specifically, in research it might be associated with a functionalist approach which was not taken in this study. Therefore, the word 'purpose' was tried for 'fit' with the evolving concepts, and provided a very good fit without the unwanted associations of the word function. *Questing* evolved quite early in stage one of the study and remained stable throughout, however, it gave slight problems in the verification stage where one participant interpreted it as 'seeking something'. Of course, a quest is a search, however, in my mind I had wider notions associated with questing such as 'questing for the holy grail' and the quests engaged in by heroes and heroines in mythology. Which is to say that questing is a special type of searching. It maybe that it was the label of *questing* which was problematic rather than the category itself because discussions with the participants suggested that they could easily understand the concept of questing as being different from searching. Other labels presented no problems to participants.

In the reflective accounts, each of the reflective purposes may occur alongside other purposes, with the accounts often containing two, and occasionally three of the purposes intertwined. Not uncommonly, one purpose of reflection prepares the way for another purpose of reflection. I think of these relationships as transitions between the purposes. As previously mentioned, that the purpose of *demonstrating worthiness* always comes after one of the other purposes. Nevertheless, each of the purposes can also be found in isolation from each other, which supports them being separate purposes. Understandably, the purpose of *seeking a solution* typically precedes the purpose of *practising worthily* in the form of reflection on the success of a devised plan or solution. This is illustrated by Macey's account of seeking a solution (*seeking a solution*) to a staff problem, where the starting place for reflection was in checking what had already been done (*practising worthily*):

"we have had an issue where we have had to cover a (on-call) shift using our emergency ladder, and the person we had to approach, has gone, you know, a bit mad in the sense that she does not want to cover the shift and she has gone to UNISON. Firstly, we decided that we felt that what we are asking the individual to do was right and fair, so it was a reasonable request and secondly, that it was fair in that we were not asking her to do anything untoward. We made a very clear plan that we discuss it with our line manager and then we would discuss it with HR and check that we have got their support and then we would sit down and be honest with the individual, if she wanted to continue with UNISON, we will be happy to do that"

(Macey, audio diary)

The solution they arrived at was successful, Macey reported that "*we reached a positive resolution, UNISON was not involved*". She also reported that:

"my reflections have been two-fold really, firstly to deal with the problem in the right way and secondly considering how far I feel I have come as a line manager following the quite difficult staff I had to manage in (a previous position). My reflection has been around just how much I learned and have evolved from my previous role and how things like being threatened with unions, a few years ago would have terrified me, whereas now I am quite comfortable with understanding the process."

(Macey, audio diary)

The idea of seeking *a solution* is recognisable from the literature on reflection, although much of the emphasis from the literature is in the form of retrospective event analysis such as Gibbs (1988) and Johns (1995) where the focus is on past practice in order to shape future practice. The volume of reflections for the purpose of *practising worthily* would support the event analyses process due to the retrospective nature of reflective attention although *practising worthily* may only involve a check list, it may or may not lead to future decisions. However, *seeking a solution* may occur just as often as retrospective analysis in clinical practice, the volume of reflections for the purpose of *seeking a solution* suggests that anticipatory reflection is a significant part of the practice of reflection for physiotherapists. Fig. 16 shows my impressions of the prevalence of each purpose in practice. This anticipatory mode of reflection is less commonly addressed in the literature although Smallwood et al (2001) found that prospective thought occurs more frequently than retrospective thought in self-

reflection. Little attention is given to this form of reflection in the strategies proposed for facilitating reflection, the only model for anticipatory thinking is the mind-mapping process (Buzan 2010). The reflective purposes offering the newest insights are the purposes of *demonstrating worthiness* and *questing.*

Demonstrating worthiness is usually regarded as synonymous with reflecting on practice in a *practising worthily* sense but here seen to be a different and separate process. Although demonstrating worthiness did not obviously lead to worthy practice, there may be an imperfect relationship. It is an implied relationship and those who require evidence of reflection are working on the premise that if someone can demonstrate their worthiness they are more likely to be practising worthily. If this implied relationship exists, then the extent or strength of the relationship may vary across individuals.

The reflective purpose of *questing* explores a form of reflection not widely recognised and possibly not often experienced by physiotherapists. Given physiotherapy's ability over the years to adapt to changes in health care delivery and political climates it seems surprising to find that the form of reflection which may most change practice is encountered so rarely. The key to this may lie in that same ability of adaptation which causes physiotherapists to be reactors to change rather than be proactive originators of change. It is possible that in the form of reflection-in-action, which has not been explored in this study, *questing* may be present at a micro level, providing a continuum of *questing*. However, if this is the case for *questing*, then it is most likely the case for the other purposes as well.
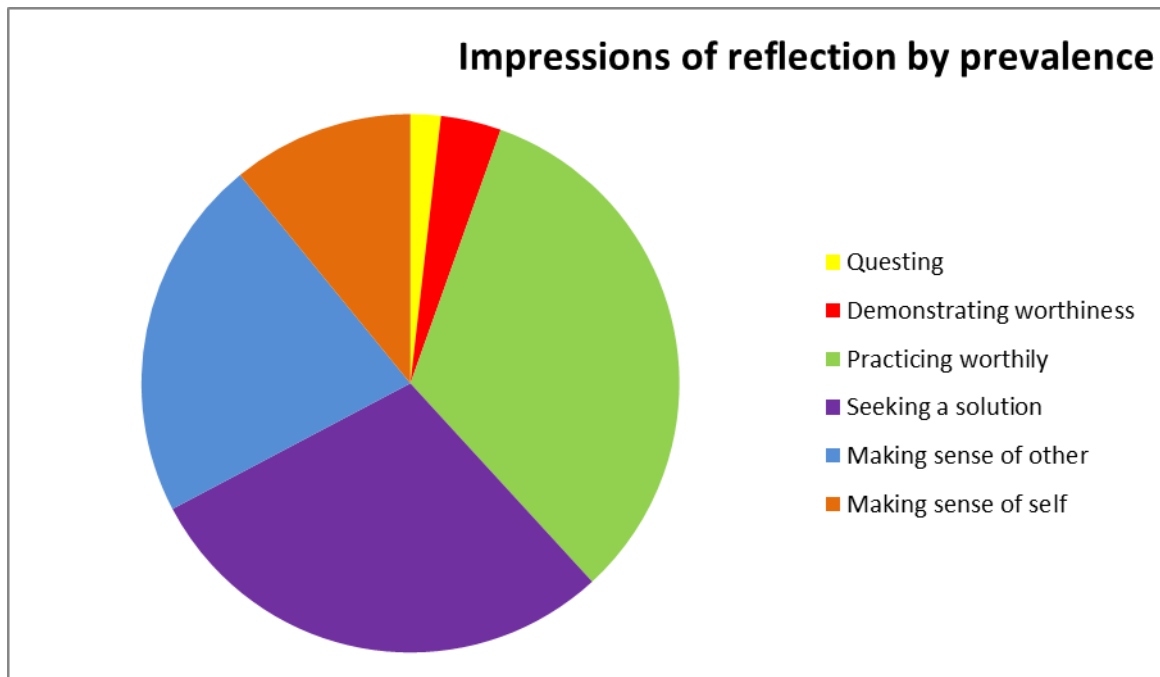
Fig. 16: *The researcher's impressions of the prevalence of the reflective purposes used by physiotherapists.*

The recognition of the variety of purposes for which physiotherapists use reflection provides a much broader perspective on reflection practice than has previously been considered. Exploring what physiotherapists actually do in their reflective practice rather than using a preconceived reflective process, has revealed a more extensive relationship between reflection and practice than teaching texts recognise. Reflection appears to be integral to participants' sense of self as a practitioner and how they project themselves. Their sense of what they were about as physiotherapists frames their understanding of reflection and what it can contribute to their practice. Clouder's (2000) observation that some physiotherapists see reflection as something that comes naturally is supported although the degree of resistance shown to reflection by students and staff alike may be because of the narrow view of reflection perpetuated in the teaching of reflection. Two participants were invited because of their reputation for being against reflection; both reflected as part of their practice. Their reasoning for rejecting a formal adoption of reflection were either the inappropriateness of the models or the terminology. This suggests that the formal teaching of reflection and the professional promotion of reflection may have led to a very narrow conceptualisation

143

of reflection that has developed and been nurtured. Many texts on reflection, particularly those aimed at teaching about reflection or facilitating its practice, focus on event analysis. When early ideas of the purposes of reflection were presented at WCPT congress in 2015 (Dalley-Hewer and Parkes 2015) the idea that reflection could be more than event analysis was eye-opening and maybe even challenging to some delegates.

This focus on event analysis may stem from the idea in the health professions that reflection is for improving your future practice from considering your past practice. A return to Dewey's (1910) understanding of reflective thinking suggests that Dewey is not only considering reflective thinking as a form of event analysis, but as any observation or experience which provides us with puzzlement. In the earlier, interpretive chapters of Dewey's 1910 text, this might easily be a puzzlement regarding something in the future. In the later, more hypothetico-deductive chapters, the idea of testing each hypothesis for the resolution of the problem, is more reminiscent of the action plan stage of event analysis proposed by Gibbs (1988) or Johns (1995). Musolino and Mostrom (2005) suggest that the punitive writing of reflective pieces and the mandatory use of models might be called mis-educative in terms of arresting the growth of reflective skills. In addition, they cite Bass's (1999) suggestion that the idea there might be a 'problem' with your practice is something that you don't want to have because of the accusatory implications. Clouder and Sellars (2004) discuss the internal surveillance of practice that results from the existence of an external surveillance of practice. It may be that written reflection provides a form of surveillance of the individual and the profession, and this may lead to resistance to this form of reflection.

Alternatively, it may be that written reflection is just not useful in terms of fulfilling a purpose for the practitioner other than demonstrating worthiness. If physiotherapists view written reflection as a means to capturing their historical learning and development, then this may be why they hold this view of the writing and process of

writing. If physiotherapists viewed the process of writing reflections as a process which in itself could add to their learning, then perhaps they would write differently, and then view written reflection differently. It may be the expectations of written reflection that is shaping documentation, not a limitation in written reflection as such. For those participants who did occasionally write, then this writing fulfilled one of the other purposes, such as *understanding*, or *seeking a solution*, and not the purpose of *demonstrating worthiness*.

What was absent from the participants' accounts was examples of reflecting on practical knowledge – where practical knowledge is the actual practical skill applied by the physiotherapists. Physiotherapy practice may consist of education and advice as well as manual skills, but in a practical profession such as physiotherapy, it is a glaring omission from the breadth of professional knowledge. It is hard to believe that there was no interest in what was under their hands, even acknowledging that physiotherapy practice has moved away from hands-on skills in some areas. It is possible that participants reflected on their level of manual skill as reflection in action. Alternatively, it may be that they do not recognise this topic as being a legitimate reflective activity and therefore not a legitimate focus for their own reflection or not of interest to this research. Interestingly, Higgs and Titchen's (1995) concept of Professional Craft Knowledge also excludes the realm of motor skill. John's (1995) application of Carper's ways of knowing does not include reflection on motor skills, and Taylor's (2010) technical reflection might include it although Taylor does not specifically mention it. Both Johns and Taylor were exploring nursing practice which may have less emphasis on motor skills as part of clinical practice than physiotherapy. Jones, Jensen and Edwards (2008) argue that therapists should be metacognitively aware (as in reflection-in-action). One other point of observation is that reflection is not free of the affective domain because of what makes a trigger – it means something to the reflector; if it does not, it is not given thought time. The meaning might just be that it is 'interesting' but that is insufficient for us to turn our minds to it. When practitioners examine their own practice, it is their own sense of 'being' that they are

dealing with, so they can't be free of the affective environment. It may be that reflecting on the application of manual skills is part of the practice of reflection-in-action rather than reflection on action.

Some of the ways in which reflection was viewed by the participants did not match already existing recognised modes of reflection. Modes of reflection previously identified did not recognise the different purposes that physiotherapists reflect for. By considering the purposes for which physiotherapists reflect, new categories of reflection have been revealed. This is not just a re-naming of previously recognised categories, but a different way of looking at reflection which prepares the way for an examination of what the benefits of reflection might be to practice. The idea that the purpose may shape the actual reflective process is a new way of understanding reflection and a helpful way to explore the value of reflection to practice. This suggests that exploring reflection by purpose is a very different way of looking at reflecting, and not just a re-labelling of the understanding of reflection that is currently held.

Chapter Eight: A Grounded Theory: The Benefit of Reflection for Physiotherapists

Introduction

The previous chapter has presented a grounded theory of the purposes of reflection for physiotherapists. A return to the starting point of the journey into physiotherapists' reflection is made in this chapter and the grounded theory is extended to include the benefit of those reflections. Although I moved the focus of the research to exploring the nature of the reflections practised by physiotherapists, along the way, partly due to the initial direction of research that I began with, I collected a small amount of information on the possible effects that reflection may have on practice. This overview of the benefit of reflection begins with general observations of the outcomes of reflection, then considers the benefit of those outcomes. Although the outcomes and benefits of reflection differ according to the reflective purposes already laid out, I have presented them here according to the benefit which they offer. Finally, some tentative conclusions are proposed.

The outcomes and benefit of reflection

When searching for possible outcomes of reflection, I was open-minded about what would constitute an outcome; I was looking for the effect of reflection, whatever that might be. There were no accounts in the data of reflection making practice worse, although whether this is because this did not happen, because the reflections were lost due to being forgotten very quickly or because they were not shared, is unknown. It is possible that participants were reluctant to share reflections with negative outcomes because of beliefs that this was unacceptable in some way. Equally, if a reflection produced an undesirable result or no result at all it may have been deemed an unfinished reflection. Because of this absence of negative effects, what I am reporting here are the benefits that reflection provided to physiotherapists. I

deliberately use the term 'physiotherapists' here, because although some of the outcomes may have been beneficial to practice, it is the benefit for the physiotherapists that I have focused on. This overview of the benefit of reflection rests on qualitative data. The early expectation I had that the research might include quantitative elements was put to one side when the reflection itself was deemed to be a rich seam of understanding about physiotherapy reflection which needed to be explored thoroughly before any research looking further ahead. Given the qualitative nature of the subsequent data collection, it is not surprising that there were no quantitative measures of reflective outcomes reported.

These outcomes were not easy to capture, given the dominance of the participants' cognitive rather than written approach to reflection. Even where the reflection was dialogical, there were few records made. When practitioners were asked what the benefits were of their reflections, their answers were frequently generalised and lacked the specificity that might satisfy any desire for measurability. One further conundrum is that if the practitioner decided to change their approach on subsequent treatments, this could not be measured, because what they might have done prior to reflection was not measurable – because it had not happened. Nevertheless, the practitioners were convinced, sometimes passionately, that reflection aided their practice and improved their treatments and their approach to the patients. The two participants in stage one who were recruited because of their reputation with others for being 'against' reflection in some way nevertheless recounted personal reflective practice which they felt improved their practice. Many of the outcomes of reflection were, as one might expect, that the practitioner decided to act differently next time, that potential strategies for next time were identified and that the treatment approach was modified (Appendix Q).

We might consider for a moment the possibility that reflection which did not change practice was experienced but not reported. However, instances of reflection which did not change practice were found in the accounts, either because the situation had not

yet resolved (Macey, interview) or because the reflection was not completed (Claire, interview). Yet these reflections, which were termed 'negative' reflections by Diana (audio diary), were still recognised by the practitioner as part of the mental process by which they reflected on their practice. Critics suggesting that research may not benefit practice point to a lack of *change* in practice (as discussed in chapter two) even though there may be benefits to reflections which are not demonstrable by a visible change. Even where there is a potential for change, models of change such as Prochaska and DiClemente's (1984) model suggest that there are steps preceding a change which may not in themselves be objective and measurable. Furthermore, those critics who look for patient outcomes to measure the benefits of reflection are overlooking benefits that might be experienced by the practitioner.

Even given these possibilities, in the stage two audio diaries where practitioners were asked particularly about the benefits of the reflection that they shared, the data returned on these questions were scant in comparison to their responses to other questions. It may be that as a profession we are unused to accounting for the outcomes of our reflection and therefore unskilled at assessing our own reflection in this way. Initially, it appeared as though the different types of outcome were not differentiated by the reflective purpose which generated them; however, as the data collection and analysis continued, some differences in the benefits from each purpose became apparent.

In addition to exploring the outcomes of the practitioners' reflection, I also considered what benefit these outcomes might have for their practice (Appendix R). This benefit of reflection for physiotherapists rests lightly on the data due to the difficulties the participants had with making judgements of its value. On occasion, they indicated that the reflection was beneficial, providing their judgement without an explanation and those rare explanations which were given tended to be brief. Therefore, the benefit of the reflection has had to be inferred from the data. This is not to say there is no benefit to the reflections, just that it is a difficult concept to capture. To provide an

overview of the benefit of reflection, the benefits can be grouped into four categories. These categories of benefit are *Actions and Planning, Emotional Easing, Understanding and Awareness* and *Getting the Badge*. These benefits arise from a change in actions, a change in feelings, a change in thinking and the maintenance of career respectively. Although there is some blurring of the benefits of reflection across the purposes, once again it is possible to make some indicative links between the categories of benefit of reflection and the reflective purpose. The outcomes and benefit will now be presented using the structure of the benefit of reflection (Fig. 17).

Legend:

Oblongs = outcomes of the purposes

Hexagons = the benefits of reflection

Getting the badge

Actions and Planning

Understanding

Overall benefits

Get the Badge (maintains career)

Demonstrating worthiness Demonstration of ability

Practising Worthily Constant checking, picking anything missed, identifying further action required

Making Sense of Self Understanding self leads to clarity about role and goals

Actions and Planning (changes actions)

Seeking a Solution Developing a plan, identifying information required for a decision

Reflection for Physiotherapists

Making Sense of Other Greater understanding of others clarifies the way forward

Understanding and Awareness (changes thinking)

Questing Stretching the boundaries, new personal skills, new professional skills

Overall benefit Peace of mind, personal satisfaction, removal of dis-ease

Emotional Easing (changes feelings)

Fig. 17: *The benefit of reflection for physiotherapists*

Understanding and awareness: changes in thinking

The outcomes of reflection which led to changes in thinking were found in the purposes of *making sense of self* and *making sense of other* and some of the examples of *practising worthily.*

The outcomes seen when reflecting for *making sense of self* are a direct consequence of the trigger for that reflection and can be summarised by saying that understanding of self, or insight, is reached. For instance, understanding one's own values and assumptions or just understanding self, as Brianne and Morgan explain:

> *As I was treating him, I was thinking about this. I realised that I was actually reflecting upon stuff, that it wasn't what I was saying – I was talking small talk, the words were coming out of my mouth, but what was going on in my head I was actually thinking through how much influence we have over their whole lives, and we have to be careful with the words that we use and how much store we put by technology such as scans, when actually when we are handling their bodies we actually know what is wrong with them.*
>
> *(Brianne, audio diary)*

> *I think that was another reason for my disquiet, was that as a physiotherapist I want to be able to offer something and not have to say, 'I'm afraid there's nothing I can do'. And those feelings were quite high after I'd seen the patient…I think there is a need for me to sit down and talk to other people from the palliative care team to gain understanding for myself.*
>
> *(Morgan, audio diary)*

When Macey reflected on mobilising the large patient (in chapter seven), this led to the identification of CPD needs, which could be seen as an objective outcome. Two of the audio diary participants found that they were reflecting on their own reflections as a consequence of needing to make a diary entry; for both Diana and Sadie, as seen earlier, this resulted in insights into their own reflective practice and, for Diana, recognition of the benefit of reflection to her practice. Here is Sadie's insight:

I have not realised how much reflection I do, and I do do a lot. My action point from it is to make sure some of the thoughts and some of the ideas are not lost. They may not be able to be acted on straightaway, but they need to be sort of kept, and I think possibly a notebook in the car so I can just jot down some thoughts before I leave the car.

(Sadie, audio diary)

Likewise, from *making sense of other* there are the outcomes of gaining understanding and gaining insight. In addition, there also the outcomes of decisions made: decisions regarding how long treatment should continue for or how fast the treatment should progress. The decisions may be reached by the options being mapped out or listed, and reading planned or carried out, as Joy describes:

I also thought about the few stroke patients we currently have on the ward and we are undergoing a reconfiguration of stroke services and I wondered whether there weren't as many strokes coming through, which is sometimes the case – strokes can be very seasonal – or whether in fact we were not getting our stroke patients repatriated from the [acute hospital]. So, I raised the question with the consultant and then subsequently management to find out how robustly we as a hospital were arranging the repatriation of appropriate patients. Having looked at the records of these patients and other patients on the ward, I have identified five patients who are at the other hospital. I have undertaken to monitor the situation so it can be discussed further as to why these patients are not being identified for us.

(Joy, audio diary)

Or sorting, labelling and joining things up in preparation for planning or decision making, as Fiona experiences:

And I'll think, 'Okay, so how's that going to work?' and then just work it through. Sometimes it will need to be more structured thoughts and if I've got a problem already in my head, then I'll have to be more structured about my process and logical about it. I usually have a flowchart in my head. Or a spider diagram, or whatever we call them. And sometimes I'll write that down, sometimes I'll just have it in my head and work it out.

(Fiona, interview)

Macey notes that her initial surprise became new knowledge. Diana notes that some of her reflective thinking might be unconscious, because she was sure that it changed her treatment but struggled to explain it at that point in time. One point of interest when comparing the quantity of outcomes listed for *making sense of other* with those for *making sense of self* is that physiotherapists spend less time in examining themselves than they do in making sense of others or other things.

Outcomes which led to changed thinking from the purpose of *practising worthily* were where the thinking led to a change in the knowledge of the practitioner, for instance where reflection had added to the practitioner's knowledge. These were also affirmative outcomes, where the approach had been justified, existing knowledge reinforced or good actions acknowledged alongside things which could have been better. In the case of affirmative outcomes there may have been no change other than a reinforcement of understanding. Where the change was a recognition of lack of knowledge not previously perceived, this might be followed by a subsequent action, and where the change was recognition of new knowledge gained this might be followed by subsequent action in line with the new understanding. Morgan, taking the dog for a walk on the beach, had a period of reflecting following a telephone call from her father:

> *…about what motivates the elderly, what makes them decide certain things, what my father said about his age and what he feels capable of doing and what choices he is making because of that. So, I was just sitting looking out to sea and thinking about what he's said but also how that applies to some of the patients I've been seeing recently, why they might not be motivated to engage with physiotherapy…I am more aware that there are other things going on in people's lives that perhaps I need to consider more carefully. I think it's going to be an on-going reflection because whenever I meet my patients in the next weeks it's going to be in the back of my mind.*
>
> *(Morgan, audio diary)*

Another form of outcomes from *practising worthily* is where the benefit is clear to the practitioner, although not to practice. These outcomes are less common; however, the

154

pride in their own practice recorded by Macey and Sadie is a beneficial and enjoyable aspect of reflective practice, and the reflection which prevented Grace from dwelling on an event with an uneasy mind is also a beneficial outcome to practitioners:

> *I think it also provided me with the thinking time that you don't always get during an on-call scenario. It enabled me to analyse my own clinical reasoning but also prompted discussion with senior staff. It has a positive outcome because it highlighted that I had done everything that I could.*
>
> *(Grace, audio diary)*

The benefit of reflection which led to changes in thinking was, unsurprisingly, that sense was made or found; understanding of the problem was gained. With understanding could also come the gaining of knowledge for practice to assist the practitioner. From this understanding, treatment could be planned or changed, or an approach to the patient could be designed that used the understanding gained so that changes in thinking might lead to changes in action. The features of making sense of something were frequently in matters of interpersonal responses rather than in technical questions of which treatment to give, as Brianne shows:

> *I was reflecting whilst treating a patient today on the fact that he has had a scan and all he wanted to know was the result of the scan, and, actually, the results take ages to come back. So, he was not sure whether I knew exactly what I thought was wrong with him or whether I was withholding information, whereas, actually, we were just waiting for the results of the scan to come at the time, and it made me think how much people must think that we hold lots of power that they do not have because they don't have access to this information and they can't order their own scans.*
>
> *(Brianne, audio diary)*

Even where there was no change to practice, the practitioners found the peace of mind resulting from their reflections to be of value to them.

Reflecting for *making sense of self* was less frequently reported than the other purposes by the participants, so the benefit of the participants gaining an

understanding of self should not be measured by its frequency. Macey was able to turn an insight about why she was uncomfortable into a plan to develop her CPD in a particular area, and the possibility of understanding self being a precursor to ease of mind should not be discounted. In addition, it is possible that physiotherapists reflected for understanding themselves more then they reported, but the personal nature of such reflections may have caused the participants to de-select them for sharing in the audio diaries. Such de-selection could potentially have been for reasons of privacy or because these reflections were deemed to be personal rather than professional reflections. This may be due to the familiarity with self that each of us possesses, or it may be a symptom of greater comfort with looking outside ourselves, alongside the historical perspective of our body-as-machine approach explained in chapter two.

Actions and planning: changes in actions

Outcomes of reflection which led to a change in actions were found in the purposes of *practising worthily*, *seeking a solution* and *questing*. The outcomes which indicated a change in practice were illustrated by examples of reflections leading to a decision to act differently next time. In some cases, this was regarding the identification of potential treatment strategies or differences in approach to the patient. Other changes were also shown, such as a decision to involve other members of the multidisciplinary team. As mentioned above, where the outcome of reflection was a to-do list, a list of people to talk to or ask questions of, literature to read or system resources to explore before further decisions were made, this list would be actioned before decisions were made and was, therefore, an outcome of action as well as an outcome of thinking. The end-point of reflection being a to-do list is not widely recognised in the literature; the emphasis on action plans implies a clear decision has been made (although an exception to this is provided by Williams, Woolliams and Spiro (2012)).

Another example of a change in action or practice occurred when the practitioner had a managerial role or teaching role. This was when the topic of reflection was about

how to change someone else's practice through teaching or role modelling, and subsequent improved practice can be seen in those junior staff. This is a contribution of reflection to practice, firstly in guiding the actions of the practitioner and subsequently in changing the performance of the junior staff. Whether this end change was in the clinical treatment provided by the junior or in another aspect of staff performance would depend on what aspect of performance was being addressed.

It is difficult to distinguish between the outcomes of *seeking a solution* and *practising worthily*: the temporal distinctions between the purposes do not appear to have an impact on the outcomes. It has already been recognised previously that there is some overlap between these two purposes, although the examples which have the greatest difference from each other support the existence of the two categories. When the outcomes of each are examined, the two purposes appear to contribute in the same way to practice; however, the benefits of the reflections differ, as will be explained below. Any corrections to practice which were reported by participants were not related to actions which might be called 'mistakes' and thus would not have led to incident reporting – there would be no record; therefore, changes in incidents over time could not be compared as a way of measuring such changes. The participants were not reporting mistakes as such, rather their choices of less efficient routes to success. A quality such as avoiding mistakes can only be good for patient outcomes but difficult to measure in terms of its impact.

The outcomes of the purpose of *questing* are remarkable for their rarity. They also show a distinct difference from all of the other purposes. It has already been noted that this purpose is not commonly found in the reflections of the physiotherapists in this study; only three of the participants from all of the stages gave an example of this (Julia, Florence and Macey). While the outcomes might appear to be similar, in that new treatment ideas are reached, they differ in that it is novel treatment solutions which are conceived of. The outcomes of this reflective purpose are not possible choices from a known repertoire of options but the creation of new options. For Julia,

this was on a one-patient basis, and was for their benefit alone. For Florence, this was for changing physiotherapy practice, and, therefore, for the benefit of all patients presenting with a particular diagnostic problem. For Macey, it was extending the scope of physiotherapy practice:

> *So, today, I attended arterial blood gas training so that I can do arterial blood gas stabs as part of a project that we're working on…I think this fits really nicely into 'quest' because I was reflecting on it while I was driving home and thinking about how it's going to make me push the boundaries on physio, as a physio.*
> *(Macey, audio diary)*

The benefit of reflection which resulted in changes in action was in emotional easing. The participants reported gaining reassurance from the reflections and conclusions. They felt that time spent in reflection allowed them to order their thoughts, that thinking time was, in itself, of value. Depending on the conclusions of their reflections, they found ease of mind. Affirmative reflection allowed them to appreciate their colleagues or their working conditions, and it also allowed them to recognise their own ability or progress they had made over time in a particular area of skill. When the participant had managerial responsibility for others, their own reflections were used to help other staff avoid mistakes or, in one case, to prevent staff breakdown where that member of staff was recognised to be vulnerable. While not all of these qualities resulted in a direct benefit to patient outcomes, the benefit that ease of mind and reassurance gave for the practitioner should not be underestimated. The finding of a place of personal satisfaction from a job well done may be the quality that keeps a physiotherapist practising in the face of difficult caseloads or resource constraints (as reported by several participants).

I was surprised to see that the benefit of *seeking a solution* appeared different from the benefit of *practising worthily*, when I had expected them to be similar. The benefit of *seeking a solution* was markedly in 'getting the best'. The best could be for the patient, for themselves, or for other staff. There were also examples of getting the

best *from* – as in, getting the best from the patient, from a member of staff or from themselves.

As with the reflective purpose of *making sense of self*, the frequency of *questing* should not be used as any measure of its value. Indeed, with the potential to stretch the boundaries of physiotherapy practice, perhaps even to create new physiotherapy paradigms, *questing* has the potential to be the strongest purpose of reflection for enhancing or improving practice. There is a tension between preparing students of physiotherapy for practice by grooming them for practice, by fitting in with what is already being done (the term 'fitness to practise' has an air of this), and the attributes which physiotherapists might need to break away from, or out of, the established ways of the practice they are being prepared for into new ways of practice.

Getting the badge: maintaining career

The outcomes of reflection which led to career maintenance or advancement arose from the purpose of *demonstrating worthiness*. These present a stark contrast to the outcomes mentioned above. This contrast has two features: a contrast in the number of outcomes recorded (very few) and a contrast in the nature of outcomes. The main outcomes of *demonstrating worthiness* are the written reflections produced for the portfolio or appraisal system. These are concrete and measurable outcomes, but they appear to be unconnected to the practice of the reflector; they arise from the practice, but are merely accounts: the measurable outcome is the written account. One reason why there are so few outcomes recorded for the purpose of *demonstrating worthiness* is that this purpose appears to be only a small part of the reflective practice of the participants. In stage one, two participants discussed the potential impact of their written appraisal: Macey had successfully interviewed for a post and was given the post over other candidates on the strength of her reflections, and Pete recognised the necessity of written reflection as part of a mandatory appraisal system – leading to his use of the term 'gunshot reflection' (Pete, interview). While acquiring a job and keeping a job are concrete outcomes, they are not the sort of outcomes usually

implied by supporters of reflective practice. The starkness of the contrast in outcomes for this purpose of reflection remains strong when compared to the endorsement of this form of reflection in the professional literature, which emphasises the written reflective account above other forms of reflection.

The benefit of reflection which leads to maintaining a career appeared to lie solely in the attainment of meeting organisational and regulatory requirements. The absence of further benefit from this reflective purpose may be explained by returning to the critique of reflection which deems reflective accounts merely historical accounts rather than reflection changing practice, as Sadie explained in chapter seven. Any reflecting which may have changed practice was, indeed, in the past, and the account being selected for the portfolio *was* an historical account which was not usually returned to at a later point – because it had served its purpose or purposes. Although participants reported incomplete reflections for which the resolution or desired outcomes were not yet known, such reflections would not be selected for a portfolio: their unfinished nature would make them unsuitable.

Observations

I began this research with the idea of exploring the effect of reflection on clinical or treatment matters. I now perceive it as 'the way one goes about being a physiotherapist'. The accounts of these participants suggest that it is not clinical benefit which is important, but the importance of reflection to the individual practitioner. Nonetheless, there were practice benefits alongside accounts of benefits to the physiotherapist. Each practitioner appeared to have a personal mode of reflection, with their own process, concept and search for answers. This raises the question of whether changes in physiotherapists' feelings might make for better physiotherapy, or whether it only leads to a better-feeling physiotherapist. These are not questions I have attempted to answer in this study, although the degree to which maintaining the emotional resilience of the physiotherapist may provide benefits to

practice is worth exploring. It is conceivable that not being happy could lead to a less than best performance.

The benefit of reflection was most easily identified for the purposes of *practising worthily*, *seeking a solution* and *making sense of others.* This study did not explore whether the degree of critical reflection or depth of reflection is proportional to the degree of benefit. However, the monitoring of practice seen in *making sense of self* may not be of a particularly deep or critical nature, but nevertheless lead to the recognition of areas of practice which require further attention, which suggests that the relationship, if present, is complex. The category of *demonstrating worthiness* may not be intrinsically valued by practitioners, even though the professional validation which this leads to can add to a sense of self-esteem. In some clinical areas, employers value this form of reflection. The CSP implicitly values this mode of reflection through the promotion of written records of reflection. However, it is the Health and Care Professions Council (HCPC) which is now the regulatory body, and the regulatory requirement is for a 'statement' which explains how professional development has benefited the patient and/or the service (HCPC 2012): there is no regulatory requirement for reflection (HCPC 2016). The statement required by the HCPC is not required to be reflective (although it may be): it is required to be explanatory. This situation means that, although reflection is promoted, the regulatory mandate is weak and the value placed upon it by the professional and regulatory bodies may be lessening.

To return briefly to the claims for reflection that Burton (2000) finds wanting, the three claims are all related to theory in some way. The idea of the theory of practice may be of more interest to academics and scholars than to clinicians who have their own concerns and interests to explore. Implicit in Burton's stance is that reflection should be judged according to the value system of scholars, rather than the value system of clinicians. Lastly, any consideration of the possible outcomes and benefit of reflection should take into account the extent to which each of the reflective purposes is used by

practising physiotherapists, which may indicate the value placed on it by the practitioner. Claire was clear that she valued *seeking a solution* more highly than retrospective reflection, while Alison used *making sense of other* more frequently than the other purposes of reflection. Despite these limitations, there is no doubt that practitioners found the practice of reflection to be beneficial, and the information that has been collected with regard to this is worth reporting even if the benefit of reflection is difficult to capture.

Chapter Nine: The Practice of Reflection by Physiotherapists

Introduction

The previous two chapters have presented the grounded theory of reflection for physiotherapists, setting out the purposes that physiotherapists reflect for, and the outcomes and benefit of this reflection. A different aspect of the research findings is addressed in this chapter, which is the way in which physiotherapists weave their reflections in and around their work. These findings regarding physiotherapists' practice of reflection stemmed from the surprises discovered in stage one of the research, which explored whether physiotherapists thought they reflected, what they reflected on and the nature of their reflection. While some of these surprises and the idea that physiotherapists reflected for a purpose arose in the stage one interviews, they were supported in the data from the stages two and three audio diaries. The surprises were: firstly, that physiotherapists spent hours and hours reflecting; secondly, that this was often outside of work; thirdly, that to do this they found spaces of quiet and solitude during specific activities; and lastly, that they had personal ways of reflecting. What was most striking was their use of time and reflective space. As well as the participants' use of time and the creation of space to reflect in, another noteworthy feature was the individuality of reflection already briefly mentioned (in chapter seven).

Physiotherapists' practice of reflection

During stage one, I became very interested in what the participants were doing when they reflected and, having discovered just how much of their reflection was performed outside of work time, I asked subsequent questions, such as where they had been when the reflecting took place and how long they spent reflecting. Different modes of reflection have been recognised previously in literature (Walsh 2009, Taylor 2006); however, the intensely individual nature of each different person's reflections has not been widely remarked on. The individual nature of the reflective process evident in

these findings, therefore, provides new knowledge and insight into physiotherapists'
practice of reflection.

Analysis of the surprising features of physiotherapists' reflection resulted in four
categories of the ways that physiotherapists went about their reflection. These
categories were: *Personal concept*, *Personal strategies*, *Time*, and *Head-Space.* Each of
these categories identifies different features of physiotherapists' reflection. *Personal
concept* and *Personal strategies* identify the individuality of the practitioners' process
of reflection, and *Time* and *Head-Space* are about how they created room for
reflection in their lives. These concepts form an important backdrop to a grounded
theory of physiotherapists' reflection. The purposes of reflection are independent of
these reflective processes and strategies because the resolution of the practice
perplexities exists through them all. It was these processes and strategies that caused
me to re-focus the research onto the practice of reflection rather than potential
outcomes of reflection. Each of these categories will now be presented in turn.

Personal concept – you only know yourself

Each person had a slightly different concept of what reflection was as part of their
practice. Each recognised a particular form of thinking, or a particular process, as being
'their reflection', and for each of them there was a recognised end-point, which
defined the process as reflection. The significance of this is the implication for
facilitating reflection in practitioners, which may require an encouragement to
practitioners to develop their personal forms of reflection. Their view of what
reflection was for led to them giving it different labels. For example, for Macey,
reflection was to make a 'messy, crazy world' into a tidy one, to make her brain tidier,
to become organised, in order that she could offer the best to those around her. For
Claire, it was to find the positive in something, to turn negative into positive and, in her
seeking a solution, to become prepared for something ahead. For Alison, as she
monitored the worthiness of her practice, it was 'to become as good as I can be', and
for Julia, in her purpose of *questing*, it was to find a way around something in order to

overcome a challenge and achieve the apparently impossible. Pete considered it to be for solving an immediate problem, whilst for Florence reflection had to have a function, and the function (purpose or outcome) could vary depending on the reflection, but it had to be there in order for it to be called reflection. In stages two and three of the research, participants were not asked to explain their reflective process in the same way, so it is less easy to follow these ideas through for subsequent participants, although there are patterns that suggest that participants might favour one mode of reflection over another, as is shown below.

The favouring of one purpose of reflection over another is demonstrated by the contrasting approaches of Alison and Claire. Alison thought that reflection was for looking back and reviewing what she had done, checking that she was *practising worthily.* She reported constantly looking back, reviewing all of her actions, checking her practice all of the time. The point of this was to be better next time, to improve her future practice, but the focus was on what she had already done. Examples of Alison's reflections are given below. Conversely, Claire considered reflection to be about looking forward, and she reported a high frequency of prospective reflection. In *seeking a solution*, Claire used reflection to turn something in the future that she was unsure about into some positive idea to address the issue. She described reflecting on the past as, 'It seems a silly thing to do really doesn't it, to reflect back over something that happened?' This was because she felt it led her to brooding and a negative spiral of thought (also known as rumination (Jasper 1999)). Alison's retrospective reflection was in order to be better next time (in the future) and Claire reported instances of reflecting on things that had happened in the past, so both of them looked both forwards and backwards in time. Nevertheless, the two participants primarily experienced reflection in a different way, and conceived of it accordingly, which highlights the individuality of reflection for each participant.

Not only was the process of reflection experienced differently; the end-point, or result, of reflection was also framed differently by the individuals. For Macey, it was about

change in practice: reflection led to change. Claire distinguished between the result of her reflection, which was either the solution or all of the possible solutions she could take forward, and the outcome of her reflection, which was when she put one of those solutions into practice. She acknowledged that not all results of her reflections were 'actioned', and that once she had completed the thinking process, she could choose whether to action it or not (for instance, when weighing up competing demands on her time). For Julia, the end-point of reflection was finding out how to overcome the challenge and then do it, to achieve the impossible for her patients. For Alison, the end-point was feeling personal satisfaction because she knew that she was getting better at what she was doing. For Pete, it was solving a problem, or finding the answer. These end-points were connected to the purpose of the reflection. Participants were familiar with 'their' reflection and what it could offer them, and because of this grasp of their reflection, they would draw on reflection for this purpose again and again.

It is noteworthy that these understandings of the end-point of reflection held, even when the recognised end-point had not yet been reached: for instance, if the problem was on-going over time and had not yet been resolved. This end-point related to participants' concept of what reflection was. For example, for Claire, *seeking a solution* was to find a way forward through a problem, so the reaching of a solution or solutions was the end-point. This provided one of the analytical insights for the evolving theory that physiotherapists reflected for a purpose. The participants recognised this as a very individual process: Alison stated that '*You only know yourself, don't you……you only know yourself, how you work.*'

Personal strategies – that's how my brain works

Each individual reported different strategies that they considered to be the way in which they reflected. For Julia, reflection was inextricably linked with searching the literature, asking local peers, consulting nationally and internationally. Other participants also consulted literature; however, Julia was unusual in reporting using the literature to get an understanding of why someone else might hold a particular

166

clinical view with which she initially disagreed – looking for the evidence to support their opinion, so that she could understand it better. While she suggested at one point that reading literature was not reflection, nevertheless, she was unable to separate the process of reading from the process of reflection for her developing thoughts. Julia was the only participant to report that she experienced 'inspiration' or inspired insights during her reflective process, which could happen at any stage during her thinking. These insights could then be acted upon in her practice.

Fiona's mental flowchart or spider diagrams have already been mentioned in chapter seven. Claire's mental picture of her own reflection was that it was a process which started with the problem being 'fuzzy at the edges', and her 'mind all over the place' and going off on 'a tangent'; her strategy for reflection was 'getting rid of some of the bits', so that the important ones could come to the fore, and could then be thought about in a clear way. Florence was unable to articulate clearly the reflective process, but knew what it felt like:

> *It doesn't have a structure. It doesn't have 'this is question A, this is question B this question……but that's how my brain works, I think.*
> *(Florence, interview)*

While Alison often experienced a delay between the thinking and the solution:

> *You've kind of thought, and you've thought: I'm not quite sure. Okay, mull it over, and then suddenly it will come to you what the solution is.*
> *(Alison, interview)*

This phenomenon described by Alison is usually termed the 'Aha!' moment in literature on problem solving or creativity (Kounios and Beeman 2009), although this feature of reflective thinking has not been explored in the literature on facilitating reflection. The occurrence of insight in problem solving and the Aha! moment will be discussed below.

Time – constantly thinking

All of the participants reported spending a considerable amount of time on their reflections. Typically, they would spend several hours of their time on one problem. They did not have time for all of the issues that they would have liked to reflect on, and for some participants this was frustrating. Julia limited the hours that she worked (in private practice) in order to give each patient the amount of reflective time that she considered to be an integral part of her treatment approach, as she explains:

> *I just go and see those patients and at the moment I've got two patients only……………And that's perfect for me. If I've only got maybe a handful of patients then I can really [short pause] because work is no fun if you can't reflect, if you can't have time to reflect. That's the challenge. That's our professional challenge, really.*
>
> *(Julia, interview)*

The participants referred to the timing of the reflection, whether this was immediate, or sometime later. Florence would reflect immediately if the need for a solution was urgent (i.e. a clinical emergency); otherwise, would wait until later. For Alison, (working in a non-critical care environment) 'immediate' meant later the same day, due to time constraints preventing a more imperative immediacy of reflection, as she explains here:

> Alison: *I think I probably do most of it outside of that (work) environment after I've left work.*
> Jayne: *But it's still about work?*
> Alison: *Oh yes, yes, because there isn't time to do it at work. There's no way.*
>
> *(Alison, interview)*

In addition, some of the participants reported a continual, on-going self-questioning of their work – a constancy of questioning themselves which formed a mainstay of their work as Alison reported:

168

I do a lot of thinking about what I do, and probably too much, probably. I don't know, but I look at a lot of what I do a lot of the time and think, could I have done that any better? How could I have improved it, you know, just sort of get a better outcome or whatever?………I'd be constantly thinking about things.

(Alison, interview)

This does not mean that the participants doubted themselves as physiotherapists, only that monitoring their practice was an integral part of their practice. Those participants who reported less personal time set aside for reflection managed the time in other ways: for instance, Pete thought that working in a private health practice gave more time within the routine of the day. He explained the difference between a previous post in public health care and his current post in private health care:

I guess because of time, maybe not in the actual [treatment] session but in between sessions, I get a lot more time – shall I use the R word? – to reflect, so to speak…so just think it through and just figure it out. Whereas, before, I would probably have wanted to do that but done it at 6 o'clock when I had finished my shift because I didn't have any time to do it.

(Pete, interview)

The issue of time required for reflection was reported by Clouder (2000a), although her suggestion that working practices were organised to allow for reflection has been supplanted here by practitioners developing personal, out of work-time strategies for their reflection. Indeed, the hours of reflection reported by these participants would not be possible to offer in full-time employment, a point which Julia raises when she explains her small private caseload:

Jayne: Tell me why it's no fun if you haven't got time to reflect?
Julia: Because you don't get satisfaction. You don't get the results you want. You might give up.

(Julia, interview)

Exploring this further, she suggested that you need as much time to reflect on each patient as you do to treat each patient. This emphasises the personal searching of the

participants, which drives their need for reflection to help them in their practice. This use of reflection is meaningful on a personal level rather than being driven by the professional or organisational requirements of written reflection and portfolio keeping. The strategies used by the participants for making time also required the facility of space to reflect in, as will be shown next.

Head-Space

To obtain mental thinking space, the participants used physical space and they did this in a variety of ways. All participants reported making 'space' for their reflections. This aspect of their reflective practice was related to the amount of time required for significant issues to be fully considered. The other requirement for this level of reflection was frequently stated as quietness or solitude. Since several of the participants referred to 'getting their heads round' an issue, this has also been given the label 'head-space'. Alison also used this term as she shared further thoughts in a post-interview telephone conversation. Each person had different ways of making this space; most of the participants felt unable to do this as part of their working time. Several participants reported using sustained, repetitive exercise time, for example, a three-hour solitary cycle ride:

> *I can go cycling for three or four hours and there is a sense of achievement. I think, along the way, it gives me the opportunity because of the nature of, because it has a longer time element to it that I can do these other things [reflection]. I utilise the time while my legs and arms are doing something else to use my brain for something.*
>
> *(Florence, interview)*

Or a slow walk in the woods:

> *I don't reflect on life sitting on the sofa, I'm far more likely to be out walking, to be maybe sort of in the countryside or something. I grew up in the countryside and sort of out and about.*
>
> *(Pete, interview)*

The space for reflection was often contrasted with the busyness of their working life. This contrast was emphasised by the differences in their choice of pictures in the photo-elicitation. The pictures chosen in the photo-elicitation for their work were often busy: they had a lot of motion or people in them. The pictures chosen for reflection often suggested space – for example, a long beach – or were solitary and still – for example, a single Chelsea Pensioner smoking a pipe. Whilst participants discussed in the interviews their reflection during work, for most participants the two were clearly separate, and often in strong opposition to each other. Fiona explained that she had chosen one photograph to represent her work life:

> *Because my life feels like rush hour and I thought that looked like rush hour. It just looks busy and hectic with all the cars zooming around.*
> *(Fiona, interview)*

And that she had chosen a picture of a beach because:

> *This is where I prefer to do my reflection and I generally would if I'm walking… and if I was on my own.*
> *(Fiona, interview)*

Living near a beach, this was not just wishful thinking for Fiona. However, she also used her daily time in the shower, which was a space away from her two young children:

> *It's the only time where I'm on my own, and there's not noise or there's not someone shouting, or at work. It really is the only time where I'm able to switch my brain off and think about – or driving in the car, you know – if you're occasionally driving a distance then you can switch off and think.*
> *(Fiona, interview)*

The apparent contradiction here in 'switching off in order to think' captures the concept of head-space well, switching off from the busyness of life to allow thinking to happen. Other participants made use of the solitary time that occurred in their

routines and Claire used the small hours of the night when she could not sleep. Alison, who also selected the beach photograph for reflection, explained that in addition to regular weekly times of reflection, she used holiday time as well:

> Jayne: What does the beach [photo] say to you…?
> Alison: I don't know, it's almost like it's a time just to reflect.
> Jayne: A time?
> Alison: Yes. I think it's, yes, it's a time to reflect, like you'd go on holiday and stuff like that and it is, it's that sort of space to reflect, isn't it?
>
> (Alison, interview)

These activities mirror Musolino's (2006) findings that physiotherapy students would engage in reflection and self-assessment during lunch activities, showering and walking down the hall. While the participants above found spaces of solitude, large or small, other participants, such as Joy, reported conversations with colleagues as being important to their reflective thoughts – described as 'chewing the fat' by Florence (although Florence still utilised solitary time in addition to dialogue for getting thoughts straight).

This dedicated time and space for reflection often required organising to achieve. For those reflecting during sporting activity, the exercise was part of their lifestyle; the use of that time for reflection was a by-product, but was considered an essential part of the exercise experience. For those with significant domestic responsibilities, time had to be planned, or put aside around the demands of children, spouses, housework and their work shifts. Claire did not choose to lie awake at night, but did choose to make use of that time for reflection when she found herself awake. She also reported driving out to an attractive place and sitting and looking at the scene as a strategy for thinking space. Sadie and Fiona used time while driving; Brianne, although a passenger, not the driver, also used travelling time during long journeys taken as part of her work. Fiona's use of time in the shower required her to keep a notebook and pen nearby. Morgan, having heard of these strategies prior to her participation in the stage two audio diaries, decided to introduce the practice of parking her car somewhere quiet in

between her visits to community patients when she needed to think through complex matters and reported that this was a helpful practice which she would continue. The deliberate planning and organising of reflecting time suggests a conscious and deliberate engagement in the process of reflection. Such deliberate engagement would only exist if the process of reflection was important to the participant. Implicit in this organisation and recognition of *time* and *head-space* is a sense of the value this process held for the participants.

This use of work and non-work time for reflection signals the state of 'being' a physiotherapist. These participants did not stop being a physiotherapist, they were a physiotherapist at work and were still a physiotherapist at home even though not then engaged in the actions of being a physiotherapist. While there are undoubtable divisions between participants' personal and professional lives, when it came to thinking about practice, these divisions were not time restricted. Indeed, the use of personal time for thinking about work-related issues may be the only way to make sufficient space and time to gain the emotional easing required to continue in practice – as Julia suggests. Professionalisation is a broader process than what is done at work: professional codes of behaviour apply at all times. We *become* physiotherapists and reflection appeared to be a part of the physiotherapists that these participants had become.

Of all the strategies used by participants for making space for their reflective thinking, walking was mentioned the most often. There are connections between walking and problem solving, and walking and creativity, which have been recognised in other fields of practice such as writing and psychology. Papadimitriou (2013), the writer, suggested that walking is transpersonal and trans-temporal – it takes you out of yourself and of your time. This seems to be a way of mentally going somewhere else (back to your work) whilst being absolutely 'in' the where of where you are. Cognitive psychologists have explored the use of routinized, non-cognitively demanding activities to improve problem solving (e.g. Baird et al. 2012); walking, which provides one form

of such an activity has been specifically studied and found to boost the generation of novel insights (Oppezzo and Schwartz 2014). As I began to explore such activities as a strategy for reflection, I found that if I asked what people were doing when they had their good ideas and inspiration, the answers I received time and time again were these types of activities, and included walking, chopping wood, preparing vegetables for meals, showering and driving. (Although I acknowledge that driving is frequently mentioned, I am not able to recommend the use of driving time, when attention should be on the road.) When these findings were presented at WCPT in 2015, one delegate's response was that 'Moving is physio, thinking while moving: this is what physio is, isn't it?' This is a reversal of the definition of thinking by the neurologist Oleh Hornykiewicz as 'movement confined to the brain' (Greenfield 2016). This connection between movement and thinking may have face validity for physiotherapists; however, the use of routinized activity for problem solving is independent of this professional context. It is unknown whether amongst physiotherapists there might be more use of those routinized activities with higher activity levels such running and cycling rather than lower activity levels such as walking, although the amount of walking reported by the participants is congruent with the benefits that walking offers to thinking noted elsewhere.

To explore these aspects of making head-space further, insight is defined by Kounios and Beeman (2009 p210) as a sudden comprehension that solves a problem, reinterprets a problem or resolves ambiguity – the Aha! moment. Kounios and Beeman distinguish insight from a deliberate and conscious search for an answer; rather, it is something that suddenly occurs. Kounios and Beeman's neural experiments, measured with electroencephalography (EEG) and functional magnetic resonance imaging (fMRI), were able to distinguish between analytical processing and sudden insight. They also found that participants who experienced insights were prepared for insights to occur and were directing their attention internally, and when they experienced analytical processes they were directing their attention to the external world. Reflection is a form of thinking which directs attention to the inner world of thoughts even when the

external world of practice is being thought about, so the finding of Kounios and Beeman (2009) are relevant to the process of reflection. They also explored the links between creativity and insight, suggesting that creativity uses loose association between ideas, and found corresponding neural activity which might support that. They recognised that these tests were conducted with the participants in a resting stage rather than during activity.

Some indication of how this may relate to reflection during action is provided by Baird et al. (2012), who explored the phenomenon of creative thoughts arising when doing something unrelated to the problem. Their experiments used validated creativity problems, which the participants engaged in, then had a two-minute period with a change of activity (called the incubation period) and then returned to the problem. The incubation period was either a different demanding task, an undemanding task, no incubation period, or just resting. The incubation period which led to the best improvement in problem solving was that of undemanding activity. This is a task which was associated with a greater level of mind wandering in the participants, and their conclusions were that engaging in simple tasks that allow the mind to wander may facilitate creative problem solving. Significantly, this was related to the solving of a problem which had been attempted previously, and so was not from an improvement in general creativity. Baird et al. (2012) proposed that this time allowed increased network connections. Reflective strategies such as walking, showering, taking nature photographs, swimming, cycling and canoeing might offer this incubation time to physiotherapists engaged in the process of problem solving.

Smallwood and Andrews-Hanna (2013) suggest that while mind-wandering has been associated with unhappiness or disruption to the task in hand, it is also associated with successful planning and with creative inspiration. Their synthesis of the literature leads them to conclude that mind-wandering happens more when engaged in an undemanding task and under these conditions can lead to creativity, patience and better cognitive control. Taking these ideas of creative problem solving and incubation

175

forward to the organisation of time and head-space for reflection shown by the participants in this study, the use of walking as incubation time for creativity is supported by Oppezzo and Schwartz (2014). Their experiments measuring creative ideation under different conditions showed that walking increased creativity more than sitting, and the effect remained shortly after the walking. Walking outside produced the most novel and best quality ideas, and walking outdoors was more effective than sitting outside. Berman, Jonides and Kaplan (2008) showed that walking in nature or even viewing pictures of nature improves our cognitive functioning, and they propose that this is because nature captures our attention, which allows control of our directed attention to refresh. However, the link between incubation and creativity in studies suggests that it is time not directed to the problem which allows insights to occur, and this time when not thinking on the problem is recognised as happening when working on another task, taking a shower or exercising (Madjar and Shalley 2008 p787). Segal (2004) outlines the history of research into the phenomenon of incubation and adds to an understanding of incubation as part of reflection by demonstrating that taking a break from solving a problem leads to better insight on return to the problem, and that the length of the break does not affect this. Segal used breaks of either four or 12 minutes, which does not inform an understanding of the effect of breaks of hours or days, which were typical of the breaks used by physiotherapists.

The field of creativity, incubation and insight is extensive and this view into suggestions for the reflective strategies used by the participants in this study is merely looking through a window to see some possibilities. However, walking as a stimulus to ideas has been recognised by writers such as Charles Dickens, William Wordsworth and Virginia Woolf (Rohrer 2014) and the philosopher Friedrich Nietzsche considered that 'all truly great thoughts are conceived by walking' (Greenfield 2016 p53). Contemporary writers such as Nicholson (2010) have mapped the history of walking and some of the links between walking and literature and music. Manning (2012) reminds us that Aristotle taught as he walked in the peripatetic school in Athens.

Although few explore the extensions of creativity that occurs with extended walking for three or four hours that Papadimitriou (2013) recounted, Schaefer et al. (2010) found that a four-day hike increased creativity and problem solving by 50%. None of the physiotherapists in this study reported such extended periods of exercise. Florence's three to four hours of cycling were the longest time reported, although Alison may have used a sequence of longer walks during her annual leave for broader thinking.

The 1950s saw the birth of psychogeography, which is the 'study of the specific effects of the geographical environment, consciously organised or not, on the emotions and behaviour of individuals' (Debord, cited in Coverley 2006 p10). While much of the focus of psychogeography does not attend to the creativity of writers or composers, nevertheless in this field there is a recognition of the effects of walking on individuals that goes beyond mere thinking. This recognition suggests that there is much we do not understand about the habit of reflecting on work while out of work and about physiotherapy as part of a life lived in and out of the place of work.

Aristotle thought that movement was essential to thinking, freedom of mind needing freedom of movement. As I tested these ideas of walking, routinized activities and reflecting in my own teaching, I explored the use of a labyrinth as a classroom proxy for a walk in the woods (Dalley-Hewer, Opie and Knowles 2015, Dalley-Hewer and Opie 2016). Labyrinths are like a maze, but they are not a maze. They are not a puzzle at all: they have a single path in and out which the walker follows (Sellers and Moss 2016). Labyrinths have long been recognised as tools for insight and inspiration (Rhodes 2008) although the evidence for the effects of labyrinth walking is light (Rhodes 2010). The putting of one foot in front of another is a routinized activity: following the 'path' of the labyrinth requires a low cognitive demand. Labyrinths are not widely available and certainly are not part of physiotherapists' daily routine, so the labyrinth offers an opportunity to become more aware of internal responses to an external activity which then needs to be transferred into an activity which is a normal part of someone's

routine. When used as part of teaching, some students found the labyrinth walk helpful to develop their reflective ability and some experienced insights or inspiration (Dalley-Hewer and Opie 2016). The use of a labyrinth in teaching added to my developing understanding of the relationship between walking and thinking.

Written reflections – the 'R' word

None of the participants regularly wrote their reflections down or recorded them in any other way. While four participants never recorded their reflections at all, some participants wrote up a single incident every once in a while (e.g. for Macey, about every six weeks). Of these, none returned to their reflections to evaluate them later. In the early stages of analysis, it appeared as though the participants considered reflective writing to be only for the purpose of formalised documentation of their professional development. For instance, Pete's use of the term 'the "R" word' (page 169) arises from his personal response to the requirement for written reflection rather than any problem with the act of reflecting. This response to written reflection is seen in the findings of Kunrunsaari, Piirainen and Tynjäläs' (2015) study, where writing as a useless task was one of the qualities of reflective writing.

Later in the analysis there were occasional reports of writing for a different purpose. In stage two, Joy reported an almost exclusive use of the strategy of dialogical reflection with physiotherapy colleagues and members of the multi-disciplinary team; however, her audio diary account includes one instance of writing to help her think through a problem in preparation for a discussion with the wider team. In another example, Grace reported one instance of writing to help her to think through a career decision. Although the participants strongly associated reflection with writing and some of them resented this mandatory process, writing was used on infrequent occasions to help them to think something through, and not just to keep their professional documentation up to date.

Although written reflection is discussed above, these are also examples of two purposes of reflection. Documenting practice is the purpose of *demonstrating worthiness*, while the examples from Joy and Grace are examples of *seeking a solution*. While the findings of this study suggest that writing provides little contribution to practice, this is because much of the writing referred to by the participants was for the purpose of *demonstrating worthiness.* Where the writing is done for the purpose of *seeking a solution*, then outcomes of that writing can be seen. Joy felt prepared for her meeting, and Grace was able to decide where she wanted her career to develop. There is some suggestion that written reflections for Claire and Macey served both purposes. However, the lack of regular writing of reflection suggests that it is the purpose of *demonstrating worthiness* that most often guides practising physiotherapists to write.

Observations on the practice of reflection

Deliberately, no description or definition of reflection was given to guide participants in the audio diary stages, so participants decided for themselves what reflection was in relation to their practice. Despite the lack of consensus on the definition of reflection noted in the literature, the reflections they shared were easily recognisable *as* reflection based on the understanding of reflection I had, which has been outlined in chapter three, which suggests some degree of consensus amongst physiotherapists on what reflection might be. One exception to this was from Joy, in that every event from her audio diary involved dialogue with other members of the team. It was apparent that, for her, reflection was dialogical and involved matters of joint clinical decision making. I did not dismiss Joy's accounts as being 'not reflection', because she reports discussing what might be required for the audio diary extensively in the staff room before commencing the diaries, and her concern that she was offering the right material is strong. Furthermore, Joy's accounts do stand as reflection when compared with Dewey's model view of reflection because all of the conversations that she reports are addressing particular problems which require a resolution. I regret that it took me a while to frame Joy's accounts in this way. My slowness in recognising this

form of reflection suggests that I had assumptions about the nature of reflection in practice despite my perceptions of being open minded to all forms of reflection.

From the diaries, it is clear that people picked which reflections to share. I did not ask what had guided their choice, although some indicated that they had picked the most significant, for example:

> *Today I am going to talk about two reflections because both were quite big reflections for me and it was hard to pick which was the most important, so I will talk to you about both.*
>
> *(Macey, audio diary)*

This choice of which reflection to share by degree of significance is different from the idea of students faking reflective accounts (Hobbs 2007) or selecting what they feel others wish to hear (Greenwood 1993). If participants have picked out the 'best' reflection (by whatever criteria) then we have no knowledge of the amount of reflective thinking that happens over the day, nor the range of topics reflected on. Nevertheless, these findings still provide more insight into the real-world reflection of qualified physiotherapists than previous research has done. For example, Knab (2012) gives a detailed account of physiotherapists' views of their developing practice through their reflections; however, the context which generated those reflections does not mirror the day-to-day reflection of physiotherapists. It may also have been that audio diary participants were not only choosing the events to report on according to their significance or some measure of magnitude, but may have been choosing reflections that were socially acceptable amongst the profession, either for being deemed reflection or for showing the practitioner in a good light. That the accounts included the practitioners' considerations of their shortcomings is a testament to their desire to contribute meaningfully to exploring an understanding of reflection in practice.

The observations of participants' awareness of the end-point of reflection and the insights presented here on written reflection raise an interesting point when setting

written reflection as an assessment task for students. When judging the worth of student's reflections, academics and clinicians can deem students' work as not meeting the criteria for reflection unless a point of learning is noted in their work. Because students need to demonstrate the complete rather than the incomplete process in their work, it is hardly surprising that they then become experienced in recounting completed historical reflection, because these are reflections which meet assessment requirements. Having learned to do this as a student, they may continue to do so once qualified.

I wondered if the focus on patient treatment in many of the accounts was due to a perception that this was what reflection 'should' be about or whether it was merely a response to how each participant perceived their professional role. However, Grace wanted to me to know that reflection was not always on clinical matters when reflecting after work on her career options:

> *I think this demonstrates that reflection is not always truly clinical: it can also be non-clinical and can occur at any time.*
>
> *(Grace, audio diary)*

My understanding of reflection for physiotherapists evolved from the ongoing analysis of all the data sets and my growing understanding of the interaction between practitioners' reflection and their practice. Some of the ways in which reflection was viewed by the participants did not seem to match already existing recognised modes of reflection. The nature of how and when physiotherapists reflect has not previously been explored, and the extensive use of reflective strategies for making time and head-space has not been previously acknowledged. The strategies employed by physiotherapists for making time and head-space were engaged with not because they thought they should reflect, but because the practice of reflection enabled them to meet their desired purposes – whether that was in making sense of something, finding a solution, or monitoring their own practice.

Chapter Ten: Do My Ways Match Yours?

Introduction

The stage of verification, where the degree of fit between the theory and the participants' experiences is explored, is explained in chapter five. For this stage, the theory was presented to participants in a succinct form (Appendix D) together with an audio diary guide (Appendix E) which asked them to consider their reflections from the day, and then compare them to the theory (the purposes of reflection) to see if they could recognise the purposes in their own experiences. Macey understood this task as seeing whether her ways of reflecting match 'my' ways.

Do they match, or don't they?

For the analysis of data from the stage of verification, a line-by-line approach was taken. In this stage, I was not aiming to code the data; I was looking for recognition of the theory by the participants. Where this was present, the participants had 'named' their reflection; for example, Tess said:

> *Today I've done some reflecting on some paperwork that has been at the back of my mind for some time. Our ordering system has changed, so the first time I did it, it was incorrectly done. I guess I was 'monitoring' where I was with that.*
> *(Tess, audio diary, entry two)*

And later, she records:

> *It's actually my day off but I just wanted to record that in bed last night, as so often happens, I was 'planning' some progression of a stroke patient that I have.*
> *(Tess, audio diary, entry three)*

Monitoring and planning were the explanations I had given for *practising worthily* and *seeking a solution.* In addition to recognition of the theory, I invited comments on

ideas for extension of the theory and refutation of the theory if they thought an aspect was not applicable.

There was strong support for the theory through recognition by the participants (Fig. 18). Monitoring or *practising worthily* and planning or *seeking a solution* were the most frequently reported matches. *Making sense of other*, *practising worthily*, *demonstrating worthiness*, and *seeking a solution* were recognised by all four participants in this stage. Macey also gave one example of *demonstrating worthiness* which she did not appear to have recognised as such, because she had not named it. Although this does not support her recognition of the theory, it does demonstrate how the data from this stage continued to support the evolved theory from my perspective. Sadie named one of her reflections as *questing,* which did not match the description she had given of her reflection. When queried about this afterwards, and the definitions of *seeking* and *questing* were revisited, she said that she had been *seeking a solution*, not *questing*.

	Making sense of self	Making sense of other	Practising worthily	Demonstrating worthiness	Seeking a solution	Questing
Tess		Y	Y	Y	Y	
Macey	Y	Y	Y	Y	Y	Y
Claire	Y	Y	Y	Y	Y	
Sadie	Y	Y	Y	Y	Y	

Fig. 18: Stage three participants and theory-categories recognised

There was also extension of the categories by participants when they felt that the category explanations did not quite fit how they thought they had reflected. Macey recognised *questing* when she went on a course to extend her scope of practice and talked about this as something which was not only developing her own practice but the role of physiotherapy. This differed slightly from my previous understanding of *questing*, which suggested that the new development would be created by the physiotherapist. Macey had not created the idea of physiotherapists performing arterial blood gas testing, but was able to create the ways in which this could extend her practice and extend the role of physiotherapy. When the analysis from this stage

of verification was submitted for peer review, the peer reviewer noted that the extension to the boundaries of practice in Macey's account was through noticing and making use of opportunistic extensions to practice.

Macey also thought she had a seventh category, which I initially named 'reflecting on others'. There were several previous instances of reflecting on the performance of other staff in the stage two audio diaries, although these were all relating to what that might mean for the participant who was responsible for the training and safe performance of others. In Macey's stage three diaries (audio diary, entry nine), she mentioned the idea of reflecting on an observation made of someone else's practice in order to shape your own – to develop more of the desirable attributes for yourself (or to avoid undesirable attributes). This may be a genuinely new category; however, it may be another extension of a category (as for *questing*) – in this case, *Being Worthy*. Further data would help to clarify this. This reflection used an external mode of reflection rather than internal mode (see chapter three), which may be worth noting.

Sadie extended the category of *demonstrating worthiness* with her suggestion of reflecting on your practice so that you could later justify it to others. This had not involved writing; it was about arguing for the services she delivered to be continued. While this may also have involved elements of *seeking a solution*, Sadie felt that the purpose of her reflection was *demonstrating worthiness.*

There was just one refutation of the theory, from Claire, who suggested that when she reflected on things that worried her to which there was no solution, this did not match any of the categories. This may have been because these things were beyond her ability to influence, or because she worried about things which might happen and because they had not happened yet, she could not yet make a response. A subsequent conversation clarified firstly that this worrying *was* reflection because she was trying to find a solution, and secondly that this was an example of *seeking a solution* even

though solutions were not found. None of the other participants refuted any of the categories provided.

Limitations of this stage

I became aware that although I had provided a succinct synopsis of the categories, I retained a much deeper and more nuanced understanding of the categories. In particular, the distinction between *practising worthily and seeking a solution might* not always be clear based on the information I had provided. I worried that this might detract from the participants' ability to 'correctly' name the categories whilst recognising that busy physiotherapists would not welcome a struggle to understand complex ideas. I also recognise the arrogance implied by suggesting that they might be correct – or incorrect – in their attempts at identification. In this stage, I found the lack of a dialogue about the diary entries and the participants' thoughts frustrating, wanting to explore, discuss and debate their experiences in the light of my ideas. With hindsight, I may have chosen a return to conversational interviews over audio diaries, although this may have hindered the ability to catch real-world reflections whilst fresh in the mind. Another possibility may have been a one-to-one session explaining my ideas before their week of audio diary recordings, although this may have made some of them dis-inclined to participate.

I was aware that the understanding I had of the conceptual nature of the ideas might not easily translate into something quickly understood by someone not deeply immersed in the research process. My worries over their understanding of the theoretical ideas appeared unfounded. Whether they found the ideas easy to grasp or not is not clear; nevertheless, they considered their reflections carefully in the light of the ideas. All four of these participants reported that this was very hard to do, and perhaps their unfamiliarity with analysing their own reflections in this way contributed to this difficulty for them. Their confirmation of the ideas was pleasing, and a conversation with Macey (after her audio diary recordings were made) about the possible extension of my categories was helpful, particularly because the category of

questing had only two previous examples and, therefore, was unlikely to be as refined as it could be.

It is possible that *questing* occurs more frequently than might be suggested in this study. Following a presentation of this theory to a mixed multi-disciplinary team, I was spontaneously sent a written reflection by one of the delegates. This delegate had engaged with the purpose of reflection in her own practice, and named *questing* at one point in her writing. This was with regard to a very small change in strategy with a client that had had a significant effect. She reported that if she had not been stuck for a solution to this problem she would not have invented this new approach, which she had never known before. She identified this invention as a feature of *questing*, which raises the possibility that if physiotherapists are alerted to this possibility, they may become more aware of it in their practice and may even be able to facilitate it in themselves. This sharing of a reflection offered an informal verification of the theory, which supported the formal verification steps. The formal verification was the audio diaries and matching daily reflections to the proposed theory, followed by transcript analysis. The informal verification was through sharing and conversation. The opportunity to share ideas with practitioners also helped to develop my thinking on this topic. In addition, because of the multi-disciplinary nature of this team, the positive response to the shared ideas suggests that the theory may have some degree of transferability to other health professionals.

In conclusion, I found the stage of verification challenging in terms of requiring courage and articulating the theory clearly, and challenging for the participants in terms of understanding and applying a new theory to their reflective practice in a way that they had not experienced before. Nevertheless, it was a very rewarding stage for theory development: this valuable contribution has both affirmed and extended the ideas underpinning the theory.

Chapter Eleven: The Good Life

Fig. 19: *The two faces of Janus (hadrian6 2016)*

Introduction

The idea of two faces which look both forward and back provides the framework for this discussion on the purposes of reflection as identified in the grounded theory and the wider field of literature. Janus is the two-headed Roman god (Fig. 19) of beginnings and endings, movement and transitions, or change, which suggest that Janus is an appropriate symbol for the practice of reflection. The name Janus is thought by some to be the origin of January, a month when we look backwards to the old year and forwards to the new year. The reflection of physiotherapists included looking backwards on their practice in the purposes of *making sense of self*, *making sense of other*, and *practising worthily*, as well as forward to a future event in the purposes of *seeking a solution* and *questing.* In Roman worship, Janus was honoured throughout the year, at the beginning of the ceremonies of the other gods, suggesting that the beginnings were seen as part of life's continuity and not restricted to the beginning of a calendar year, and physiotherapists' practice of reflection had a continual, on-going

nature featured in the strategies of *time* and *head-space.* Janus presided over the beginnings and endings of conflict, and he was a god of duality (Wikipedia 2017b).

Two-headed is also two-faced, and the phrase 'two-faced' as an adjective has slightly sinister implications, of deceit and deliberate pretence, hypocrisy, falseness and untrustworthiness. Some of these qualities have been ascribed to written reflection. The two faces of reflection in professional practice are explored in this discussion. These two faces are the face of reflection which benefits practice and the face of reflection which is for showing learning to others. This reflection on the research findings is framed by looking back to ideas from the time of the Roman Janus and from the Greek philosopher, Aristotle. Aristotle's *Nicomachean Ethics* concerns the qualities required for living a 'good life' and being happy. First, an overview of Aristotle's good life is given, following which the discussion will consider the place of the study findings in the context of the literature on reflection and practice, making links to the good life where appropriate, including a consideration of creativity in reflective practice and a brief comparison between the contexts of practice and education.

Phronēsis as part of the good life

Aristotle considered that all human activities aim at some end that we might consider good – or virtuous (Thompson 2004 p3). This idea of virtue is captured in the sense of *Being Worthy* held by physiotherapists. For Aristotle, this sense of goodness is achieved by having a virtuous disposition, and in explanation he named various moral virtues. The physiotherapists' idea of *Being Worthy* corresponds with Aristotle's moral virtue of honour or 'proper ambition'. In Aristotle's *Nicomachean Ethics*, the virtue of something relates to its proper function, so that it is possible to have a deficit or an excess of honour, which then is no longer virtuous. For example, it is possible to be too ambitious and it is possible to have insufficient ambition. Individual must decide for themselves how much is too much and how much too little (Thompson 2004 p144), which means that each physiotherapist must decide what is required to achieve B*eing Worthy*.

Aristotle also considered that there are five intellectual virtues, which are art, science, practical wisdom (phronēsis), wisdom and intuition. These virtues of the intellect have differing properties: science, intuition and wisdom require contemplative reasoning, which is detached from human affairs, while art and phronēsis require calculative, or deliberative reasoning, which helps us to make our way in the world. Phronēsis is also known as wise action, or practical common sense. Unlike science, it is not concerned with universal truths, but with particular circumstances; it is reasoned, contextual action. Virtue (honour) determines what the correct end will be for us to aim for, and phronēsis determines how we might achieve that (Thompson 2004 p163). I will now consider the intellectual virtue of phronēsis: the wisdom regarding action that is reasoned according to the particular circumstances, which is also reflection in practice.

Ellett (2012), an education researcher and philosopher, has suggested that it is possible to 'recover' or to reject concepts of Aristotle's phronēsis for consideration in practice today. This consideration has also informed my thinking on phronēsis and reflection in practice. While I am unconvinced by Ellett's rejection of 'calculation' in the face of his adoption of 'probability', his clarity in other concepts is helpful to considering phronēsis in contemporary practice. From this, I broadly accept Ellett's recovery of a phronēsis which involves deliberation and judgement in the face of indeterminate circumstances involving complicated interactions between the general and the particular. An example of such circumstances would be Morgan's experience when visiting a patient who was the primary carer for his wife, who had dementia. Morgan found it difficult to concentrate on the assessment due to the wife's unfamiliar behaviours, and felt that she had not been effective, nor had she completed her assessment. The patient had a culture of stoicism and Morgan suspected that the patient held different values and beliefs to her own. It was also difficult not to get side-tracked by the patient's recounting of stories. After deliberating, Morgan made several decisions about how to effectively proceed with the assessment on her next visit. (Morgan, audio diary, event analysis one). In this event, the general matter is that of

performing an assessment, which is complicated by the particulars of the patient and his wife.

Like Ellett (2012 p12), I do not propose adopting Aristotle's idea of a grand theory of living a moral life but restrict the term to the range, and scope, of professional practice (for the moment). I also accept Ellett's rejection of Aristotle's idea that the highest aim must be determination by theoretical reasoning rather than practical reasoning, and reject the moral essentialism that suggests the nature and purpose of mankind are in some way 'essential'. However, if Thompson's (2004 pxxxii) translation of Aristotle's concept of the good life and the resultant happiness is accepted, then moral goodness is not about having the moral high ground, and neither is it about being 'happy'. It is about being satisfied with oneself in the sense of living a life fulfilled. In modern terms, and considering the realm of professional practice, we might translate this as 'job satisfaction'. This is consistent with the idea of a profession having the qualities of commitment and public service (Southon and Braithwaite 1998). Aristotle considered that the way to this fulfilment was to adopt the moral virtues; however, his view that each person should decide for themselves how much of each virtue was the right amount for them allows us to consider this 'good life' in terms of personal fulfilment which is different for everyone, rather than a generalised moral code that all should live by. Behaviour consistent with generalised moral codes (in the form of professional codes) is expected of physiotherapists; however, within this, each physiotherapist also has personal criteria for fulfilment. Before further exploring the idea of a good life for physiotherapists I wish to examine the grounded theory in the light of existing literature.

Practice knowledge

The focus of this research on reflection in practice (rather than education), leads to considering the aspects of practice which reflection might influence. According to Eraut (1994 p120), knowledge 'does not become professional knowledge unless and until it is used for a professional purpose'. Higgs and Titchen (1995) consider that the

study of knowledge is important to the profession of physiotherapy, at least for the appropriate employment of research. Like other scholars, they divide knowledge into propositional knowledge or 'knowing that', knowledge which is theoretical and scientific, and non-propositional knowledge, which is all other forms of knowledge. Scholars in this field broadly agree on the nature of propositional knowledge: that it is 'facts' often obtained from book learning, expressed in statements or theories (Reason and Heron 1986), systematically organised into general laws (Carper 1978) and declarative in nature – able to be declared. There is also consensus regarding the nature of non-propositional knowledge in that it is formed of various types of knowledge and is, therefore, sub-divided into further categories. However, what those subdivisions might be and what is an appropriate label for them is more contentious. Higgs and Titchen (1995) identify the following terms for non-propositional knowledge or knowledge from practice: procedural knowledge from Biggs and Telfer (1987), experiential knowledge from Kolb (1984), practical knowledge from Benner (1984), intuitive knowledge from Benner (1984) and one which they elaborate on further, professional craft knowledge from Brown and McIntyre (1993). Professional craft knowledge is about the 'what and when as well as how' in clinical practice. Whilst considering the purposes of reflection for physiotherapists alongside theories of practice knowledge, it should be remembered that physiotherapists are not reflecting in order to enrich all the aspects of their practice knowledge, any more than nurses reflect in order to close the theory–practice gap in nursing. Rather, as demonstrated in the grounded theory, they are reflecting in order to resolve a problem for themselves, whether that problem be of a practical nature or a sense of needing to understand a perplexity.

Reflection and knowledge

Reflection has previously been linked to the theory of knowledge, for instance by Johns (1995), who made the link between reflection and Carper's (1978) ways of knowing in nursing, and Taylor (2010), who linked modes of reflection to Habermas's theories of knowledge and human interests (Habermas 1972). Carper, Johns and Taylor are all nurse scholars who were considering the practice of nursing; nevertheless, there is

common ground between nursing and physiotherapy practice in that each draws on the different types of knowledge for practice (e.g. propositional, non-propositional), even if the content of that knowledge for each is not the same.

As part of my process of 'making sense' of the grounded theory, I returned to the literature which appeared to contain elements of the purposes of reflection and, guided by the work of Taylor (2010), I visited Habermas's (1971) ideas that we reflect on the types of knowledge which interest us for different purposes. Habermas (1971 p198) defined 'interest' as 'the pleasure that we connect with the idea of the existence of an object or of an action'. Habermas (1971 p67) viewed the development of positivism as marking the end of the theory of knowledge and the emergence of the philosophy of science. This change he describes as a move away from searching for the meaning and conditions of all forms of knowledge (science being one form of knowledge) to a search for the meaning of facts, a search conducted within given theoretical (scientific rather than philosophical) rules. Habermas (1971 p191) arrives at his conclusions that the natural sciences are interested in technically exploitable knowledge which provides us with technical control over the processes of nature, or instrumental action, through his review of Pierce's pragmatism as a self-reflection on the natural sciences and Dilthey's historicism as a self-reflection on the cultural sciences, as a way of illustrating the theoretical rules implicit in each science. This is the propositional knowledge of Higgs and Titchen (1995) and Habermas termed this technical interest; valid knowledge in this interest is what can be measured, and is independent of individual experience. The cultural sciences are interested in hermeneutic knowledge which provides us with practically effective knowledge based on intersubjectivity and mutual understanding, or communication action. This is the non-propositional knowledge of Higgs and Titchen (1995) and Habermas termed this practical interest; valid knowledge in this interest is that which can be experienced according to the interpretations of a prevailing symbolic system. In natural science, shaped by technical interest, action is separate from communication and repeatable experience is favoured over individual experience, and it has prescribed language and

rules. In cultural science, shaped by practical interest, experience can only be made sense of in light of the world, culture or values you are already in, which is learned through everyday language and rules. Each science leads to knowledge which can only be understood in that context, either a technical context or a mutually understood context. Habermas's work has been briefly presented here as preparation for exploring the link which Taylor (2010) made between reflection and knowledge, so that I might consider the grounded theory evolved in this study in the light of these connections.

Revisiting Taylor

Taylor's (2010) work on reflection has already been mentioned in chapter three. Following the above introduction of Habermas's ideas of knowledge-interest, it is timely to revisit Taylor's (2010 p80) work linking reflection to three of the types of knowing which arise from Habermas's (1972) concepts of human interests. Taylor recognises these ways of knowing as empirical knowing and interpretive knowing (along with critical knowing, which will be addressed below). Empirical knowledge, for Taylor (2010 p80), is a set of rules for gaining knowledge through a systematic and rigorous procedure which can be tested and re-tested with consistency. It is objective knowledge. Reflection based on this form of knowledge she called technical reflection. Interpretive knowledge, for Taylor (2010 p82), is focused on people and their perceptions of their experiences with regard to context and subjectivity. Reflection based on this form of knowledge she called practical reflection. Taylor (2010 p80) suggests that these types of knowing, and – implicitly – reflection, do not account for all the ways possible; rather, they provide a starting point that may enhance the ability to further 'roam freely in open fields of uncategorised knowledge and reflection'.

Comparing Taylor's three modes of reflection to the grounded theory in this study, it is possible to identify Taylor's modes in the purposes of reflection. Taylor's technical reflection may be used for *seeking a solution*, *questing*, *practising worthily* and *demonstrating worthiness*. Taylor's interpretive or practical reflection would be used for *making sense of self* and *making sense of other*, while the interpretive mode might be combined with technical reflection for *making sense of other* – a combination

entirely within Taylor's understandings of reflection which 'roams freely'. This mapping between Taylor's theories and the grounded theory notwithstanding, the theories do not fully correspond: for instance, *seeking a solution* could require the use of practical reflection rather than technical reflection, depending on the nature of the problem being anticipated. This suggests that considering the purposes of reflection provides a different way of understanding reflection, through a focus on the motivation for reflecting, rather than what is being reflected on.

Emancipatory reflection

Habermas's (1971 p197) third 'interest', emancipatory interest, he treats slightly differently from practical interest and technical interest. Habermas viewed emancipatory reflection (and he changes from the use of the term 'knowledge' to the term 'reflection' for this area of interest) as the subject becoming transparent to the self and to its history and, therefore, able to see itself clearly and become independent of being historically formed. This means that the things which influence our thoughts and behaviour are identified, and, once they are identified, we can choose not to be influenced by them in the future – we can be free of the influence. The emancipatory cognitive interest is the pursuit of reflection, and in self-reflection knowledge coincides with autonomy and responsibility. The language here of 'autonomy and responsibility' suggests that the emancipatory interest should be an interest of professional practice, with the mirroring of the professional idea of autonomy and responsibility. Taylor (2010 p83) develops the idea of emancipatory interest and refers to it as 'critical knowing', which is awareness of the oppression and constraints upon individuals from people, systems or regimes. It includes acknowledging how things are, and why, and visioning how they might be better, or different, and this is for the majority of people, not just individuals. In this definition, Taylor also moves the focus of her critically reflective mode from Habermas's oppression of internal influences created by historical factors to an oppression created by external factors. An example of external factors is seen in the participant Sadie's (audio diary) account of joint working with occupational therapists, where distinctions were held over which professional was responsible for which aspect of a patient's function, what needed to be done before

something else could be actioned, and which profession was more numerous in which geographical area. The occupational therapists in this event would no doubt view their practice as being constrained by the physiotherapist as well, but the focus here is on physiotherapy. Taylor (2010 p143) briefly mentions personal constraints on practice; however, her suggestion that emancipatory reflection is where you 'take on the system' clearly indicates the emphasis on external constraints on practice. Critical knowing moves from 'reification and hegemony to emancipation and empowerment' (Taylor 2010 p83), with both the starting point (restriction and control) and end-point (freedom) being part of critical reflection, which retained Habermas's idea of the end-point being freedom from the restriction. The tension between professional autonomy and working within constraints for physiotherapists is further explored below.

The distinction between internal influence and external influence is not clear cut; Morrison's (1995) suggestion that Habermas's emancipatory interest is practical interest with a political agenda broadens Habermas's ideas to include external influences and acknowledges that any autonomy of practice which might be envisioned needs to be balanced with the responsibilities of the professional, not just to the clients or themselves, but also to the system in which they are employed. Even removing (hypothetically) the constraints of the system, autonomy in professional terms brings with it responsibility: it is not absolute freedom, only freedom to practise to the best of one's ability. Habermas assumes that repressive forces are illegitimate (Morrison 1995) and that individuals can be autonomous, and want to be autonomous. Working within 'the system' is part of the history of physiotherapy as summarised in chapter four. Historically, physiotherapy as a profession has sought to identify itself as having a unique body of knowledge and to acquire legal professional autonomy. To achieve this recognition, the profession placed itself within the system, the respected health care system of the time, initially working under doctors' authority rather than developing independently (Barclay 1994, Nicholls 2012, Nicholls and Cheek 2006). Physiotherapists may have moved away from the authority of doctors; however, responsibilities of working within the system remain. It is unknown to what extent

these responsibilities have shaped the actual practice of physiotherapy or how this influence is continuing to shape practice.

Being Worthy

Nicholls and Cheek (2006 p2345) suggest that physiotherapy history influences contemporary practice. It is possible that this has evolved into a culture where *Being Worthy* is about being worthy within the system, not challenging the system. *Being Worthy* in this sense would maintain physiotherapists in a state of partial autonomous practice. Emancipatory reflection was not a frequent feature of the purpose of reflection for the physiotherapists in this study, although it was present. For instance, the participants Claire and Sadie reflected on instances where the work of other professions was challenging (oppressing) the role of physiotherapy in their clinical practice. In both of these instances, the reflections were made for the purposes of *seeking a solution*. However, for other practitioners in the study, the further limitations of physiotherapy practice due to cutbacks in resources were met with weary acceptance, the struggle being about how to cope rather than how to challenge the oppression of practice. *Questing* might correspond with Taylor's (2010) critical reflection if what we do not yet know is viewed as the oppression of our options, and the habituation of practice an oppression which needs to be broken free of. *Questing* was used either for the individual or for groups of clients and, therefore, does not match Taylor's definition of emancipatory reflection, even though it might be emancipating of habitual practice and thus meet Habermas's emancipatory interest. Once more, the purposes of reflection encompass Taylor's modes of reflection without fully corresponding, and the purpose of *questing* offers a broader concept of emancipatory potential than a focus on either political oppression or internal influences does.

Moral interest

Habermas (1971) mentions briefly one further knowledge-interest, which is the idea of moral interest. Moral interest has a tension between an interest in pure reason which is independent of the senses (moral principles) and the personal satisfaction or

pleasure gained from fulfilling our principles. Although Habermas gives it only a small degree of attention, he appears to conclude that interest in moral action is part of practical interest, because moral principles are culturally and linguistically learned. Taylor has not recognised moral interest in her work, and despite Habermas's placement of moral interest within practical interest it does not appear to be included in Taylor's idea of practical reflection. It is possible that moral interest may be implicit in Taylor's mode of emancipatory reflection if 'unmoral' oppression is being challenged. However, if we now return to the idea of Aristotle's moral goodness being demonstrated in the physiotherapy idea of *Being Worthy*, where being worthy can concern any area of practice knowledge, it is possible to see that Aristotle offers an understanding of reflection by physiotherapists that Taylor's work does not. It is even harder to account for Taylor's modes of reflection in the purpose of *demonstrating worthiness,* but possible to view demonstrating worthiness as a form of gaining or maintaining the moral virtue of honour or ambition. Habermas's idea of tension between principles and fulfilment may apply to some of the decisions that physiotherapists make and may require phronēsis to reach those decisions. Moral tensions have been identified in decision making between the ideas of what ought to happen, or normative ethics, and what actually happens, or relational ethics (Edwards and Delany, in press). Edwards and Delany (*ibid*.) have named the movement between these two forms of moral decision making the ethical reasoning bridge. However, in the ethical reasoning bridge model, practitioners' principles are aligned with universal and generalisable ethical principles rather than on ideas of personal fulfilment. In addition, an individual's sense of identity, personal autonomy and moral striving is recognised for patients and caregivers but not for practitioners' own sense of identity or fulfilment of virtue. *Demonstrating worthiness* extends an understanding of reflection beyond Taylor's modes of reflection, and includes the concept of practising within professional moral principles while offering physiotherapists the personal satisfaction of seeing their own principles fulfilled.

Just as Taylor (2010) linked reflection to Habermas's (1972) knowledge-interests, Johns linked reflection to Carper's (1978) ways of knowing. Carper (1978) considered the basis of knowledge in nursing which provided the framework to Johns (1995) for his model of structured reflection presented in chapter three. Carper identified four ways of knowing for nursing practice: empirics, aesthetics, personal knowledge and ethics. The intersubjectivity, mutual action and communicative action of Habermas's practical interest are partly accounted for by Carper's aesthetic knowing, which requires perception of particulars about the patient's need and an empathetic synthesis of the situation to identify what is required. Carper makes a brief comment that places the art of manual and technical skills in this creative artistry of nursing practice. This is an interesting philosophical placement of manual skills from a physiotherapy perspective, although the juxtaposition of manual skills with technical skills raises questions as to which physiotherapy skills would be which. In physiotherapy (and nursing), arguably, some skills would be based on Habermas's technical interest, and certainly the selection of skills would come under the remit of Taylor's technical reflection. Carper does not elaborate on this point; however, her treatment of personal knowing is also partly accounted for by Habermas's practical interest in Carper's suggestion that personal knowing concerns the knowing of the other person, but that it also extends to knowing ourselves. Carper's ethical way of knowing is knowing what ought to be done, and being able to make decisions in situations of moral ambiguity and uncertainty to fulfil the moral obligation of nurses in their professional practice.

In his Model of Structured Reflection (MSR), Johns (1995) demonstrates the ways in which each of Carper's ways of knowing might form part of the reflective process and adds 'reflexivity' as a reflective stage which synthesises the outcome of the total process for the practitioner. This model provides the practitioner with a way to understand the knowledge that underpins practice, yet Johns (1995 p230) acknowledges that practitioners struggle to understand their own practice using Carper's ways of knowing. It can now be seen that Johns, like Carper, blurs the distinction between the aesthetic and the personal ways of knowing. For example,

where Johns considered the aesthetic way of knowing, he asked the reflector to examine their (sensed) empathetic understanding of the patient but also why the practitioner had responded as they did – a form of personal knowing of self – and in the personal ways of knowing, Johns asked the practitioner to examine their (sensed) feelings and influences. The personal way of knowing is concerned with the knowing of self, which is 'known' through feelings and awareness of internal influences on self, although Johns states that the personal way of knowing differs from personal knowledge in that personal knowledge encompasses all the knowledge an individual has and uses (Johns 1995). Perhaps the categories as Johns uses them are not so clear cut when one's response to a situation could fit in either the aesthetic or the personal way of knowing, and there is potential for overlap between personal knowing and reflexivity. Consequently, although Carper's ways of knowing and Habermas's knowledge-interests differ, the same areas of practice are covered by both theories.

I now return to consider the grounded theory in the light of Johns' reflection based on ways of knowing. In examining the ethical way of knowing, Johns asks the practitioner to consider their own beliefs. These beliefs may well be shaped by professional moral codes, but will also have been shaped by a personal moral code developed through life experiences and upbringing. In Johns' model, through his use of aesthetic, personal and ethical ways of knowing, we can see a turn towards the personal aspect of practice. Comparing the purposes of reflection with Johns' model, Johns' aesthetic way of knowing translates to forms of *making sense of self* and *making sense of other*, his personal way of knowing is a form of *making sense of self,* while his ethical way of knowing and his questions regarding reflectivity are forms of *practising worthily.* In this, both the personal and aesthetic ways of knowing can be included in the purpose of *making sense of self*, which echoes Johns' blurring of these ways of knowing. However, through reflecting for the purpose of *Understanding*, there is greater clarity on the focus of reflection, which may aid practitioners' personal explorations. Johns' empirical ways of knowing could be drawn on for the checking of worthy practice, for instance, when mentally checking practice against the correct technique or

intervention. Within the idea of doing everything that is legally required there is implied an understanding of what the legal requirements are. However, Johns' empirical way of knowing, while applicable to *Being Worthy*, does not cover all aspects of *Being Worthy*, which also include interpretive aspects of practice and, furthermore, checking against a textbook response captures the idea of competence of practice while missing the idea of excellence of practice. Therefore, while all of Johns' reflective dimensions are included in the purposes of reflection, Johns' event-analysis focus means that *seeking a solution* is not represented in Johns' model and neither is *questing* – although, conceivably, *questing* could arise from the reflection guided by Johns' work. Johns' ways of reflecting are not refuted by the concept of the purposes of reflection, but do not entirely account for the way of understanding reflection suggested by this grounded theory. In addition, where Johns' ways of reflecting can be applied to these findings, they do not match the categories but instead cut across them, suggesting that the concept of the purposes of reflection is not just providing new labels for previously conceived ideas. Johns' (1995) use of empirical knowing for the description of an event does not promote an exploration of the empirical aspects of practice to enlighten reflective insight that either Taylor's (2010) technical reflection or the purpose of *Being Worthy* allows. Johns' work does point to the concept of moral value as a part of reflection and implicitly includes personal moral codes as well as professional moral codes, which permits a consideration of the good life of the practitioner as well as encompassing the purpose of *Being Worthy*.

Espoused knowledge

The context for this discussion is that of the practice of physiotherapy. Reflection has been considered extensively in education, including physiotherapy education; however, its place in the practice of physiotherapy has not been so well considered. Practice shaped the purpose of reflection for participants in this study: the purpose was relevant only in the context of the individual experience and perception of it. There are other dimensions to the context of practice than identification of the contributions of knowledge to practice. Gherardi (2000 p215) proposes that while practice knowledge arises from multiple perspectives, practice knowing is not separate

from practice doing; or as Orlikowski (2002) suggests, knowing in practice is a doing process rather than a cognitive process. Having considered the forms of knowledge which contribute to professional practice, and considered the purposes of reflection in the light of some previously established key models of reflection, I will now explore further the idea that this grounded theory was developed from and with the work of professionals already in the practice. One observation made during this grounded theory study of physiotherapists' reflection can be explained through the theories of action proposed by Argyris and Schön (1974). Argyris and Schön argued that people have an internal sense about how they should act in a certain situation, which guides their actions. This sense and what we do in response to it, or 'theory-in-use', is often tacit in nature. What we say that we do is espoused theory. Theory-in-use and espoused theory may not be the same. When asked, 'What is reflection?', practitioners may answer with their espoused theory. For example, some of the participants in the interview stage of this study expressed concerns to me that they had not reflected recently, or perhaps had not reflected very often. In saying this, they were telling me that they had not reflected in accordance with their espoused theory of reflection. During the interviews, it became apparent for each of them that they had indeed reflected recently and, for some of them, reflected very frequently – this was their reflection theory-in-use. Argyris and Schön considered that the role of reflection was to explore the degree of fit between espoused theory and theory-in-use. Savaya and Gardner (2012 p153) raise the idea that either espoused theory or theory-in-use could hold the greater value for practice depending on the circumstances. I suggest that, although an understanding of reflection may reach a place where both of these theories fit, this place may not be one of close congruence but a place of understanding of the different contributions that each face of reflection may bring to practice.

The other face of reflection

So far in this discussion, the face of reflection which contributes to practice has been considered. The other 'face' of reflection is provided by the reflective purpose of

demonstrating worthiness. This face is not concerned with a new beginning, springing from experience; it is only concerned with looking back onto practice and bringing out examples which will demonstrate either professional development or reflection itself. In some ways, as previously stated, it looks both backwards on what has happened and forwards at the future need for evidence; however, it is different in many ways from the face of reflection that looks to practising the good life. The only way in which *demonstrating worthiness* can contribute towards job satisfaction is in maintaining one's job, or opening the gateway to another job, or to promotion. It contributes by 'ticking the box' (Chapman and Williams 2015). The other purposes of reflection all concern first order experiences (events experienced) and second order experiences (thinking about experience) (Shulman 2004). *Demonstrating worthiness* concerns what I will call third order experience – that of sharing the experience with someone else. Such critics of teaching and assessing reflection in education that are concerned that reflection shared may not be 'real' or true, or is carefully selected (Hargreaves 2004, Hobbs 2007), are offering a critique of this face of reflection, this third order experience, rather than thinking about experiences per se.

Aristotle suggested that the state of mind in which a person can act in such a way as to be a good man [sic] (i.e. fulfilled) is when he acts from his [sic] own choice (Thompson 2004 p163). This sense of having choice is, for Aristotle, significant to being fulfilled. Perhaps, then, *demonstrating worthiness*, which contains a sense of having no choice (other than which reflective moments to publicly share), cannot lead to fulfilment because it is forced rather than chosen. Kinsella (2012 p44) suggests that when meaning is socially constructed we are *condemned* to meaning (italics in original) because of the social context it is constructed in. Kinsella was addressing how meaning might be constructed *through* reflection, not how practice might be shaped *by* reflection. Nevertheless, *demonstrating worthiness* might be the socially constructed form of reflection that we are condemned to by organisational expectations and constraints. The other purposes of reflection might be what we choose to do, notwithstanding the organisational expectations. In terms of a good life, there is a

tension between emancipation and working to the rules. *Demonstrating worthiness* may be a form of oppression itself; in this I do not mean an oppression of practice (it appears to have little effect on practice), but an oppression of expression. It does not need to be an oppression of expression, but the written forms of reflection required for professional portfolios and appraisals have not encouraged the freedom of personal style and individual reflective skills in the same way that 'thinking about practice' has allowed in the other purposes of reflection and, therefore, there may be an oppression of the practice of reflection.

A return to Dewey

Although there are many models, modes and definitions of reflecting available, as discussed in chapter three, the definition of reflection that I kept returning to was that of Dewey (1910). In Dewey's (1910 p9) understanding of reflective thinking and his language of resolving perplexity, hesitation or doubt through an investigation directed towards resolving this state, I found that I could position all of the reflective accounts from the audio diaries, including Joy's dialogical reflections, as reflection. By taking a broad understanding of the possible nature of perplexity, I could also position all of the reflective purposes as reflection according to Dewey. It was more challenging to position *demonstrating worthiness* alongside Dewey's account, unless perplexity is framed as 'the problem of how best to present yourself', which underlines the nature of *demonstrating worthiness* as a different face of reflection.

Dewey has been identified as having a hypothetico-deductive approach, and he certainly supports a systematic and thorough consideration of information. However, he also suggests that imagination and inventiveness are necessary. His focus and philosophical approach to life include art and education as well as science. I do not feel the need to label Dewey as either hypothetico-deductive or phenomenological (Donaghy and Morss 2000, 2007) in philosophical approach. Instead, acknowledging his position in the development of pragmatism (Slater 2011) and his stance that the truth of an event rests on the consequences and meaning of that event in its social

context (Denzin and Lincoln 2011 p246) enables both aspects of reflective thinking to be embraced, and the purpose or nature of the perplexity to shape the reflection.

Following Ellett's (2012) 'recovery and rejection' approach to a contemporary application of Aristotle's phronēsis, I propose a recovery of Dewey's pragmatic stance towards reflection which permits both propositional knowledge and personal and interpersonal aspects of knowing to be reflected on. However, I propose a rejection of Dewey's concept of reflective thinking as necessarily analytical and systematic, modifying this with an adoption of the use of either analytical thinking or heuristic understanding developing over time, each regulated by the purpose of reflection. I propose an acceptance of his inclusion of imaginative thinking and extending this to the inclusion of creative and intuitive thought with occasions of inspiration and insight. The aspects of reflecting thinking which include creativity and insight will be addressed below.

The good life of physiotherapists

Reflection has previously been conceptualised as a form of phronēsis (Kinsella 2012); however, this is often accompanied by some sense of a generalised moral standard, either implicitly or explicitly, in such conceptualisations. Implicit ideas of generalised moral standards can be seen when statements such as 'an individual's goals are morally good only if the individual is virtuous' (Birmingham 2004 p319) are made in the absence of a definition of 'morally good'. Explicit association is made in Kemmis's (2012 p156) statement that the quality of phronēsis 'consists in being open to experience and being committed to acting with wisdom and prudence *for the good*' (italics in original). Thompson's (2004) reading of Aristotle's moral goodness as a life fulfilled allows for a different perspective on reflection as a form of phronēsis. Ellett (2012 p16) observes that 'for most professionals being a good professional is a very important part of living a good life…[with] serious implications for one's…self-esteem', and a positive self-esteem is part of feeling fulfilled.

If we briefly review the purposes of reflection with the good life in mind, the reflective purpose of *practising worthily* leads us into considering the purposes of reflection as being a way of searching for this personal fulfilment. If we can look to our practice and say, yes, we have practised worthily, then we might feel fulfilled, or satisfied with our work. Likewise, *seeking a solution* can be viewed in the same light – and also as a form of phronēsis. *Questing*, although not seen frequently, is also consistent with seeking personal fulfilment, through the personal satisfaction of having made practice better for a patient or group of patients. Conceivably, this may be on an occasional basis rather than an everyday event. *Making sense of self* and *making sense of other* may not at first glance seem to be concerned with living a good life – except that the discomfort that the lack of understanding, the initial perplexity, generates is the opposite of such 'happiness' or feeling of fulfilment, and therefore must be addressed in order to reach the state of satisfaction. The only reflective purpose which does not so obviously lead to fulfilment is that of *demonstrating worthiness* and this will be addressed separately below.

Having stated earlier that we could consider Aristotle's good life as pertaining just to professional practice, I would now like to stretch this concept, not to some greater ideal of a morally good life but just sufficiently to acknowledge that professional practice is not bounded by the hours that an individual works at their profession. Again, in keeping with the vocational aspect of being a professional, the practice of physiotherapists spills over into their personal lives, or at least the thinking aspects of it do. Physiotherapists' reflection is not bounded by the clock, nor by activity, so that much of their reflection is carried out when not at work. This suggests not only a complexity of the perplexity, which may demand more time than work hours permit, but also the dedication of therapists to seeking the sense of personal fulfilment that the resolving of such perplexity facilitates. Whether practitioners view this as personal development or solely professional development, or whether the two aspects are even divisible, is not evident in the data. Aristotle's idea of the good life is a life in which artistry, technical skill and scientific knowledge (amongst other virtues) contribute.

Each individual may have their own criteria for fulfilment, which may direct the focus of their reflections in different ways – to technical reflection, to practical reflection, or to *Understanding*, *Seeking* or *Being Worthy*.

Professional education is not just a process of learning and doing: it is a process of becoming (Dall'Alba 2009). This process of becoming continues once we have 'become' a physiotherapist so that we are continually becoming who we wish to be as a physiotherapist. The possibilities for who we become are shaped by our own priorities and the profession that we are a part of (Dall'Alba 2009). The process of socialisation into a profession, how professionals learn the values, attitudes and beliefs of physiotherapy (Vollmer and Mills 1966), is determined by experiences of professional practice (Richardson 1999). Professing and owning the values of physiotherapy is about living them, about 'being' a physiotherapist (Mostrom 2004), and this process of becoming has been recognised in nursing as a spiral of continued professional growth (Maich, Brown and Royle 2000). The CSP code of professional values (CSP 2011) recognises behaviour, lifestyle and activity outside of work as being part of being a professional. Perhaps, then, it is not surprising that physiotherapists' reflection on their practice, their continual 'becoming' a physiotherapist, is not constrained to the hours within work time.

Jensen and Paschal (2000) link the idea of being a good professional with virtuous practice, drawing on Aristotle's virtue as a form of excellence, which leads to an understanding of virtuous practice as excellent practice as well as morally good practice. For this, they consider that critical reflection is required. However, they acknowledge that there is a plurality of moral perspectives in society. Jensen and Paschal (2000) link practical wisdom with the making of moral judgements, although later in the same paper they link the idea of practical wisdom very firmly to the making of clinical judgements, rather than any broader scope for wise decisions. There was rich evidence in the data for *practising worthily* to include the checking of clinical judgements just made, as we saw with the participants Alison and Grace in chapter

seven. There was also evidence in *practising worthily* to include a broader consideration of the context of practice, and organisational demands. Hammond, Cross and Moore (2016) suggest that the virtuous values of physiotherapy have not been explored, although Jensen et al. (2000) identify virtue as one of the four dimensions of expert physiotherapists, specifically the values of caring and commitment to the patient. Jensen at al. (2000 p39) found that the physiotherapists in their study set high standards for themselves and were driven to stay current in their practice by their commitment to doing what was best. The findings in Jensen et al.'s (2000) study support the idea of virtuous practice seen in the participants in this study, even though this study's participants had a range of experience and expertise.

Kemmis (2012 p150) proposed that phronēsis is a judgement about a wise course of action, but it is not the action itself, which is praxis (wise action). He further suggests that, although phronēsis is a judgement orientated towards praxis, phronēsis can only arise out of praxis and in response to experience. I would suggest that wise practical judgement in the form of reflection might not always be directed to praxis, or action, because the purposes of reflection which yield understanding may lead to action or may not, but always leads to a greater sense of fulfilment once understanding is gained. (Of course, if we view the practice of reflection as a form of praxis, then phronēsis related to reflection becomes what, why, when and how to reflect.) To return to considering phronēsis directed towards practice rather than to reflection, Kemmis's context for phronēsis is 'good practice' for society rather than fulfilled practitioners. Kemmis (2012 p148) suggests that we want practitioners with more than scientific knowledge and professional practice knowledge; that we are looking for practitioners who are disposed to wisdom. I suggest that we already have wise practitioners provided we do not pre-judge what wisdom is for practitioners who are searching for their own wise course of action in the particular context in which they find themselves. Practitioners making individual choices about what is the wise course of action are likely to be also making choices that are for the good of society. My point here is that their immediate concern is for their own satisfaction, not that of society.

The sense of public commitment which led them to the profession in the first place may well align personal choices with public choice, but it is the sense of satisfaction in the mind of the professional which drives the reflection.

Gustavsson (2004) recognises Aristotle's good life as being concerned with well-being, and happiness with realising potential and developing abilities. However, while recognising the social context within which we make our decisions, Gustavsson links practical wisdom to ethical practice – i.e. a greater moral code, rather than personal well-being. Sim and Richardson (2004 p138) outline the nature of codes of professional conduct, which includes codes of ethical practice representing the consensus view of the profession (and include matters of professional interest such as reputation and legal requirements). They recognise that each practitioner has to make individual reasoned moral judgements within, or constrained by, the professional codes. A physiotherapist educated and socialised into the professional codes of conduct based on moral codes may consider themselves fulfilled if they meet such codes in their own practice, so the distinction between professional moral codes shaping performance and the desire to be fulfilled in one's practice shaping performance may be subtle. Johns' (1995) acknowledgement of reflection including professional moral codes and personal moral codes allows for both influences to be considered. However, that practical wisdom can lead to a sense of personal well-being recognises the Aristotelian sense of a fulfilled life, not just a morally correct life. Moreover, the reaching of decisions or understanding guided by an individual choice (in Aristotle's terms) on the right amount of virtue necessary in a specific context is an individual perspective, rather than a profession-wide perspective, of reflection in practice, which is consistent with the purposes of reflection theory advanced in this study.

Kemmis (2012) proposed that we value and desire phronēsis because we long for a world where people strive to act rightly; however, it is not our judgement of whether someone else is acting rightly, or even the most-rightly-in-the-circumstances, that directs physiotherapists' reflections: it is the physiotherapists' own judgements of

whether they can view their professional practice as fulfilling or not, by their own criteria for making that judgement. A critical emancipatory perspective might identify what was constraining practice, where it was occurring and then what was needed to overturn this oppression of practice. An appreciative perspective seeks to identify what is good about the practice of reflection by physiotherapists, what works and what it offers to practitioners. An individual perspective on what is required to live a fulfilled life can acknowledge the different places that paid employment can take in a life which also contains family, hobbies and beliefs about lifestyle. Dewey (1910 p10) considered that the purpose for which you were reflecting regulated, or guided, the process of your reflective thinking. The purpose of living a fulfilled life may be the guiding factor in the reflection of practising physiotherapists.

The validity and status the profession of physiotherapy accords to knowledge stemming from positivist epistemology is not surprising when the history of the profession discussed in chapter four is considered, and when physiotherapy training has historically been within a biomedical context (Shaw and Connelly 2012). There is only one physiotherapy-created model of reflection (Donaghy and Morss 2007) (other than my own Fluid model (Dalley-Hewer 2013)). Donaghy and Morss's (2007) model is based on a hypothetico-deductive physiotherapy approach, and then only on one aspect of the approach. This analytical and linear model of Donaghy and Morss (2000) is consistent with a positivist stance. Carper's 1978 paper on knowledge in nursing was responded to by nurses with a model for reflecting on practice (Johns 1993); Higgs and Titchen's 1985 paper on knowledge in physiotherapy was responded to by physiotherapists with criticism against the significance of such theory for practising physiotherapists (Robertson 1996). Nevertheless, physiotherapy as a profession shares Shepard and Jensen's (1994) opinion that reflective practice is the hallmark of professional behaviour; however, we have borrowed and adapted the work of other disciplines, we have fitted in, we have learned their rules. This is even though the process of event analysis, with its focus on problems, may be potentially uncomfortable for us. Bass (1999) suggested that, for teaching, having a problem in

one's practice was something that you did not want to have, and being asked about problems in your practice was like an accusation. The 'success' of reflection has been judged by the values of propositional knowledge based on a positivist paradigm by some of its critics (Rolfe 2001), even though an awareness of how specific propositional knowledge might influence practice is not the only way in which reflection can affect practice. Framing the practice of reflection by its usefulness rather than its problem-solving ability may present reflection in a more positive light to a profession with a pragmatic approach to practice (Clouder 2000a). Given the amount of time and attention given to teaching reflection and the importance of it, as signified by earlier professional body endorsement, it would be appropriate to broaden the awareness of the scope and potential benefits of reflective practice to include how useful it is for many more purposes than the demonstration of learning or of *Being Worthy.*

The professional knowing that arises from forms of propositional and non-propositional knowledge is supported by reflection. There is evidence in this research of reflecting on the technically correct treatment and on how to go about something – procedural knowledge – and much evidence of a changed insight into the interpersonal aspects of the therapeutic relationship. Because the purposes of reflection concern what is being reflected for, rather than what is being reflected on, the purposes of reflection cannot be organised by forms of knowledge in practice, even though the various forms of knowledge are encompassed in the reflections.

Modes of thinking and reflection

While deliberating what insights the purposes of reflection may hold for practice, I considered that different ways of knowing may require different ways of thinking, and that, thus, different modes of reflection may also draw on different ways of thinking. To explore this further, I considered the place of creative thinking and analytical thinking. Holder (1995 p7), a professor of philosophy at St Norbert Arts College, suggests that there are philosophical problems with our concept of thinking. This is due to our conception of thinking as both a rational and a creative process. Holder

considers that these two elements do have their part but that each comes from different epistemological stances which are not easily reconciled. The cognitivists have progressed our understanding of thinking as information processing following formal logic while the creativists consider thinking to be formed by the imaginative inventiveness of the artist. Holder considers that these processes are in such a degree of opposition to each other that it is hard to support the idea that these are unified in one single process known as thinking, and that the epistemology of neither position provides recognition of the other form, just as Habermas (1991) suggested that each type of science (natural or cultural) leads to knowledge which can only be understood in the context of that science.

Creativity in practice is a feature of *questing. Questing* was the least frequent purpose of reflection, and perhaps the quality of professional development which has guided physiotherapists to practise within the value structures of society has resulted in professionals for whom the highest good is working within the known rules, rather than challenging them. Hammond, Cross and Moore (2016 p75) position physiotherapy as a rule-based profession, in which conventional thinking which follows the rules is perpetuated. This can result in tension between the professional values, beliefs and motivations, and the challenges which individual practitioners face in providing best care. Forms of knowledge have social status, and if the empirical knowledge encouraged by the move towards evidence based practice is given higher status by the profession then a good life may include the preference for empirical, objective knowledge. However, *questing* as a form of emancipation may not be about overthrowing the organisational restrictions; it may just be a stretching of the boundaries of practice, doing what has not been attempted before, being opportunistic to new possibilities. Hammond, Cross and Moore (2016 p75) suggest that there exists potential for such emancipation of professional practice. This is a form of creativity, creating a novel approach to a problem, and yet, despite our problem-solving focus, creativity is not often talked or written about in the physiotherapy literature.

Creativity and creative thinking have been studied by psychologists for some time; for example, Simon (2001 p208) considers that creative thought produces something 'novel and interesting and valuable' and Sethy (2009) considers the features of creativity to be novelty and uniqueness, relevance and value. When considering creative thinking styles, Cohen and Ferrari (2010 p68) report that creativity is related to adaptive problem solving and contrast this to 'concrete, strict and inflexible styles of thinking' and further suggest that where rigid processes constrain flexibility of thinking in any way this may suggest a decrease in problem solving ability. Physiotherapists reflect for a variety of purposes, searching for a resolution of their perplexity. The resolution is a problem-solution; therefore, the links between creativity and problem solving explored by the psychologists are relevant to a discussion on reflection. Smith (2005 p293) challenges the assumption that creativity leads to a positively valued outcome, suggesting that creativity produces novel rather than worthy results. Smith's (2005) debate of this point is related to who decides what is valued rather than whether value is an inherent part of creativity; however, creativity may be a risky strategy. Creative thinking may lead to insights; insight is explained as 'a sudden comprehension' that solves a problem, reinterprets a situation or resolves an ambiguous percept (Kounios and Beeman 2009 p210), all of which are relevant to the form of thinking that is reflective thinking. Simon (2001) suggests that creative production is arrived at by personal and social increments – small steps in thinking about something. He calls this constant searching for explanation and understanding from information available, 'heuristic searching'. Heuristic inquiry tends to be adopted where the research concerns the self as research subject, using self-reflective strategies and introspection as a research tools to aid the developing understanding. In event analysis models of reflection there is a strong implication that the reflective process is a discrete, one-off activity, even though Johns (1995 p226) recommends that his model is an heuristic tool, this is not usually how it is used. Hargreaves and Page's (2013) timeline may illustrate the heuristic process of reflection more overtly.

To return to considering the idea of creative thinking and analytical thinking, the contrast of these approaches is seen in the work of Mylopoulos and Woods, who are educational researchers interested in how professionals construct knowledge through their daily problem solving and how different forms of knowledge contribute to forming medical diagnoses. Mylopoulos and Woods (2009), working with the same ideas of adaptive problem solving as Cohen and Ferrari (2010), examined in their scholarly paper the literature on expertise as clinical reasoning and adaptive models of expertise. Expertise as clinical reasoning is where theories of expertise are based on cognitive structures, processes and mechanisms while expertise as adaptive problem solving is where expertise relies on innovation, and opportunities to construct (new) knowledge. Unlike Holder's (1995) opposing ideas which cannot be unified, adaptive experts can perform as the routine (cognitive) experts can but are also capable of innovation. Schwartz, Bransford and Sears (2005) suggest that learning needs to be directed to both efficiency and innovation. Efficiency is where the right solution is found with speed and relies on learning for context knowledge, discipline specific knowledge and discipline specific ways of solving problems. Innovation is where new and novel approaches are found to problems, which may involve the deliberate learning of both new knowledge and new approaches in order to solve the problem; this relies on learning for approaching novel situations and novel learning strategies. It is the ability to be innovative which marks the adaptive experts from the routine experts for Mylopoulos and Woods (2009). Efficiency requires propositional knowledge and procedural knowledge while innovation requires imaginative inventiveness – or creativity. The concept of the 'routine expert' sounds like a contradiction in terms given Glaser and Chi's (1988) widely accepted (Jensen, Resnick and Haddad 2008 p126) characteristics of experts, one of which is that experts find more creative solutions to problems. This notwithstanding, the point made by both Mylopoulos and Woods (2009) and Glaser and Chi (1988) is that the use of creativity offers a higher level of performance.

Upon examination of the ideas of Holder (1995), it becomes apparent that Holder has set up two extreme positions on cognition and creativity in thinking in order to make his case, which may be an artificial dichotomy. Holder's premise, that each form of thinking rest on differing epistemologies – analytical thinking on positivism and creative thinking on the interpretive paradigm – appears to rest on the degree to which each is measurable. Holder suggests that since the epistemologies are irreconcilable, with neither way of knowing the world accounting for the presence of the other form of thinking, a new epistemology is required. Holder does not explore the possibility that each way of knowing can inform our understanding differently without denying the other way of knowing. This is in contrast to the popularist work of de Bono (1999), where thinking is divided into six types, indicated by coloured hats. The white hat indicates objective thinking, which is neutral and usually includes facts and figures. The red hat indicates reflective thinking, which takes an emotional view of the world. De Bono promoted the idea that it is possible to use each form of thinking to illuminate a problem. Kaufman and Baer (2006 p2) observe that knowledge and reason are often seen in opposition to creativity, when adult creativity requires both knowledge and critical thinking skills as well as a naïve, spontaneous imagination. Dewey (1910) explains reflection through the use of rational belief, reasoning and knowing; however, in the creative arts, the mind is 'allowed' to work differently, creatively, by instinct and intuition, bringing things from the subconscious. It may be more helpful to view thinking as being along a continuum between reason and creativity, with decision making able to draw on both aspects to differing degrees.

If we review the purposes of reflection for physiotherapists with the balance of rational thinking to creative thinking in mind, *Being Worthy* fits neatly into rational ways of thinking, with the checking of actions done and preparation for showing others against a given standard. Although *demonstrating worthiness* could be creative, either in the form in which it is demonstrated or by demonstrating creativity itself, in practice it mostly appears to fit recognisable written forms of reflection promoted by reflective models or forms provided by the CSP for its members (e.g. CSP 2016). Such forms

follow linear and analytical ways of thinking rather than an heuristic way of knowing which draws on processes of creative self-discovery (Moustakas 1990 p10-11). The reflective purpose of *Understanding*, which matches both Carper's aesthetic ways of knowing and Taylor's interpretive mode of reflection, draws on interpretive epistemologies. However, when considering a rational/creative continuum, *Understanding* appears to draw more on rational thinking than on creative thinking, which, it could be argued, by Holder's (1995) understanding, rests on positivistic epistemology despite the presence of emotions and personal responses. Where creativity is easily seen in the purposes of reflection is in *Seeking* – and, most notably, the subcategory of *questing*. From the frequency of *questing* seen in the data, creative thinking and finding novel solutions to problems may be the least frequent mode of reflection shared by this group of participants. Brookfield (1987 p138) defines creative problem solving as the 'readiness to question critically the appropriateness of accepted wisdom and to free ourselves from the habitual ways of thinking and perceiving that govern our ways of organising the workplace'. De Bono's (1999 p117) green hat thinking is concerned with escaping from 'old ideas in order to find better ones'. Brookfield's (1987) definition and de Bono's (1999) idea of green hat thinking suggest that, although creativity may be used to supply resolutions to the problems in all of the purposes of reflection, it may be particularly applicable to the purpose of *questing.* Creativity may be invisible when it is subsumed under a cloak of analytical thinking (Philip 2015). But a creativity that goes further in seeking a solution could surely be seen, not unseen. The unseen-ness of creativity in practice, and the infrequency of *questing*, might be due to other reasons, such as not being looked for before.

My interest in the creative aspects of physiotherapists' reflection is related not only to forms of thinking and problem solving, but also to the strategies and activities used for reflection by the practitioners. Exploring the patterns of reflection in the participants' lives, during routinised, non-cognitively demanding activities, led me to some of the

science of generative creative thinking. This led me to exploring the facilitation of reflection in alternative ways to the production of written models.

Moving between practice and education

This study has explored reflection in practice; however, given the focus of so much of the previous literature on the educational context, there are some points of comparison to be made. Select points only will be made here because of this study's focus on practice rather than education. If practising physiotherapists use reflection for a purpose which is shaped by their practice, then students might use it for a different purpose because of their different context. The purpose of reflection for students is shaped by the educative context; students reflect to improve their practice, but the driver for reflection is to pass, to make the grade, and, ultimately, to demonstrate worthiness of being admitted into the ranks of the profession. This context provides a quite different influence on the process and perhaps on the perceived usefulness of reflection. This is not to suggest that students do not learn from reflection, only that the context of student practice provides a different purpose to their reflection. Speculatively, the reflection of students may contain more *demonstrating worthiness*, because that is the purpose of many assessments, and, while *Understanding* may be what the assessors are looking for, it is not a search for understanding which drives the reflective activity. Hobbs (2007) captures this tension between having to show reflective insight in order to meet someone else's expectations of assessment, rather than to meet any perplexity of one's own, very well. Students may also wish to appear worthy to their patients, which adds another layer of complexity. Brookfield (1987 p115) observes that creative thinking is not encouraged by the requirements for successful performance that are found in education, and, as if to underscore this, his elaboration of creative thinking is termed an 'alternative way of thinking'.

Again, speculatively, it might be unusual to see examples of *questing* in the reflections of students, who are aiming to show they know the rules and can perform within them, not attempting to stretch the boundaries of practice. Should they wish to

216

stretch boundaries, they could find that they do not have sufficient autonomy and power to do so, and performing outside the bounds of expected behaviour may earn them the censure of their assessors. Richardson (1999 p471) makes the point that learning in the 'school' setting has to be unlearned and re-learned in the clinical setting, and she observes that education and practice cultures are very different. Taking this observation one step further, not only has the learning to be re-learned in clinical practice; there are other changes to be made, such as why one might reflect at all. Junior physiotherapy staff may stay in the same mindset as students of using reflection in order to show worthiness, and this may be reinforced by those workplaces which require written reflection as part of an appraisal or supervisory system. Unlike professional autonomy and accountability, there is no indicator to signal to physiotherapists that the place of reflection in their practice has changed. Workplaces may expect junior staff to comply with certain behaviours consistent with their junior status, which raises the question of at what grade or situational context they are permitted or expected to move on.

During the course of this study, student education has provided a testing ground for new ideas as I strived for more authentic teaching that captured better the reality of reflection in the practice context. Not only does education inform practice, but practice has informed education. I have tried to come closer in the classroom to the real-world operationalisation of reflection to make an authentic educative experience. Paget (2001) refers to formal reflection as written and assessed reflection, and informal reflection as the non-written reflection that is done in practice. Looking at education, I observe that we spend more time in education on the formal aspects of reflection than we do on the modes of reflection which change our practice – and that this is not consistent with our desire to develop reflective practitioners. I have aimed for a broader recognition of what reflection might be, for a sense of valuing reflection, for individualisation of reflection rather than fitting the mould. It has been a trial and error process with some progress:

Presenting reflection more broadly to students at undergraduate and postgraduate levels has brought flashes of recognition and insight from students who previously couldn't connect with all this reflection business.
(Research Diary, 24th August 2015)

To return to this study's beginnings, perhaps it is not that the practice benefits of reflection are unproven (Mackintosh 1998), but that expectations have been unrealistic and an understanding of reflection in the real world has not been sought or explored and, as such, is incomplete. Schön's (1983) explanation of reflection in practice focused on the artistry of practice and this may have directed the health professions to an event analysis concept of reflection, sometimes in the hope of explicating the tacit knowledge of practitioners into declarative knowledge, rather than to a broader grasp of the potential of reflection. Reflection is integral to sense of self as a practitioner and how people project themselves; the individual practitioner reflects within their context of practice, and has to be in the practice space to affect any reflective outcomes, in the manner of the 'from praxis and to praxis' premise of Kemmis (2012).

The triple hurdle of unrealistic expectations, a lack of understanding of real-world reflection and a perhaps unmerited focus on event analysis present a challenge to those academics facilitating reflection in education. Nevertheless, despite the constraints of attempting to teach real-world reflection in the education context, the participant Julia reported that she had always reflected, but that learning about reflection later in her career had given her the language to articulate what it was that she was doing. In a post-data collection conversation, Julia reported that the teaching of reflection gives it a name, that naming it gives it status, and that status means you can recognise it as an important part of your work. This is an illustration of Eraut's (1994 p120) point that knowledge not perceived as professionally relevant is accorded low status by students, and demonstrates that this low status is maintained into qualified practice. Julia learned about reflection as a postgraduate student; the dilemma for academic staff is that for students in education today, *now* is the only

time that the practice of reflection can be established as a routine part of professional performance. Mackintosh (1998) suggests that there is no framework for implementing reflection in practice. The purposes of reflection may provide such a framework: a framework which has evolved from practice itself, rather than having been developed from education, and, as such, a framework which may have validity for practitioners themselves and not the demands of the organisation they work for.

Rational analytical preparation for practice has dominance over creative preparation for practice. Rational analytical models of reflection dominate the field of facilitating reflection, and continued training in this style will only help practitioners to get better at using the models, not better at reflecting for their practice (Dohn 2011). Dohn's observation that writing reifies reflection may suggest the presence of an oppression of our reflective practice from which we need to seek emancipation. In the face of practice which is required to embrace change after change, and when many physiotherapists work within a system which is ailing and under-resourced (Hughes 2016), the profession has passed the point at which getting better at what we do (becoming more efficient) will meet the needs of patients. Instead, we need to look at doing things differently (innovation). The withdrawal of NHS funding for undergraduate training in 2017 (Council of Deans 2016) may provide the political opportunity to reimagine the potential for physiotherapy practice. Part of this imagining might be the potential of reflection as a tool for empowering physiotherapists rather than for demonstrating worthiness. The NHS vision for the next five years (NHS England 2017) refers mostly to doctors and nurses; however, therapists are implicitly included in the plans. The plans include developing urgent treatment centres, integrating primary care and promoting healthy communities, to name just three areas that physiotherapists could contribute to in new ways. These changes in health service delivery may be an opportunity to reconsider the contribution of physiotherapy, as the profession has done historically. This will require a process of *questing* from clinicians, managers and educators of future practitioners alike.

Aristotle's wisdom, along with science and intuition, is formed from generalisations detached from life, while practical wisdom, or prudence, is judgement in the particular circumstances. Wise practice may require both the wisdom and science of professional knowledge, and judgement and decision making in the particular. All of these, used in the correct amounts, lead to happiness, or fulfilment. Rolfe (2001) suggests that when faced with competing paradigms, both cannot be simultaneously the more worthy. Nevertheless, if evidence based practice is our espoused knowledge and reflection is our knowledge in practice, perhaps Argyris and Schön's (1974) ideal of a 'fit' between these two might be achievable; a deeper wisdom may lie in getting the balance right. Reflection according to purpose by qualified physiotherapists is one window into the ways in which practitioners use physiotherapy professional knowledge in their practice, which may contribute to recognising the part that reflection plays in physiotherapy practice.

Chapter Twelve: Conclusions

Introduction

This grounded theory of reflection provides a new way of understanding reflection which is specific to on-going practice rather than to education, training or workshop situations. It is a way of understanding reflection from the perspective of practitioners rather than theorists and has the potential to increase practitioners' perceptions of the usefulness of reflection. Reflection is used by physiotherapists for a particular purpose and that purpose shapes the outcomes and benefit of reflection to their practice.

The purposes of reflection:

- Making sense of self
- Making sense of other
- Practising worthily
- Demonstrating worthiness
- Seeking a solution
- Questing

The benefit of reflection:

- Understanding and awareness: changes thinking
- Actions and planning: changes actions
- Getting the badge: maintains career
- Emotional easing: changes feelings

The most frequent reasons for using reflection are to gain understanding of self or others and to seek a solution to an anticipated problem: the use of anticipatory reflection is as frequent as retrospective reflection. The use of reflection for extending the boundaries of physiotherapy practice is relatively rare while written reflection is only used for the purpose of demonstrating competence and does not affect practice. Physiotherapists' practice of reflection is not bounded by their work hours.

Practice of reflection:

- Personal concept of reflection
- Personal strategies for reflection
- Time

- Head-Space

Instead of work-bounded reflection, they use individual strategies for reflection for making the time and head-space for reflection, frequently making use of their lifestyle routines of non-cognitively demanding activities such as walking.

The purposes of reflection are a different way of understanding reflection, through a focus on why physiotherapists reflect, rather than what they reflect on. Practitioners may be mindful of practising within professional standards and codes of practice, but it is the sense of personal satisfaction in the mind of the professional which drives the reflection. The implications of this grounded theory for the purposes of reflection are considered in this chapter, followed by the limitations of this study, a summary of the main contributions to knowledge and an indication of directions for future research.

Implications for practitioners

Reflection has been considered extensively in physiotherapy education; however, its place in the practice of physiotherapy has not been so well considered. Practice shaped the purpose of reflection for participants in this study: they were reflecting in order to resolve a problem for themselves, and this purpose was relevant only in the context of their individual experience and perception of it. This intensely individual nature of reflection has the potential for practitioners to develop an individual habit of reflection which positively contributes to their practice, is consistent with their personal priorities and concerns, and can lead to a sense of personal and professional fulfilment.

The broad purposes of reflection beyond that of event analysis have the potential to extend practitioners' grasp of the nature of reflection, the scope of reflection and the way that it can support their everyday practice. Most dramatically, the understanding that reflection is not writing, even though it can be expressed in writing, would seem to be an important shift in both understanding reflection and accepting reflection as worthwhile. Practitioners need to recognise reflection when it is not in written form. If the thoughts of practitioners are not being named as reflection because they are not

recognised as being a reflective activity, then the understanding of the interaction between reflection and practice is impoverished and practitioners' awareness of their own development is not made overt. In this situation, practitioners cannot fully metacognitively assess their own reflective skills and, therefore, cannot consciously improve or refine them. It may be that as a profession we are unused to accounting for the outcomes of our reflection and therefore unskilled at assessing our own reflection in this way.

The purposes of reflection may provide a framework for implementing reflection in practice: a framework which has evolved from practice itself, rather than having been developed from education, and, as such, a framework which may have validity for practitioners other than meeting organisational demands. Reflection can be a tool for empowering physiotherapists when used for more than demonstrating their worthiness.

Implications for the profession

In the face of resource restrictions for many practitioners, funding and provision of development in reflection is often placed as a low priority against funding for training deemed to directly affect clinical skills; this is unlikely to change. The CSP promotes reflective practice; however, the HCPC is now the regulatory body and the regulatory requirement is for a statement which explains how professional development has benefited the patient and/or the service (HCPC 2012). This situation means that although reflection is promoted, the mandate for it to happen is weak. Nevertheless, a broader scope of reflection could be promoted to practitioners, and using reflection to enhance personal satisfaction could be emphasised. More consideration could also be given to the development of anticipatory reflection, which was frequently employed by the participants.

It is possible that the purpose of *questing* has the greatest implications for the physiotherapy profession. Restrictions on resources tend to instigate change. When 61% of health trust finance directors are concerned about balancing their books in

2018/2019, and more than half of England's clinical commissioning groups (CCGs) expect to cancel or delay spending this year to balance their books for 2017/2018 (King's Fund 2017), it can be anticipated that resources will be stretched and that times of change may follow. Public health expert Muir Gray suggests that population aging will outpace resources and that physiotherapists must adapt the ways in which they currently work (Clews 2017 p16). The CSP chief executive, Karen Middleton, speaking at the Association of Chartered Physiotherapists in Respiratory Care (ACPRC) Congress in April 2017, said that physiotherapists must ensure the profession is fit for the future and that changing populations, health care inequalities and increased demand for services required a sustainable solution for the next 20–30 years (Turnbull 2017 p15). In response to these needs, continuing to practice as we have always done is not the best way to continue to offer our patients the best access to physiotherapy and to the most effective physiotherapy.

Questing is the form of reflection which may offer the most insights for new ways of doing things; however, there is a need to develop such creative thinking in physiotherapists so that they might be better prepared to think in such a way. Nicholls (2017) considers that, to achieve this, to meet the needs of the 21st century, physiotherapists need creativity and imagination to go beyond the limits on what might be possible. Nicholls' (2017) opinion that the regulatory bodies may restrict this change overlooks the degree to which rule-abiding physiotherapists need to change first. The infrequency of *questing* would appear to be unhelpful to the future of the profession. *Questing* is necessary for professional survival: *questing* by the profession and, as Karen Middleton points out, by each physiotherapist.

Implications for educators

The place of written reflection in practice and the value that it has for demonstrating worthiness rather than for benefiting practice have important implications for the teaching and facilitating of reflection. Written reflection has merit and is useful for teaching practitioners the process of reflection while also, significantly, enabling educators to assess the reflection of students. However, it is not preparing students for

the day-to-day practice of reflection which can benefit their practice when they are qualified.

Some educators give preference to a specific model of reflection, whereas a grasp of the breadth of models available and the understanding that a model is not required by all practitioners may support a better facilitation of the individualised ways of reflection in students. A broader conceptual understanding of reflection being for more than event analysis can also be promoted. There are challenges when reflection is taught as a written activity in undergraduate programmes, but there is no postgraduate training in reflection which can move reflection from a skill for assessment to a skill for practice. In addition, the use of the term 'reflective assignment' for assessments with disparate aims and requirements has led to confusion over what is required from such assessments or portfolio entries, rather than promoting clear conceptions of reflection for practice.

The context of practice shapes the purpose of reflection, and the purpose of reflection for students is frequently to 'pass' and to become a member of the profession. While students do use reflection for their own development, the formal reflective requirements asked of them have a different purpose. Written forms of reflection required for professional portfolios and appraisals have not encouraged the freedom of personal style and individual reflective skills in the same way that 'thinking about practice' has allowed in the other purposes of reflection. I do not propose that the use of written reflection, or reflective models, is no longer used to teach reflection, nor do I believe that assessment based on various forms of reflection should be avoided. However, I do believe that educators should be clear about the purpose of such activities and distinguish them from forms of reflection which might support students in their future practice. A clearer sense of each purpose for reflection may help to develop both the forms of reflection which demonstrate worthiness and the forms of reflection which support practitioners' day-to-day practice. In addition, promoting strategies for reflection such as walking, or making personal spaces for reflection in

daily life, can be encouraged alongside the development of the writing skills required for written reflection. In addition, educators might move away from a view of reflective writing as a punitive event following a misdemeanour, and move towards using reflection as a celebration of practice achievement, and a tool to engage in moving closer to being worthy, being fulfilled by one's work in practice.

Implications for the reflective practice community

The wider reflective practice community already has a plethora of models and theories of reflection on which to draw; however, there is a distinct theory–practice gap between the theorising of reflection and the usefulness of it in daily practice. The word 'reflection' is often used in place of the word 'thoughts', so that papers with titles that begin 'reflections on…' are commonplace. Such papers often contain significant theorising and consideration of the topic being explored; however, such a frequent use of the word 'reflection' in its many guises has, I believe, contributed to the undermining of an understanding of a reflective practice that can enhance practitioners' sense of their own worth. There is room to explore reflection in practice more thoroughly without restricting that exploration to event analysis (which has its place). Ghaye's work on reflection in teaching practice (e.g. Ghaye 2011, 1998) does take such a stance and this could be more deeply understood with a deeper research base for the different aspects of reflection.

In health care profession education, event analysis models are favoured; however, as stated in chapter three, such models do not encompass all the modes of reflection that can contribute to professional practice. Expectations of reflection may have been unrealistic, an understanding of reflection in the real world has not been sufficiently sought or explored and, therefore, a broader grasp of the potential of reflection has been missed. A better understanding of the different contributions that each face of reflection may bring to practice requires more focused research and scholarship. The critique of reflection in practice needs to acknowledge the different modes of reflection used in practice. If there are different modes of reflection, then the question of evidence becomes multi-faceted: is there evidence for this mode or that mode of

reflection? Research could be directed to each mode of reflection and, thus, discover over time the strengths and limitations of all modes of reflection. In addition, the question 'is there evidence?' becomes complex when each practitioner has a different perspective on what reflection is. The way that the different modes of reflection fit together in the practice context could also be explored further.

The work on the potential benefits of reflection is mostly lacking, with many authors mistaking 'evidence of learning' for 'evidence that reflection helps learning'. Furthermore, evidence that reflection helps learning is the focus of many education studies, while evidence that reflection helps practice is underexplored. The different contribution to reflective practice that is made by the forms of thinking such as analytical thinking and creative intuitive thinking might also be considered, and the way in which these can be brought together in a theoretically sound manner could be extended.

Methodological implications

At the beginning of this research study, I chose grounded theory as a methodology because it was an approach that would allow me to follow the research question rather than the methodology. I had not anticipated the difficulties of remaining true to this ideal. As the research progressed, I returned several times to find an understanding of grounded theory that would allow me to do that. In doing so, I could not take the advice of authors (Goulding 1999 p7) to follow one version of grounded theory or another. In part, this is due to the on-going development of grounded theory since its proposal by Glaser and Strauss (1967). This has been a step-wise development, which resulted not in the clearly defined historical versions presented by Charmaz (2014) and Bryant and Charmaz (2007), but more a series of merged versions. My search for a form of grounded theory has taken me across the versions, and in places has required an interpretation of some of grounded theory's key components, such as the audit trail between evolved theory and original data rather than between coding stages.

One aspect of the approach that is not addressed extensively in the texts on grounded theory is that of the stage of verification. This term was originally introduced by Glaser and Strauss (1967) and has shades of positivist language in the term, perhaps echoing the original idea that grounded theory should be developing new theory which can then be tested. Nevertheless, the process of placing the grounded theory before the participants and asking them if this theory resonates with their experience seemed a good way to test, or verify, whether the grounded theory was credible, and I thought it would enhance the development of the theory for this point in time.

It was a worrying process, as reported in chapter ten: if the process was truly to test the theory out, then the idea that the grounded theory might be unsound, after the time I had spent on this study, was challenging. I needed courage to take the risk: the risk to the research and the risk to my own reputation and self-esteem. I experienced tension between my own confidence in the ideas generated and the humility of recognising that I was not the best judge of whether these ideas had validity for practice or not.

It was not as straightforward as I had expected. Firstly, having favoured conceptualisation of the theory in the coding process, I had a theory expressed in conceptual terms for which the meaning might not be immediately clear unless you were aware of the concepts. I found that there was tension in attempting to simultaneously use language which would be clear to participants and to use language that was consistent with the evolving concepts of each category. I worried that, by changing words, I would move away from the meanings captured by the carefully selected words of the concept-labels. In addition, each needed an explanation to go with the label, and I was aware that the full explanations would burden the participants, so I aimed for concise, succinct explanations, which it then became clear did not capture some of the nuances between the purpose-categories.

The participants reported that they had found this process very hard: identifying the 'correct' label took much longer than just sharing their reflections with me had been in the stage two audio diaries. The participant Tess had not taken part in the stage two recordings, and worried that she had not done what I wanted. In hindsight, a short briefing with the participants to explain the categories, perhaps with some examples, might have helped them in thinking through their reflections, although, had I done this, I might have worried that I had 'led' their judgements. As Hammond, Cross and Moore (2016 p73) found, enthusiastic participants can struggle to move between their concrete experiences and theorising at an abstract level, and I felt guilty at the struggles they had to do this.

I had invited them to refute the categories if they wished, but this may have been unreasonable: failing to identify a category match with your own experiences may not have meant that this category was not sound for someone else. The category of *questing* was misunderstood by one participant, who interpreted it as *seeking.* A post-data-collection discussion enabled me to clarify her thoughts, and also made me wonder if this was a category I should have re-labelled for this exercise, to aid clarity. Fortunately for my self-esteem, the participants did recognise the purposes of reflection in their own reflective practice; nevertheless, I anticipate that further discussions with practitioners about these purposes will enhance, add to, or refine the theory in some way.

One further limitation of the study related to the research process is that the purpose of *questing* is not yet theoretically saturated due to the small number of such events shared by the participants. Further work on this category would both clarify and enrich an understanding of this reflective purpose.

Summary of conclusions

That different topics can be reflected on has been described before (for example, Ghaye 2005, Taylor 2010). However, the idea that this usage or purpose may shape the actual reflective process is a new way of understanding reflection and a helpful way to

explore the benefit of reflection to practice. An understanding of the ways in which practice, rather than education, shapes and directs reflection leads to a greater understanding of the differences between reflection in the two contexts.

Some of the ways in which reflection was viewed by the participants did not match already existing recognised modes of reflection. Modes of reflection previously identified did not recognise the different purposes that physiotherapists reflect for. By considering the purposes for which physiotherapists reflect, new categories of reflection have been revealed. This is not just a re-naming of previously recognised categories, but a different way of looking at reflection, which prepares the way for an examination of what the benefits of reflection might be to practice. This suggests that exploring reflection by purpose is a very different way of looking at reflecting, and not just another re-labelling of the understanding of reflection that is currently held.

Dewey (1910 p10) considered that the purpose for which you are reflecting regulates, or guides, the process of your reflective thinking. This study has shown that this is the case in the context of physiotherapy. The purpose of living a fulfilled life may be the guiding factor in the reflection of practising physiotherapists. Each individual may have their own criteria for fulfilment, which may direct the focus of their reflections in different ways – to technical reflection, or practical reflection, or to *Understanding*, *Seeking* or *Being Worthy*. The balance between the purposes or modes of reflection will be determined by each individual according to their personal judgement of what wisdom they need to be fulfilled and to live the good life.

Limitations of the Study

It is the nature of research that all research in the real world has limitations which should be borne in mind when considering the findings. Acknowledging these limitations does not undermine the quality of the study. In this section, the limitations of the research are highlighted with respect to the participants, the data collection and the researcher.

Participants

There was no attempt to recruit participants randomly; such is not the aim of qualitative research. Participants were drawn from a professional network of physiotherapists interested in reflection. Even though two participants were sought out because other participants had mentioned their resistance to reflective practice, and their participation might permit an exploration of potentially different aspects of reflection in practice, all of the participants were all sufficiently interested to take part out of their interest in the subject. This leads to a potential bias in the predisposition of participants towards reflection. Some participants stated that their reason for becoming involved was to increase their own reflective practice in some way, so some degree of difference in the regular reflective practice of participants was present, but this difference may have been much larger if a larger number of participants, or a greater diversity of physiotherapists, had participated.

There was also no attempt made to represent the breadth of physiotherapy practice through clinical specialism. In stage two (audio diaries), one participant with a musculoskeletal background was specifically recruited in order that the three core areas of physiotherapy practice, neurology, cardiorespiratory and musculoskeletal, were present. No particular differences were noted between the different clinical specialisms, although, given the small numbers of each speciality included in the final cross-section of the profession, any observations made would have been extremely limited.

The small number of participants in this study may lead some readers to believe that there was a lack of theoretical sampling, although because of the nature of the study all that was needed for the theoretical sampling was for participants to be qualified physiotherapists.

Data collection

The quality of data collected using interviews depends on the extent to which participants are honest with the researcher, and, even if honesty is assumed, they may

not share the whole of their opinions with the researcher. Interviews in a grounded theory study are no different in this respect. One observation that I made was that there was a tendency for physiotherapists to believe that reflective practice is good practice, and to be aware of such practice behaviours that they associated with this good practice. This was most often indicated by an apology if they felt they had fallen short of their own standard in some way. This may be a form of confirmation bias, described as 'seeking an interpretation of evidence in ways that are partial to existing beliefs [or] expectations' (Nickerson 1998), and may suggest that the information they shared contained an element of this bias. The presence of this confirmation-bias influence may have influenced the way the participants interpreted the audio diary instructions, which may also have shaped the information they gave. However, given the absence of previous evidence for the benefits of reflection to practice, finding evidence that reflection benefits practice is still progress on our understanding of the relationship between reflection and practice, even if instances where reflection did not benefit practice exist but were not explored.

I wondered if the focus on patient treatment in many of the accounts was due to a perception that this was what reflection 'should' be about or whether it was merely a response to how each participant perceived their professional role. I chose to avoid an exploration of pre-established concepts or definitions of reflection in order to not restrict the research, and in the hope of eliciting new insights about reflection. However, participants' pre-established conceptions of what reflection 'should' be, and, therefore, what I was looking for, may have restricted the breadth of understanding available in the data.

Participants were very aware of confidentiality with respect to their work. One participant (Alison, stage one interview) noticeably limited what she was prepared to share because of this awareness, speaking mostly in general terms rather than specific details about her reflections. While many of the accounts shared in this study demonstrated a depth of honesty because practitioners had engaged with the topic

and genuinely wanted to help, I cannot tell what things were not shared with me, in the face of their selectivity. Audio diaries share the same limitations as interviews with regard to participant truthfulness and degree of sharing, and there may be additional problems related to participant dis-ease with recording themselves, a self-consciousness, and a dislike of the sound of their own voice on play-back. Some participants used the opportunity to talk at length; others, such as Tess (stage three audio diaries), found themselves quite inhibited by the process.

Researcher

Researchers themselves can be a source of limitation affecting the quality of a study, through their skill level when interviewing, putting people at ease and asking the right questions. In addition, the skill of a researcher at interpreting specific data and analysing findings more broadly will also affect the conclusions with regard to what findings are noticed and what can be inferred from both detailed and broader analyses. When just one researcher performs the analysis, as in this study, this can result in a consistency of interpretation of the results but equally a consistency of lack of noticing some features in the data. The degree of theoretical sensitivity in the researcher can change what is noticed in the data. In this research, a process of peer and supervisory review contributed to ensuring that the findings were a representation of the data, and in all stages the peer review process offered additional insight.

For a constructivist approach to grounded theory, another limitation is the extent to which the participants were part of the construction of the theory. Individual participants varied in the degree to which they wished to be involved. Some participants took part in the data collection stage but were not interested in further conversation or discussion. Other participants were very willing to have further involvement, to the extent of inviting further contact and enjoying discussing the developing theory. Due to this level of availability, these participants could help clarify my evolving ideas. My aim throughout the research was to respect each participant for the involvement they were happy to make.

Summary of limitations

The theory which is arrived at by the process of a grounded theory may be limited by the above three factors: the pre-disposition of the participants – their degree of openness and sharing – the data collection method, and the skills of the researcher. The theory presented here may not encompass reflection by all physiotherapists but it may provide a basis for a theory which is modifiable, as suggested by Glaser and Strauss (1967), and can be developed further.

Summary of main findings and contributions to knowledge

There are several original contributions to knowledge emanating from this research. In summary of the key points arising from the grounded theory, the physiotherapists from this study used reflection for a variety of purposes. These purposes were consistent with their personal conceptions of practice and included *Understanding*, *Seeking* and *Being Worthy*. Significantly, the way in which physiotherapists found the time and space in which to think crossed outside of their working hours, and the activities they engaged in while reflecting provide new insights into reflection as part of a working life. These physiotherapists found that reflective thinking provided emotional easing and led to changes in thinking and changes in actions in their practice. Anticipatory reflection was a more significant part of their reflection than the event-analysis models of reflection imply, and seeking to extend the boundaries of physiotherapy practice was relatively rare. Written reflection was only a small part of their reflective practice and the contribution it made to their practice was limited. Physiotherapists reflected for the overall purpose of personal fulfilment in terms of Aristotle's good life.

Future directions

Dissemination of these findings has already begun through my work as an academic. Further research in this area could explore the following indicative aspects:

- Further develop and modify the grounded theory. This is especially the case for the function of *questing*, which, because of the low frequency of its occurrence, remains at an early stage of development.

- In this study, I considered that I should start at the beginning in exploring reflection in physiotherapy practice. This start now made, future research could focus in detail on the outcomes of reflection in practice in more detail.

- The strategies for reflection suggested by stage one could be explored in relation to helping practitioners to maximise their reflective ability.

- The relationship between walking and reflection could be explored further.

- Research into the use of reflection as an anticipatory tool rather than a retrospective tool.

- The transferability of this theory could be explored, to examine first, the extent to which this might be transferable to the wider population of physiotherapists, and second, whether any aspects of the theory might be transferable to other health care professions and where the limits of such transferability might be.

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APPENDICES

Appendix A: The CASP checklist

Screening Questions	Yes	Can't tell	No	Comments
Was there a clear statement of the aims of the research? Consider: 1. What was the goals of the research? 2. Why is it important? 3. Its relevance				
Is a qualitative methodology appropriate? Consider: 4. Does the research seek to interpret or illuminate actions or experiences of participants? 5. Is qualitative the right methodology for the research goal?				
Was the research design appropriate to address the aims of the research? Consider: 6. Has the researcher justified the design – discussed their decision?				
Was the recruitment strategy appropriate to the aims of the research? Consider: 7. Has the research explained how participants were selected? 8. Why they are the most appropriate for the knowledge sought? 9. Is there discussion around recruitment - e.g. why some people decided not to take part?				
Was the data collected in a way that addressed the research issue? Consider: 10. Was the setting for data collection justified? 11. Is it clear how data were collected (interviews etc.)? 12. Are the methods justified? 13. Are the methods explicit (interview schedule etc.)? 14. Were the methods modified during the study, and explanation given? 15. Is the form of data clear (e.g. audio recordings)? 16. Is data saturation discussed?				
Has the relationship between researcher and participants been adequately considered? Consider: 17. Has the research critically their own role, potential bias, and influence 18. during formulation research question? 19. During data collection?				

20. Sample recruitment? 21. Choice of location? 22. How did the researcher respond to events during the study – implications of changes in research design?				

Have ethical issues been taken into consideration?
Consider:
    23. Is there sufficient details of explanation of research to participants for judgement of ethical standards?
    24. Have issued arising been discussed – informed consent, effects of study on participants
    25. Has approval been sought from an ethics committee?				

Was the data analysis sufficiently rigorous?
Consider:
    26. In-depth description of process of analysis
    27. Is it clear how categories were derived from the data?
    28. Has the research explained how the data presented was selected from the raw data to demonstrate the process of analysis?
    29. Is there sufficient data to support the findings?
    30. Have contradictory data been taken into account?
    31. Has the researcher examined their own role and potential bias during analysis and selection of data?				

Is there a clear statement of findings?
Consider:
    32. Are the findings explicit?
    33. Is there adequate discussion of the evidence for and against the arguments?
    34. Have they discussed the credibility of their findings (triangulation, respondent validation, co-analysis)?
    35. Are the findings discussed in relation to the original research question?				

How valuable is the research?
Consider:
    36. Does the researcher discuss the contribution the research makes to existing knowledge?
    37. In relation to current policy or practice?
    38. Relevant literature?
    39. Do they identify where new research is indicated?
    40. Whether the findings are transferable or how the findings might be used?				

Critical Appraisal Skills Programme (CASP) (2013)

Appendix B: Interview schedule

<u>Semi-Structured Interview Schedule (Stage one)</u>

Introduction
Introduce self, re-state purpose of study and purpose of interview, Re-check consent.

Demographic data
Before we start, can I ask how long you have been qualified?
What have been your practice interests recently and in the past?

<u>Interview</u>
I'm going to start by asking you to look at some pictures - take a few minutes to do this. Choose three that represent the way in which your practice has developed over the past year, and three which say something about reflection to you (Overlap is okay).

Tell me what these pictures mean to you.

(Further questions, if not covered by response to above)
Do you think your practice has developed over the past year?
(if so) In what way? What do you think has helped this? (If you had to name this, what would you call it?) Can you think of any way in which reflection has played a part in this?

What do you think reflection is? What does reflection mean to you?

Do you think you reflect? How do you think you use reflection in your practice? (How often?)

What sort of things do you reflect on? (How many different situations?)

Do you think reflection achieves anything? Does it change anything?

What difference does it make to you?

If you had to 'show' someone else what it had achieved, what would you do to show them?

Do you encourage others to reflect?
(if so) How do you do this? What do you encourage them to reflect on? Why do you feel it's important to others?

Final Thoughts
Is there anything you were expecting to be asked that I haven't asked?

Is there anything else you would like to say?

Conclude
Thank you for your time and your comments. If anything occurs to you later that you would like to add, please contact me.

<u>Audio Diary Guide 1 (Stage two)</u>

Think of something that you reflected on today. When making your audio diary entry, try to capture the following:

1) What prompted the reflection?

2) When did it happen?

3) Where did it take place?

4) If you are returning to a reflection you have mentioned earlier, just say broadly which one.

5) Was this prompt a problem (concern or feelings of disquiet), something good, or a passing comment or stray thought?

6) When and where did you reflect on it? What were you doing at the same time?

7) About how long did you spend thinking? Was this in one 'go'?

8) Do you think you finished this reflection?

9) a. If you finished the reflection, what came out of it? – Did you gain anything?

   b. If you didn't finish it, what next? Will you return to this topic?

10) Did anything change? If so, was this in your thinking, your feeling, your actions or what you plan in future?

11) Are there any other thoughts you would like to mention?

Physiotherapists use Reflection to………

Monitor themselves and their practice: Did I do everything? Have I missed something? Was that the best thing to have done? Was there anything else I could have done? Did I make the right decision? Did I consider all the factors?

Prepare for monitoring by others: do I have some reflections for my portfolio? For my appraisal? For my CPD folder? What will I discuss in my clinical supervision session? What should I say at the MDT team review of the service provided for this client group?

Understand something: What just went on there? Why did he act like that? Why do I feel like this? How can I make sense of it? What is the nature of this problem? Why isn't this working?

Self-examination to understand themselves: Why am I uncomfortable with……? Why did I respond like that? Why do I find this challenging? What can I offer as a physiotherapist? What sort of physiotherapist am I? What does this mean for my approach to practice?

Plan for something (in the future): What is the best way through this? What is the best approach? What are the options? Are all the options realistic? Do I have all the information I need to prepare properly? Am I ready?

Quest for a vision of a better future: To seek how I can develop to be the best physiotherapist that I can possibly be. To seek to extend the boundaries of physiotherapy practice - not just to be best at what is already known but to explore what else physiotherapy might offer.

Monitor themselves and their practice: Did I do everything? Have I missed something? Was that the best thing to have done? Was there anything else I could have done? Did I make the right decision? Did I consider all the factors?

Prepare for monitoring by others: do I have some reflections for my portfolio? For my appraisal? For my CPD folder? What will I discuss in my clinical supervision session? What should I say at the MDT team review of the *service* provided for this client group?

Examine themselves, to understand themselves: Why am I uncomfortable with……? Why did I respond like that? Why do I find this challenging? What can I offer as a physiotherapist? What sort of physiotherapist am I? What does this mean for my approach to practice?

Understand something: What just went on there? Why did he act like that? Why do I feel like this? How can I make sense of it? What is the nature of this problem? Why isn't this working?

Quest for a vision of a better future: To seek how I can develop to be the best that I can possibly be. To seek to extend the boundaries of physiotherapy practice.

Plan for something (in the future): What is the best way through this? What is the best approach? What are the options? Are all the options realistic? Do I have all the information I need to prepare properly? Am I ready?

Physiotherapists use reflection to…..?

<u>**Audio Diary Guide (Stage three)**</u>

The research so far has suggested that Physiotherapists use reflection for different reasons; a summary of these is given on a separate sheet. This stage of the research is further exploring these ideas to see whether physiotherapists can recognise them in their own reflection and whether the ideas should be adjusted and whether anything has been missed. For the audio diary, please consider the things you have been reflecting on each day.

1) Can you give an example of something you reflected on today which you think was for one of these reasons? In your example, it is really helpful to say what prompted the reflection, what you reflected on, and what came out of it. Please say which reason you think it was for. It is okay if you are not sure, or if it was for more than one reason.

2) Can you explain what value you think this reflection had for yourself or for your practice?

3) Can you give an example of something you reflected on today which did not fit any of these reasons? In your example, it is really helpful to say what prompted the reflection, what you reflected on, and what came out of it.

4) Can you explain what value you think this reflection had for yourself or for your practice?

5) If you have any thoughts on how well these 'reasons for reflection' match your own reflections or comments about the labels used for these categories, I would appreciate hearing them.

6) Do you have any other thoughts that you would like to share?

Please note: You do not have to provide an example of both 1) and 3). Equally, there is no limit to the numbers of examples you can share – all are welcome if you wish and have the time to do so.

Thank you for your time and interest in this research

Jayne

PARTICIPANT INFORMATION SHEET (Stage one)

Project title:
A Study that Explores whether Physiotherapists Consider that Reflection Contributes to the Development of their Practice.

Researcher's name and background: Jayne Dalley-Hewer. Senior Lecturer in Physiotherapy at Coventry University Jayne has an interest in reflection for professional and educational purposes.

Supervisors' names: Professor Lynn Clouder, Dr Mary Deane, Mark Jones

Invitation to take part in a research study
You are being invited to take part in a research study. Before you decide whether you wish to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Please feel free to ask, either by email, telephone or just drop in, if there is anything that is not clear or if you would like more information. Please also take time to decide whether or not you wish to take part. Thank you for your attention and reading this.

What is the purpose of this study?
This study seeks to explore the perceptions and understandings of Physiotherapists about their use of reflection in practice and the way in which they consider that it might contribute to the development of their practice. Reflection is strongly promoted throughout physiotherapy education in the UK yet some health care educationalists have questioned whether reflection really is of benefit to practice. This study begins to explore whether reflection might or might not contribute to the development of practice, and if so, in what ways.

Why have I been chosen?
This study seeks the views of my network of physiotherapy colleagues about the use of reflection in their practice. You are a qualified physiotherapist who has been chosen due to your interest in reflection.

Do I have to take part?
It is up to you whether you decide to take part. Your participation in this research is completely voluntary and will be greatly appreciated. If you do decide to take part you will be given this information sheet to keep and asked to sign a Consent Form.

Participants may withdraw from the research project at any stage without prejudice or negative consequences. Withdrawal or non-participation will not affect the individual's status or with Coventry University now or in the future.

What will happen to me if I take part and what are the benefits?
If you decide to take part you will be invited to an interview that will last approximately an hour. We will discuss your thoughts and perceptions about how you think you use reflection in your practice, and whether you think it contributes to the development of your practice in any way. During the interview, you may be asked to look at some

pictures (postcard or photographs) to help you shape your thoughts. The interview will be audio-recorded. The interview may be with just the researcher, or, if you prefer, a group interview with other participants. In order to make it as easy as possible for you to participate, the interviews may be held at the university, or if you prefer, in your own home. Subsequent to the interview you can also e-mail me at any time with your further thoughts on the topic. You will also be free to contact me at any time to share reflections that may arise as a result of our conversations.

This is a chance for you to help in discovering information about the use of reflection in Physiotherapy.

Are there any risks in taking part?
There are no significant risks anticipated due to you taking part in this study.

Will my taking part in the study be kept confidential?
Every effort will be made to ensure that all information which is collected about you during the research will be anonymised. You will be identified by a pseudonym of your own choice to help to ensure that your identity will not be disclosed. Data will be stored in a locked filing cabinet and a password protected electronic file, accessible only by the researcher. Information which contains the 'key' to identities, will be kept in separate files. Data will also be shared with the research supervisory team. After the research is concluded, the recording of the interviews will be erased. Publications arising from this research will indicate that the researcher was based at Coventry University, and this may lead people to conclude that the research study might have been conducted at that University.

What will happen to the findings of the research study?
The findings of the research study will form part of my thesis submitted in fulfilment of a Doctor of Philosophy (PhD) at Coventry University. A summary of the findings will be sent to all participants on request. If the results are published or presented at academic conferences, the data will be anonymised.

Who is organising and funding the research?
The research is organised and conducted by myself, Jayne Dalley-Hewer and supervised by Professor Lynn Clouder, Coventry University, Dr Mary Deane, Oxford Brookes University and Mark Jones at the University of South Australia, Adelaide. The research is self-funded and supported by the Faculty of HLS Coventry University staff development fund.

Who has reviewed this study?
Prior to the research commencing this study has been reviewed and approved through the Coventry University ethical approval process.

What if things go wrong?
Any concerns you may have about the conduct of the research and the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have any particular concerns regarding the conduct of the research project you may wish to either contact the researcher's supervisors or the Coventry University Faculty of Health and Life Sciences, Research Ethics lead, Professor Jane Coad at jane.coad@coventry.ac.uk or tel. 024 7765 3802.

Key contact details for further information
If you have any further questions about the research please contact me or my supervisors

Jayne Dalley-Hewer
Department of Health Professions
Faculty of Health and Life Sciences
Coventry University
Priory Street Coventry
CV1 5FB

Tel: +44 (0) 24 7679 5965
j.dalley-hewer@coventry.ac.uk

Lynn Clouder
Professor of Professional Education
Coventry University
Priory Street Coventry
CV1 5FB

Tel: +44 (0) 24 7688 7841
d.l.clouder@coventry.ac.uk

Mary Deane
Oxford Centre for Staff Learning and
Development
Oxford Brookes University
Wheatley Campus
Oxford
OX33 1HX

Tel: +44 1865 485910
mdeane@brookes.ac.uk

Mark A Jones
School of Health Sciences
University of South Australia
North Terrace
Adelaide
South Australia 5000

Tel: +61 8 8302 – 2549
Mark.Jones@unisa.edu.au

Thank you for taking the time to read this information sheet and your interest in this study.

PARTICIPANT INFORMATION SHEET (Stage two)

Project title:
A Study that Explores Whether Reflection Benefits Physiotherapy Practice.

Researcher's name and background: Jayne Dalley-Hewer. Senior Lecturer in Physiotherapy at Coventry University Jayne has an interest in reflection for professional and educational purposes.

Supervisors' names: Professor Lynn Clouder, Dr Mary Deane, Mark Jones

Invitation to take part in a research study
You are being invited to take part in a research study. Before you decide whether you wish to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Please feel free to ask, either by email, telephone or just drop in, if there is anything that is not clear or if you would like more information. Please also take time to decide whether or not you wish to take part. Thank you for your attention and reading this.

What is the purpose of this study?
This study seeks to explore the reflections of Physiotherapists on their practice and the ways in which this process might benefit their practice. Reflection is strongly promoted throughout physiotherapy education in the UK yet some health care educationalists have questioned whether reflection really is of benefit to practice. Following initial research which established that physiotherapists do consider that reflection offers benefits, this study seeks to explore the nature of such benefits in more detail.

Why have I been chosen?
This study seeks to explore the reflections of Physiotherapists on their practice and the ways in which this process might benefit their practice. You are a qualified physiotherapist who has been invited due to your interest in this subject.

Do I have to take part?
It is up to you whether you decide to take part. Your participation in this research is completely voluntary and will be greatly appreciated. If you do decide to take part you will be given this information sheet to keep and asked to sign a Consent Form.

Participants may withdraw from the research project at any stage without prejudice or negative consequences up to the stage of data analysis. Withdrawal or non-participation will not affect the individual's status or relationship with Coventry University now or in the future.

What will happen to me if I take part and what are the benefits?
If you decide to take part you will be provided with a digital voice recorder (DVR or Dictaphone) and you will be asked to use this to keep a one-week audio diary of your reflections on your practice. You can make diary entries as often or as little as you choose: it is suggested that you might make one a day. You will be asked to record what you were reflecting about, whether you feel the reflection was complete, and how this reflection may have helped or changed your thinking or practice. You will not have to 'do' the reflection for the recording, although you may find that further thoughts develop as you speak. You can choose when and where you make the recordings, although you are asked not to make them in the presence of patients or clients. At the end of a week, the voice recorder will be returned to the researcher. Your audio diary will be transcribed and then analysed.

During or subsequent to the data collection week you can also e-mail me at any time with your further thoughts or questions on the topic. You can contact me at any time to share reflections that may arise as a result of this research.

At a later point in time, you may be invited to repeat the 1-week audio diary process exploring a particular aspect of the practice of reflection. You are not obliged to take part in a second week of audio diary recording because you have participated once. You will not be approached more than twice in total.

This is a chance for you to help in discovering information about the use of reflection in Physiotherapy. The transcripts of your diary will be returned to you, giving you a written record of your reflections for your own use.

Are there any risks in taking part?
There are no significant risks anticipated due to you taking part in this study. There is a requirement for some of your time, the amount of time that you give to this is your choice.

Will my taking part in the study be kept confidential?
Every effort will be made to ensure that all information which is collected from you during the research will be anonymised. You will be identified by a pseudonym of your own choice to help to ensure that your identity will not be disclosed. Any names, identities or locations you mention in the recording will be withheld from any transcription. Data will be stored in the researcher's office and in password protected electronic files, accessible only by the researcher. Information which contains the 'key' to identities will be kept in separate files. Data will also be shared with the research supervisory team. After the research is concluded, the audio recordings will be erased. Publications arising from this research will indicate that the researcher was based at Coventry University, and this may lead people to conclude that the research study might have been conducted at that University.

What will happen to the findings of the research study?
The findings of the research study will form part of my thesis submitted in fulfilment of a Doctor of Philosophy (PhD) at Coventry University. A summary of the findings will be sent to all participants unless specified otherwise. If the results are published or presented at academic conferences, the data will be anonymised.

Who is organising and funding the research?
The research is organised and conducted by myself, Jayne Dalley-Hewer and supervised by Professor Lynn Clouder, Coventry University, Dr Mary Deane, Oxford Brookes University and Mark Jones at the University of South Australia, Adelaide. The research is self-funded and supported by the Faculty of HLS Coventry University staff development fund.

Who has reviewed this study?
Prior to the research commencing this study has been reviewed and approved through the Coventry University ethical approval process.

What if things go wrong?
Any concerns you may have about the conduct of the research and the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have any particular concerns regarding the conduct of the research project you may wish to either contact the researcher's supervisors or the Coventry University Faculty of Health and Life Sciences, Research Ethics lead, Professor Jane Coad at jane.coad@coventry.ac.uk or tel. 024 7765 3802.

Key contact details for further information
If you have any further questions about the research please contact me or my supervisors

Jayne Dalley-Hewer
Department of Health Professions
Faculty of Health and Life Sciences
Coventry University
Priory Street Coventry
CV1 5FB

South Australia 5000
Tel: +44 (0) 24 7679 5965
j.dalley-hewer@coventry.ac.uk

Lynn Clouder
Professor of Professional Education
Coventry University
Priory Street Coventry
CV1 5FB

Tel: +44 (0) 24 7765 7841
d.l.clouder@coventry.ac.uk

Mary Deane
Oxford Centre for Staff Learning and
Development
Oxford Brookes University
Wheatley Campus
Oxford
OX33 1HX

Tel: +44 1865 485910
mdeane@brookes.ac.uk

Mark A Jones
School of Health Sciences
University of South Australia
North Terrace
Adelaide

Tel: +61 8 8302 – 2549
Mark.Jones@unisa.edu.au

Thank you for taking the time to read this information sheet and your interest in this study.

M

Appendix H: PIS stage three

PARTICIPANT INFORMATION SHEET (Stage three)

Project title:
What is the value of reflection for physiotherapy practice?

Researcher's name and background: Jayne Dalley-Hewer. Senior Lecturer in Physiotherapy at Coventry University Jayne has an interest in reflection for professional and educational purposes.

Supervisors' names: Professor Lynn Clouder, Dr Mary Deane, Mark Jones

Invitation to take part in a research study
You are being invited to take part in a research study. Before you decide whether you wish to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Please feel free to ask, either by email, telephone or just drop in, if there is anything that is not clear or if you would like more information. Please also take time to decide whether or not you wish to take part. Thank you for your attention and reading this.

What is the purpose of this study?
This study seeks to explore the reflections of Physiotherapists on their practice and the ways in which these might benefit their practice. Reflection is strongly promoted throughout physiotherapy education in the UK yet some health care educationalists have questioned whether reflection really is of benefit to practice. Earlier research established that physiotherapists consider that reflection does offer benefits, and that there are different forms of reflection which physiotherapists use. This study seeks to explore whether the ideas about reflection which have been generated so far can be recognised by participants in their personal reflections.

Why have I been chosen?
This study seeks to explore the reflections of Physiotherapists on their practice and the ways in which this process might benefit their practice. You are a qualified physiotherapist who has been chosen due to your interest in this subject.

Do I have to take part?
It is up to you whether you decide to take part. Your participation in this research is completely voluntary and will be greatly appreciated. If you do decide to take part you will be given this information sheet to keep and asked to sign a Consent Form.

Participants may withdraw from the research project at any stage without prejudice or negative consequences up to the stage of data analysis. Once analysis has commenced, it is not possible to un-do the analysis. Withdrawal or non-participation will not affect the individual's status or relationship with Coventry University now or in the future.

What will happen to me if I take part and what are the benefits?
If you decide to take part you will be provided with a digital voice recorder (DVR or Dictaphone) and you will be asked to use this to keep a one-week audio diary of your reflections on your practice, and your comments on the research so far. You can make diary entries as often or as little as you choose: it is suggested that you might make one a day. You will be asked to look at the 'Physiotherapists use reflection to…' pages (these are the current ideas from the research) and consider whether any of your reflections today are for one of these reasons. You are invited to talk about the reflection that matches one of these reasons, and also to think about if there was a reflection that does not fit on of these reasons. You will not have to 'do' the reflection for

the recording, although you may find that further thoughts develop as you speak. You can choose when and where you make the recordings, although you are asked not to make them in the presence of patients or clients. At the end of a week, the voice recorder will be returned to the researcher. Your audio diary will be transcribed and then analysed.

During or subsequent to the data collection week you can also e-mail me at any time with your further thoughts or questions on the topic. You can contact me at any time to share reflections that may arise as a result of this research.

This is a chance for you to help in discovering information about the use of reflection in Physiotherapy. The transcripts of your diary will be returned to you, giving you a written record of your reflections for your own use.

Are there any risks in taking part?
There are no significant risks anticipated due to you taking part in this study. There is a requirement for some of your time, the amount of time that you give to this is your choice.

Will my taking part in the study be kept confidential?
Every effort will be made to ensure that all information which is collected from you during the research will be anonymised. You will be identified by a pseudonym of your own choice to help to ensure that your identity will not be disclosed. Any names, identities or locations you mention in the recording will be withheld from any transcription. Data will be stored in the researcher's office and in password protected electronic files, accessible only by the researcher. Information which contains the 'key' to identities will be kept in separate files. Data will also be shared with the research supervisory team. After the research is concluded, the audio recordings will be erased. Publications arising from this research will indicate that the researcher was based at Coventry University, and this may lead people to conclude that the research study might have been conducted at that University.

What will happen to the findings of the research study?
The findings of the research study will form part of my thesis submitted in fulfilment of a Doctor of Philosophy (PhD) at Coventry University. A summary of the findings will be sent to all participants unless specified otherwise. If the results are published or presented at academic conferences, the data will be anonymised.

Who is organising and funding the research?
The research is organised and conducted by myself, Jayne Dalley-Hewer and supervised by Professor Lynn Clouder, Coventry University, Dr Mary Deane, Oxford Brookes University and Mark Jones at the University of South Australia, Adelaide. The research is self-funded and the PhD programme of study is supported by the Faculty of HLS Coventry University staff development fund.

Who has reviewed this study?
Prior to the research commencing this study has been reviewed and approved through the Coventry University ethical approval process.

What if things go wrong?
Any concerns you may have about the conduct of the research and the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have any particular concerns regarding the conduct of the research project you may wish to either contact the researcher's supervisors or the Coventry University Faculty of Health and Life Sciences, Research Ethics lead, Professor Jane Coad at jane.coad@coventry.ac.uk or tel. 024 7765 3802

Key contact details for further information
If you have any further questions about the research please contact me or my supervisors

Jayne Dalley-Hewer
Department of Health Professions
Faculty of Health and Life Sciences
Coventry University
Priory Street Coventry
CV1 5FB

South Australia 5000
Tel: +44 (0) 24 7765 5965
j.dalley-hewer@coventry.ac.uk

Lynn Clouder
Professor of Professional Education
Coventry University
Priory Street Coventry
CV1 5FB

Tel: +44 (0) 24 7765 7841
d.l.clouder@coventry.ac.uk

Mary Deane
Oxford Centre for Staff Learning and
Development
Oxford Brookes University
Wheatley Campus
Oxford
OX33 1HX

Tel: +44 1865 485910
mdeane@brookes.ac.uk

Mark A Jones
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University of South Australia
North Terrace
Adelaide

Tel: +61 8 8302 – 2549
Mark.Jones@unisa.edu.au

Thank you for taking the time to read this information sheet and your interest in this study.

P

Participant Consent Form (Stage one)

Project Title:
A study that explores whether Physiotherapists consider that reflection contributes to the development of their practice.

Researchers Name: Jayne Dalley-Hewer

Supervisors' names: Professor Lynn Clouder, Dr Mary Deane, Mark Jones

- I have read the Participants' Information Sheet and the nature and the purpose of the research project has been explained to me. I understand and agree to take part.

- I understand the purpose of the research project and my involvement in it.

- I understand that I may withdraw from the research project at any stage, without giving a reason and that this will not affect my status now or in the future.

- I understand that any publications arising from this study are likely to identify the researcher as being from Coventry University. I accept that this may lead some people to conclude that that is where the research was conducted. Nevertheless, I understand that every attempt will be made to protect my anonymity.

- I understand that all interviews will be recorded.

- I understand that my data will be stored safely in the researcher's office and that only the researcher and supervisors will have access to it for the use of the study only.

- I understand that I may contact the researcher or her supervisors if I require further information about the research, and that I may contact the Research Ethics Committee of Coventry University if I wish to make a complaint relating to my involvement in the research.

Signed …………………………………………………………….. (Participant)

Print name …………………………………… Date ……………………………

Age ……………………… Gender …………………………..

Q

Contact Details:

Researcher: **Jayne Dalley-Hewer** j.dalley-hewer@coventry.ac.uk

Supervisors:

Professor Lynn Clouder d.l.clouder@Coventry.ac.uk
Dr Mary Deane mdeane@brokkes.ac.uk
Mark Jones Mark.Jones@unisa.edu.au

Coventry University Ethics Committee
Professor Jane Coad jane.coad@coventry.ac.uk

Participant Consent Form (Stage two)

Project Title:
A study that explores whether reflection benefits physiotherapy practice.

Researchers Name: Jayne Dalley-Hewer

Supervisors' names: Professor Lynn Clouder, Dr Mary Deane, Mark Jones

- I have read the Participants' Information Sheet and the nature and the purpose of the research project has been explained to me. I understand and agree to take part.

- I understand the purpose of the research project and my involvement in it.

- I understand that I may withdraw from the research project at any stage up to the point of data analysis without giving a reason and that this will not affect my status now or in the future.

- I understand that any publications arising from this study are likely to identify the researcher as being from Coventry University. I accept that this may lead some people to conclude that that is where the research was conducted. Nevertheless, I understand that every attempt will be made to protect my anonymity.

- I understand that all interviews will be recorded.

- I understand that my data will be stored safely in the researcher's office and that only the researcher and supervisors will have access to it for the use of the study only.

- I understand that I may contact the researcher or her supervisors if I require further information about the research, and that I may contact the Research Ethics Committee of Coventry University if I wish to make a complaint relating to my involvement in the research.

Signed …………………………………………………………….. (Participant)

Print name ………………………………… Date ……………………………

Age ……………………… Gender …………………………..

Contact Details:

Researcher: **Jayne Dalley-Hewer** j.dalley-hewer@coventry.ac.uk

Supervisors:

Professor Lynn Clouder d.l.clouder@Coventry.ac.uk
Dr Mary Deane mdeane@brookes.ac.uk
Mark Jones Mark.Jones@unisa.edu.au

Coventry University Ethics Committee
Professor Jane Coad jane.coad@coventry.ac.uk

T

<u>Participant Consent Form (Stage three)</u>

Project Title:
What is the value of reflection for physiotherapy practice?

Researchers Name: Jayne Dalley-Hewer

Supervisors' names: Professor Lynn Clouder, Dr Mary Deane, Mark Jones

- I have read the Participants' Information Sheet and the nature and the purpose of the research project has been explained to me. I understand and agree to take part.

- I understand the purpose of the research project and my involvement in it.

- I understand that I may withdraw from the research project at any stage up to the data analysis, without giving a reason and that this will not affect my status now or in the future.

- I understand that any publications arising from this study are likely to identify the researcher as being from Coventry University. I accept that this may lead some people to conclude that that is where the research was conducted. Nevertheless, I understand that every attempt will be made to protect my anonymity.

- I understand that all interviews will be recorded.

- I understand that my data will be stored safely in the researcher's office and that only the researcher and supervisors will have access to it for the use of the study and research published from the findings only.

- I understand that I may contact the researcher or her supervisors if I require further information about the research, and that I may contact the Research Ethics Committee of Coventry University if I wish to make a complaint relating to my involvement in the research.

Signed …………………………………………………………….. (Participant)

Print name ………………………………… Date ……………………………

Age ……………………… Gender …………………………..

U

Contact Details, Researcher:

        Jayne Dalley-Hewer j.dalley-hewer@coventry.ac.uk

Supervisors:

        Professor Lynn Clouder d.l.clouder@Coventry.ac.uk

        Dr Mary Deane mdeane@brookes.ac.uk

        Mark Jones Mark.Jones@unisa.edu.au

Coventry University Ethics Committee

        Professor Jane Coad jane.coad@coventry.ac.uk

Appendix L: Event analysis examples

Event: 11		Reference: WS750030
Participant: Claire		Source: Audio Diary
Event:		Treating a boy with an undiagnosed, fast deteriorating condition. Recent diagnosis – very rare condition, with a possible treatment. Child has been on this treatment for 3 weeks, and has shown significant improvement.
Nature of concern or trigger		Delighted with child's improvement, wary of family's enthusiasm and expectations for future prognosis. Mum thinks he is going to be normal, grandma recognises that any improvement is a bonus.
Considered		Concern that the child may have locked in syndrome, and that this is acknowledged. Own emotions optimistic and hesitant, trying to avoid being pessimistic, whilst being realistic with the family. It will be devastating if we raise our hopes and it doesn't happen. Wondering if a different child will emerge with the improvements.
Category		Planning [this label later became seeking a solution]
Direction of Attention		Forward, future treatment and possible outcomes.
Space and Timing of Reflection		Started during the therapy session, carried on into the evening. Will probably reflect some more when I see him again.
Purpose		To consider future treatment and decide on the best approach. Managing own emotions.
Conditions		Need to manage family expectations, and prepare for various outcomes.
Nature of effect		A decision clinically to take it one step at a time, and remember that everything he does is a little bit extra. Recognising that 'I don't know how I feel If the improvement will stop where he is now cause like the parents I feel much more positive and I just want that to continue'
Value		Emotional resilience – potentially? Realistic goal planning?
Comment		Participant noted that it might be reflection, it might be clinical reasoning. Researcher noted that Claire seemed worried about her own hopes being dashed, as much as the family's. 'Keeping it all in perspective whilst hoping that this child is actually going to make a full recovery'. Account centres on the hopes, what if, and buts.
Mapping		Taylor's practical reflection? Or not a clear map to a mode of reflection?

Event no. 17	Reference: 140903_005
Participant: Grace	Source: Audio Diary
Event description	Patient deteriorating in mobility from previous assessment. Nursing staff reported difficulties standing patient, patient deteriorating mood and motivation, previous methods of standing now failing.
Nature of concern or trigger	Concern for mobility of patient. Difficulty for the nurses, potential safety of patient when transferring.
Considered	Reflection-in-action: Analysed my decision making and attempted to modify approach directly. Reflection-on-action: this was a more in-depth reflection, able to draw upon previous knowledge from similar scenarios. What may have changed in the patient, does anything need to be considered from a medical point of view, does anything need to be considered from a physio point of view
Direction of attention:	What is happening now? What can I do next time?
Space and timing	During treatment, and again when writing notes. In and around the hour but not taking an hour.
Conditions?	
Category	Worthy practice, some seeking solution.
Nature of effect:	Reflection-in-action particularly beneficial. Enabled me to order my thoughts more logically. Come up with plan of action. Identified Problem list. Reflection-on-action while note writing helped me to further order my thoughts and think of treatment solutions for next time. How best to modify my behaviour and approach and delivery of strategies to motivate this patient.
Value:	Made me think about my treatment options and how best to modify my behaviour and approach and delivery of strategies to motivate this patient
Comment:	Strategies to motivate patient seem to be a particular feature of this physiotherapist's work.
Mapping:	Technical reflection Practical reflection??

Event no. 30	Reference: WS750029
Participant: Macey	Source: Audio Diary
Event description	Extensive background given. Summary: staff here lack experience at the respiratory interventions such as the Bird. Sees part of her role as getting the other on-call staff feeling more comfortable with these. 22 yr. old patient admitted onto ITU. Potentially end stage. Likes lying flat at home and no history of bad chests. No previous admission for bad chest, not used cough assist. For physio but not ventilation. Patient suddenly 'went off' Friday afternoon. Treated and communication made to on-call physio and weekend physio. Bird required – participant had offered to attend for half an hour to support the weekend physio if she wished.
Nature of concern or trigger	Lying in bed, wondering if the phone was going to ring, with a request for support. It didn't.
Considered	1) Reflecting on how successful I have been, based on a case from yesterday. Wondering why phone didn't ring – was Bird needed? Was she okay with it? Had something else happened? Wondering if the on-call training a few weeks ago had been of use. Reviewing all the things included in the training and the positive supportive attitude taken. 2) Thinking of how positive the consultant's response was to my request to use the Bird for this patient – the third comment of this kind from a consultant in the last few weeks. 3) Also, the positive remarks from staff during the training day
Category	Worthy practice
Direction of attention	Backwards to yesterday, and further back to training delivered. Wondering what was happening right now.
Space and timing:	Not at work – Saturday, reflected when woke up about a situation at work. Lying in bed, for about 20 minutes to half an hour. Reflection not yet finished because is not yet done. This is a big project.
Conditions?	Concern for staff member and patient
Nature of effect	Not yet known. Consultant's comments taken as verification of the success of the new approach. Staff remarks taken as verification of success as well. Noted own joy at this aspect of her work, and how much she was looking forward to going in next week and hearing how things had gone this morning.
Value	Monitoring the impact of own work on the behaviour and comfort of other staff, on service delivery and patient benefit. No evidence in the reflection that the value comes from the reflection though. Outcome unknown, so value cannot be judged.
Comment	Worthy practice, but not able to demonstrate benefit from this account. Is this because no fault or error to correct and/or no hidden sense to

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	uncover? So how can you ever demonstrate the value of affirmative reflection?
Mapping	Technical reflecting of someone else's practice. Practical reflection on own practice?

Appendix M: Key to analysis frameworks

The analysis framework grids began as a way to map out the ideas which were forming. As such, not all entries are referenced. As analysis progressed, I began to reference these contributions. Much of this work was completed from the stage two audio diaries, and the related event analysis, although reference was also made back to stage one interview transcripts on occasions, especially when the interview contained the only example of that aspect of the analysis. In some places, there are several examples given for an idea, although I have not attempted to collate every piece of data into these tables: one piece of data can be enough to form theory from in the grounded theory approach.

The key to the data source is as follows:

Participant number (audio diaries), data from event analysis number, e.g. 1, E4

Participant number (audio diaries), data from the audio diary transcript, e.g. 4T

Participant number (audio diaries), data from the audio diary transcript, diary entry number, e.g. 5T (5)

Interview participant number, data from interview transcript, e.g. In5T

Appendix N: Analysis framework for *Being Worthy*

	Higher order category of Being Worthy	
	Purpose of Practising Worthily	**Purpose of Demonstrating Worthiness**
Description (Features)	Reviewing[1, E4/3, E16,E17,E19,E20,E22/4, E23/5, E39,E53,E61/6, E66,E67/7, E71,E74,E76/9, E79,E81] Continually checking Checking on actions to see if they were right/the best thing to do [3, E16,E19,E20,E22/4, E23/8, E77,E78/9, E79,E81,E84] Check if anything missed[7, E74/8, E78/9, E84] What worked and what didn't work[5, E49] Checking effectiveness of own work where the results are seen in others (junior staff)[In4T/7, E71,E74] Reviewing how a system (e.g. service delivery) is working Patient progress [3, E16,E17,E19,E20,E22/5, E41,E42/6, E69] Might be a routine process (e.g. handover)[5, E41,E42,E52,E59] Staff behaviour [4, E23,E30/7,E71,E74] Practice of others where it impacts on own practice[5, E56/7,] Service delivery is all about what are my actions and what can I do to change things[7, E73] Exploring own impact on the practice of others[4, E30/7, E71] Observe own progress or current ability, can be emotional resilience[4, E24,E34/9, E83] Reflecting on a relative's response – own approach and conversation content[4, E29/8, E78] Debriefing as part of manager role – manager checking on staff becomes 'are they worthy' and do I need to do anything[5, E36/7, E73]	Being seen to be doing as 'should' Also, having done all that is right – fulfilled responsibilities, complied with the system [8 T(3,4)]

| Direction Of Attention (Features) | **When:** Looking back to event[6, E69/7, E71,E73,E74,E76/8, E77,E78/9, E79,E81,E84]

The past –looking back to an historical event[4, E24/5, E53/6, E67/9, E79]

The now – reflection in action during the event [3, E17/5, E52] or reflecting on an unfolding event [4, E23]

Or on a current situation[5, E56,E59]
Back to training delivered[4, E30]
What: Actions[3, E17,E19,E20,] might be the actions of others[5, E36/7, E73,E74/8, E78]
Or response of others[4, E23/7, E71/8, E77/9, E79]
Or patient response to treatment[4 ,E24/5, E49,E59/6,E67,E69/8,E77]

Patient progress over weekend[5, E41,E42]
Decision made and decision making process[3, E17,E19,E22/5, E52/6, E66/8, E77/9, E79,E81]

Where: external, to what was done in the world[5, E36]
Might be internal if exploring decision making process[6, E66] or own reflections[7, E76/9, E83,E84]
Internal for historical comparisons?[4, E26/9, E79] | **When:** The past or now,[8T] preparing for the future
What: Actions
Where: To the audience |

Questions Posed (Features)	Did I do the right thing?[8, E78/9, E81,E84] Have I missed anything?[7, E74/8, E78/9, E84] Was that the best thing to do?[9, E81] Did I consider everything?[9, E84] Did I make the right decision? What worked and what did not?[5, E49/7, E71,E76] Why did that work/not work Why is this happening?[5, E56/7, E73,E74/9, E83] Was my decision making process sound?[3, E19/9, E79] Did I do it for the right reason?[8, E77/9, E79] Was my gut right?[6, E66] Did I do everything I could have done?[3, E16,E19,E20/9, E84] Should I have done anything different?[3, E16,E19] Do I need to refer to other MDT?[3, E16,E17,] Do I need to refer to higher management or HR?[4, E23] What have I done before that might be useful here?[3, E17/9, E79] What can I offer that will help understanding (for teaching)?[4, E24/7, E71] Is my teaching working?[4, E30/7, E71] How are others responding to my actions?[4, E30/6, E67/9, E82] How to avoid making mistakes[5, E53] What progress is being made?[4,E30/5,E41,E59] What is needed next? (cf seeking)[5, E42,E52,E59/7, E74,E76] Did they do all right? (staff)[5, E36] How is the patient managing since discharge?[5, E39]	No questions are posed – instead statements of purpose - I must capture that reflection! Implicit questions are: Have I got enough reflection in my CPD portfolio? Can I demonstrate reflection at my appraisal? Can I demonstration reflection at my job interview? Also – have I performed correctly, have I satisfied the system?[8T]
Purpose (Features)	Monitoring self[7, E76/8, E77/9, E79,E81,E83] For the good of the patient[4, E30/5, E39,E41,E42,E53,E56,E59/6, E66,E67,E69/9, E81,E84] For better patient outcomes[4, E30/5, E49/7, E71] For doing one's best Making sure that all is done that should be done[9, E84] Protecting self[4, E23/8, E78/9, E79] Protecting others[7, E74] For reassurance? Patient safety[3, E17,E20/9, E84] Nurse safety[3, E17] Good practice of others[4, E24,E30/7, E71] Possibly affirming own practice?[4, E29,E30/7,EE76] For an efficient service[7, E73]	Obeying the system. – being seen to have done right – having done right Only for the system?

Mapping (Features)	Reflection-in-Action Reflection-on-Action Ghaye's practice Ghaye's affirmative Taylor's technical Taylor's practical Dialogical/dialogical to audience[4, E24] Can be team reflection [4T/3, E22/5, E49,E56] Can be dialogical reflection[3, E16,E19/5, E49]	DLC – Foucault's gaze? Reflection-on-Action
Comment	Is this the same thing when it is reviewing the action plan of a previous reflection? The simplest form of this might be casually wondering?[4, E31]	The only one which has writing! The only one which contributes nothing/little to practice Reflections done for CPD folder are rarely returned to – [6T(9)] Are reflections for the CPD folder not returned to because they are historical, 'spent', done with – no longer a problem? [4T(9)] Carefully chosen reflections for completed ones [7T(5)]

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Appendix O: Analysis framework for *Understanding*

	Higher order category of Understanding	
	Purpose of Making sense of self	**Purpose of Making sense of others/things**
Description (Features)	Asking 'who am I'? What role does physiotherapy have here? – exploring assumptions of professional role and self in that role[1T/8, E78] Understanding why I behaved as I did/do[4, E25/9, E80] Understanding nature of own reflective practice[6, E70/7, E71]	Understanding something. Usually complex. Understanding events [5, E58] or other people's behaviour & motivations[4, E29] Understanding the unexpected[4T /4, E26,E28] Understanding relationships between factors, e.g. impact of mood in CVA[6, E1,E32] includes gaining an understanding of new areas of knowledge?[6T(6)] Why is this different from before[4, E26] How is this same as before? (compare and contrast)[4, E26] Making sense of new knowledge/teaching[1, E6] Making sense of external information[1, E6] Making sense of patient response[4, E26,E29] Making sense of patient deterioration or 'circumstances' [5, E33] Making sense of reflection[4, E27] Mapping out, or listing or describing something – getting a handle on complex options[5, E35]
Direction Of Attention (Features)	**When:** recent past, distant past[6, E70/7, E71/9, E80] **Where:** internal **What:** Professional role[8, E78] Thoughts Other people's values	**When:** Recent past. Or the now. What do we have here (now)[5, E35,E58] **Where:** External – the other (by implication!!) **What:** Others. Their Actions. Their Thoughts. Theoretical classification of thinking processes[4, E27] – so own thoughts but not in sense of understanding self. Events[5, E58]

Questions Posed (Features)	Why am I uncomfortable? Why did I respond like that?[9, E80] Why did I find this challenging? What type of physio am I? What does this mean for my practice? How do I work within the system – what are my responsibilities? [8T(3)/8, E78] What is influencing my decision, is that right?[6T] Why have I been reluctant to act?[4, E25] How do my reflections affect my practice?[6, E70] How and when I reflect[7, E71]	What just went on there? Why did he act like that? Why isn't this working? What is the nature of this problem?[5, E58/6, E64] How does this compare to a previous patient?[4T/6T] Why is this so differnet?[4T(2)] What is it that I don't know?[6T] How do different people's approaches differ?[7T(4)] What is reflection and what is just thinking?[4, E27] Why might this have happened?[4, E28] Why did nurses think patient was angry?[4, E29] Why is she upset?[4, E29] How did we help her?[4, E29] What do we have here? Or what are the options - making sense of the options available[5, E35]
Purpose (Features)	Finding self Transforming self Discovering self, vision of self and vision of professional role[7, E71] Understanding self[6, E70/9, E80] Understand own reluctance[4, E25]	Understanding context for self Exploring what just happened What went on there? What do I think of that? Why did he get like that? Understanding others[4, E29] Knowing what to expect next[4, E26/6, E64] Knowing what to do next[4, E28] Understanding the options[5, E35]
Mapping	Ghaye's values Taylor's emancipatory? Mezirow's Transformative?	Prospective reflection Reflection-on-Action Practical reflection Can be technical reflection[4, E28/6, E64] Dialogical[5, E58] May involve research into facts[5, E58/6, E64]
Comment	May be transformational. May not. Might be self, might be role Incidental – you don't set out to examine self? e.g. 8T(3) A different perspective may lead to the sense of understanding, but a different perspective is not being sought.	A preparatory stage for the other concepts? [4, E28] Can be an aim in itself. It may be the questions, even implicit questions that determine it is sense making rather than monitoring

Appendix P: Analysis framework for *Seeking*

	Higher order category of Seeking	
	Purpose of Seeking a solution	**Purpose of Questing**
Description (Features)	Trying to work out how to do/achieve something[5, E40,E57/7, E72,E75] Planning[5, E45,E62/6, E65/7, E72,75] Deciding how to deal with a problem in the right way[4, E23,E25/5,E43,E46,E47,E48] Trying to decide whether to do something[3, E18,E21] Might include a review of what has been done so far[4, E23/5, E36/7, E72,E75] Work out what to do next[4, E26/7, E75] Seeking the answer to future service needs and how best to address them [5, E34] (in contrast to questing which might also review data. Not monitoring/practising worthily) How something might be changed[5, E36] How to develop new services[5, E37/7, E75]	Seeking to be better Visionary. Pushing the boundaries – of self or of practice
Direction Of Attention (Features)	***When:*** Looking forward[5, E37,E40,E62/6, E65,E68/7, E75] Immediate future[3, E16/4, E23,E25/5, E43,E57] Long term future[3, E18,E21] ***What:*** Future Actions or approach[3, E16/4, E23/5, E46,E57] What are my personal goals? [3, E18,E21/6,E65] Future service planning[5, E40/7, E75] ***Where:*** External to the problem[6, E68/7, E75] Might include internal to explore own goals.	***When:*** The future – longer term future ***What:*** Future Actions ***Where:*** The vision of what has not yet come to pass
Questions Posed (Features)	What is the best plan?[5, E43] What is the best way forward?[4, E23/5, E34,E45,E47] What will we need in the future?[5, E34,62] What is any way forward?[4, E25,57] What are the options?[5, E48] How can we do this?[5, E44/6, E68/7, E75] Do I have all the information I need?[3, E18,E21] What else can I do?[3, E16] Should I do this or not?[3, E18,E21] Did we make a mistake that led to this?[4, E23] Should we change something/what should we change and how? (implied)[5, E36/7, E72] How to develop the best service[5, E37]	What is the best that I possibly can be? What is the best that physiotherapy can be? Is there something that no-one has thought of before?

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Purpose (Features)	Preparing self[6, E68] Finding the best way to go about something[4, E25/5, E43,E45,E57/7, E72,E75] Preventing the situation escalating[4, E23] System constraints and possibilities[6, E65] Identifying the nature of the problem[5T(5)] Identifying the influences on the problem[4, E25] Preventing harm – safety of patient of staff[3, E17/4, E25] Making a decision[3, E18,E21/5, E47] Providing the best service (within resources)[5, E37/7, E72,E75]	1) Improving self. Aiming to be the best therapist you can be. 2) Improving physiotherapy
Mapping	Taylor's Practical Ghaye's technical Ghaye's context – maybe Prospective reflection Dialogical reflection Written then dialogical[5, E41] Might include trial and error? (implied)[5, E44] Team Reflection[5, E47] Reading[5, E48]	Prospective reflection Emancipatory?
Comment	Idea of subconsciously thinking about something[3, E18] over time Might overlap with monitoring because of the forward-looking aspect of monitoring?[6T(7)]	? not done by everyone Understanding self might be part of the journey?[1T]

Appendix Q: Analysis framework for outcomes of reflection

	Being Worthy		Understanding		Seeking	
	Practising worthily	**Demonstrating worthiness**	**Making sense of self**	**Making sense of other**	**Seeking a solution**	**Questing**
Outcomes	May revisit if something's to be improved. Or act differently next time[6, E67,E69/8, E78] May lead to information gathering, or discussion Identification of good actions and things which could be better[3, E16/5, E53/7, E76] Identify potential strategies to motivate patient[3, E16] Identify a need to involve other MDT[3, E16] Identifies the problem list[3, E17/5, E59] Provides treatment solutions for next time[3, E17/5, E49/6, E66] Can modify approach[3, E17/5, E36/6, E69/7, E71,E74/9, E70,E82] Reinforce knowledge[3, E19/6, E69] Adds to knowledge[3, E20] Better patient outcomes in future[3, E22/4, E30] Prevent dwelling on the event (rumination)[3, E22] Create a 'to do' list[4, E23/6, E67] If teaching others – effect is unknown[4, E24] Pride in own approach[4, E29/7, E76] Observations of improved practice of others[4, E30] Staff are supported or monitored[5, E36] (Implicit)[7, E73,E74] Justifies approach[8, E77]	Written reflections for Portfolios and appraisals. Checking compliance[8T]	Understanding own values and assumptions[9, E80] May change them. Understanding self[4, E25/6, E70] CPD needs identified[4, E25] New insights into own reflective practice[6, E70/7, E71] Recognition of the value of reflection to own practice[6, E70]	Gaining an understanding [5, E58/6, E64] Gaining insight[4, E29] Seeing things in context Sorting, labelling, and joining things up Might be subconcious[6T] How long treatment continues[6T(1)] Treatment context[6T(1)] Treatment progression speed[4, E26/6, E64] Plan to read, and reading up[6T(6)/6, E64] Resolution of surprise into knowledge[4, E26] A changed approach[4,E26] Might be a precursor to planning[4, E28] Options mapped out or listed[5, E35]	Propose strategies or approaches to self which might work[3, E16] A plan[4, E23,E25,E26/5, E47,E57,E62/7,E72] A provisional plan[5, E46] A 'to do' list[4, E23/7, E75] A decision[3, E21,E25] May involve information gathering[3, E18], discussion with other parties before final plan[4, E23/5, E48/7, E72] Might involve a learning goal – gap in knowledge identified[4T] Might involve a request for equipment[4, E25] Involve other MDT members[3, E16]	Challenging and stretching skills, knowledge, and understanding Gaining a new vision Potential for paradigm shift? Pushing the boundaries of physiotherapy[In5T]

Appendix R: Analysis framework for value of reflection

	Being Worthy		Understanding		Seeking	
	Practising worthily	**Demonstrating worthiness**	**Making sense of self**	**Making sense of other**	**Seeking a solution**	**Questing**
Value	Reassurance [3, E16/6, E66/9, E81] Taking skills forward[3T] Provides an action plan[3, E16,E17/4, E23/5, E52/7, E73/8, E77] Helps to order thoughts[3, E17,E22/9, E84] Thinking time[3, E19,E20,E22/9, E84] Ease of mind[3, E22] Job satisfaction[4, E23/6, E69] Appreciation of work conditions or colleagues[4, E23] Recognition of own progress or ability[4, E24/7, E76] Avoidance of mistakes?[5, E53/9, E79] Improving patient care[5, E56] Insight[7, E73/9, E79,E81,E82,E83,E84] Prevent staff breakdown[7, E74]	Does it include patient records?	Understanding CPD needs identified[4, E25]	Knowledge for practice[4, E26,E28] Sense made/understanding gained[4, E26] Finding a response/explanation for others[4, E28/5, E58] With understanding can come sensitivity to others[4, E29]	Getting the best of self Getting the best for self[3, E18,E21/6,E65,E68] Getting the best of the patient[3, E16,E17/5, E47,E48] Getting the best for the patient[4T/ 3, E16/5, E44,E62] Getting the best for others Getting the best of others (staff)[5, E36] Preventing escalation of a problem[4, E23] Working safely[4, E25]	Self and only self Practice Development [In5T]

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Medium to High Risk Research Ethics Approval

Project Title

What is the value of reflection for physiotherapy practice?

Record of Approval

<u>Principal Investigator</u>

I **request an ethics peer review** and confirm that I have answered all relevant questions in this checklist honestly.	X
I confirm that I will carry out the project in the ways described in this checklist. I will immediately suspend research and request new ethical approval if the project subsequently changes the information I have given in this checklist.	X
I confirm that I, and all members of my research team (if any), have read and agreed to abide by the Code of Research Ethics issued by the relevant national learned society.	X
I confirm that I, and all members of my research team (if any), have read and agreed to abide by the University's Research Ethics, Governance and Integrity Framework.	X

Name: Jayne Dalley-Hewer

....

Date: 12/11/2015 ....

Student's Supervisor (if applicable)

I have read this checklist and confirm that it covers all the ethical issues raised by this project fully and frankly. I also confirm that these issues have been discussed with the student and will continue to be reviewed in the course of supervision.

Name:

....

Date: 20/11/2015 ....

Reviewer (if applicable)

Date of approval by anonymous reviewer: 03/12/2015

Medium to High Risk Research Ethics Approval Checklist

Project Information

Project Ref	P38761
Full name	Jayne Dalley-Hewer
Faculty	Faculty of Health and Life Sciences
Department	School of Nursing, Midwifery and Health
Supervisor	
Module Code	D007RDC
EFAAF Number	
Project title	What is the value of reflection for physiotherapy practice?
Date(s)	01/12/2015 - 29/09/2017
Created	12/11/2015 16:17

Project Summary

This study explores reflection as used by qualified physiotherapists in order to better understand the value of real-world reflection in their practice. Reflection is a thinking process purported to help health clinicians improve their practice and, therefore, promoted in the undergraduate curriculum and required of qualified physiotherapists by their professional body. This study is the second audio diary stage of a larger grounded theory study (P15049)

The proposal is for a small number of 4 or 5 participants to use an audio diary to record their thoughts on whether and how their reflections fit with emerging ideas from the earlier research stage as a form of grounded theory verification. In addition, the larger study requires the recruitment of one further participant to complete the first stage audio diary data collection; data is sought from a participant with a clinical background in musculo-skeletal practice, a core clinical area of physiotherapy not yet represented in the participants.

Each audio diary will take one week to complete, in a week of the participant's choice.

The data collection from all participants is expected to take approximately 3 months to complete

Names of Co-Investigators and their organisational affiliation (place of study/employer)	
Is the project self-funded?	NO
Who is funding the project?	
Has the funding been confirmed?	NO
Are you required to use a Professional Code of Ethical Practice appropriate to your discipline?	YES
Have you read the Code?	YES

Project Details

What is the purpose of the project?	This study is the second stage of using audio diaries for data collection as part of a larger grounded theory study exploring the reflection used by qualified physiotherapists in order to better understand and evaluate the value of real-world reflection to their practice.
	The purpose of this stage of the research is for 4 or 5 participants to use an audio diary to examine their reflections against the emerging ideas from the earlier research and record their thoughts on the degree of fit between the emerging ideas and their experience. This forms the process of grounded theory verification.
	In addition, whilst the larger study is not exploring differences of reflection between clinical specialties, it is noted that only two of the three clinical specialties considered to represent the core of physiotherapy practice are currently present in the first stage (ref: P15049). It is proposed to recruit one further participant with a clinical speciality in the musculoskeletal field, to complete the data from the first stage of audio diaries.

| What are the planned or desired outcomes? | The outcome of this stage of research will be finding out the degree to which physiotherapists can recognise, confirm, refine or refute the ideas proposed in the emergent theory on physiotherapy reflection when considered against their own reflective experience, thus, providing a verification stage of research. Verification is a feature of the grounded theory approach, although not one commonly seen in published studies.

Furthermore, The recruitment of one further participant with a clinical background in musculo-skeletal practice, would enhance the credibility of this research for its perspective on physiotherapy practice.

The benefits of this research will be a |

| | better understanding of the relationship between reflection and physiotherapy practice with particular regard to what reflection has to offer to practice. Potentially, this may guide the teaching of reflection in the future. |

| Explain your research design | This proposal forms the second stage of data collection through audio diaries which is part of a larger study using the grounded theory (GT) approach. GT is a research approach which is conducted in stages where the data collection in subsequent stages is informed and directed by the findings from previous stages in order to follow the theory which is emerging from the data and to explore it more deeply or refine it.

In the larger study, the first phase of data collection consisted of interviews with physiotherapists; this informed the focus of interest in the audio diaries data collection phase. Findings from the first stage of audio diaries form the ideas which participants in the second stage of audio diaries will be asked to consider against their own reflections on practice.

In this verification phase of the study, the transcribed data will be systematically analysed against the proposed theoretical framework which is being built from, or grounded in, the data.

The GT approach can be used for both quantitative and qualitative forms of research - hence the word 'approach'. This research study uses grounded theory in a qualitative approach to exploring reflection. |
|---|---|
| Outline the principal methods you will use | Audio diaries use digital voice recorders for participants to make a diary of comments on their reflections on practice for one calendar week. A diary entry each day is suggested although they are free to make more, or less, as they wish. The period of one week is chosen to limit the |

	burden of data collection. A calendar week recognises that practitioners reflect on their practice both in and out of work time. No patient or carer identifying

	information is recorded.
	The typed transcripts of the diary are returned to each practitioner which provides them with a written record of their practice reflections for that point in time. Participants are also sent summaries of the research findings and are welcome to comment on the developing ideas which arise from the research if they so wish and thus contribute to the construction of the theory.
	Participants will be recruited from a network of professional colleagues who have expressed interest in reflection and this research. Details of the research will then be sent by email or post, giving them time to consider their involvement without pressure. Written Consent will be gained from those wishing to participate.
Are you proposing to use an external research instrument, validated scale or follow a published research method?	YES

If yes, please give details of what you are using	Grounded Theory is an established research approach.
	Audio diaries are a recognised, published, qualitative data collection method.
	An audio diary guide is provided to direct the content of the diaries towards the area of interest for the research. A copy of the audio diary guide used for the first stage of audio diary data is attached. A copy of the audio diary guide for this stage of verification is attached together with a page summarizing the emerging theory.
Will your research involve consulting individuals who support, or literature, websites or similar material which advocates, any of the following: terrorism, armed struggles, or political, religious or other forms of activism considered illegal under UK law?	NO
Are you dealing with Secondary Data? (e.g. sourcing info from websites, historical documents)	NO
Are you dealing with Primary Data involving people? (e.g. interviews, questionnaires, observations)	YES
Are you dealing with personal or sensitive data?	NO
Is the project solely desk based? (e.g. involving no laboratory, workshop or off campus work or other activities which pose significant risks to researchers or participants)	NO
Are there any other ethical issues or risks of harm raised by the study that have not been covered by previous questions?	NO
If yes, please give further details	

DBS (Disclosure & Barring Service) formerly CRB (Criminal Records Bureau)

Question		Yes	No
1	Does the study require DBS (Disclosure & Barring Service) checks?		X
	If YES, please give details of the serial number, date obtained and expiry date		
2	If NO, does the study involve direct contact by any member of the research team		
	a) with children or young people under 18 years of age?		X
	b) with adults who have learning difficulties, brain injury, dementia, degenerative neurological disorders?		X
	c) with adults who are frail or physically disabled?		X
	d) with adults who are living in residential care, social care, nursing homes, re-ablement centres, hospitals or hospices?		X
	e) with adults who are in prison, remanded on bail or in custody?		X
	If you have answered YES to any of the questions above please explain the nature of that contact and what you will be doing		

External Ethical Review

	Question	Yes	No
1	Will this study be submitted for ethical review to an external organisation? (e.g. Another University, Social Care, National Health Service, Ministry of Defence, Police Service and Probation Office)		X
	If YES, name of external organisation		
2	Will this study be reviewed using the IRAS system?		X
3	Has this study previously been reviewed by an external organisation?		X

Confidentiality, security and retention of research data

	Question	Yes	No
1	Are there any reasons why you cannot guarantee the full security and confidentiality of any personal or confidential data collected for the study?		X
	If YES, please give an explanation		
2	Is there a significant possibility that any of your participants, and associated persons, could be directly or indirectly identified in the outputs or findings from this study?		X
	If YES, please explain further why this is the case		
3	Is there a significant possibility that a specific organisation or agency or participants could have confidential information identified, as a result of the way you write up the results of the study?		X
	If YES, please explain further why this is the case		
4	Will any members of the research team retain any personal of confidential data at the end of the project, other than in fully anonymised form?		X
	If YES, please explain further why this is the case		
5	Will you or any member of the team intend to make use of any confidential information, knowledge, trade secrets obtained for any other purpose than the research project?		X
	If YES, please explain further why this is the case		
6	Will you be responsible for destroying the data after study completion?	X	
	If NO, please explain how data will be destroyed, when it will be destroyed and by whom		

Participant Information and Informed Consent

	Question	Yes	No
1	Will all the participants be fully informed BEFORE the project begins why the study is being conducted and what their participation will involve?	X	
	If NO, please explain why		
2	Will every participant be asked to give written consent to participating in the study, before it begins?	X	
	If NO, please explain how you will get consent from your participants. If not written consent, explain how you will record consent		
3	Will all participants be fully informed about what data will be collected, and what will be done with this data during and after the study?	X	
	If NO, please specify		
4	Will there be audio, video or photographic recording of participants?	X	
	Will explicit consent be sought for recording of participants?	X	
	If NO to explicit consent, please explain how you will gain consent for recording participants		
5	Will every participant understand that they have the right not to take part at any time, and/or withdraw themselves and their data from the study if they wish?	X	
	If NO, please explain why		
6	Will every participant understand that there will be no reasons required or repercussions if they withdraw or remove their data from the study?	X	
	If NO, please explain why		
7	Does the study involve deceiving, or covert observation of, participants?		X
	Will you debrief them at the earliest possible opportunity?		

If NO to debrief them, please explain why this is necessary	

Risk of harm, potential harm and disclosure of harm

	Question	Yes	No
1	Is there any significant risk that the study may lead to physical harm to participants or researchers?		X
	If YES, please explain how you will take steps to reduce or address those risks		
2	Is there any significant risk that the study may lead to psychological or emotional distress to participants?		X
	If YES, please explain how you will take steps to reduce or address those risks		
3	Is there any risk that the study may lead to psychological or emotional distress to researchers?		X
	If YES, please explain how you will take steps to reduce or address those risks		
4	Is there any risk that your study may lead or result in harm to the reputation of participants, researchers, or their employees, or any associated persons or organisations?		X
	If YES, please explain how you will take steps to reduce or address those risks		
5	Is there a risk that the study will lead to participants to disclose evidence of previous criminal offences, or their intention to commit criminal offences?		X
	If YES, please explain how you will take steps to reduce or address those risks		
6	Is there a risk that the study will lead participants to disclose evidence that children or vulnerable adults are being harmed, or at risk or harm?		X
	If YES, please explain how you will take steps to reduce or address those risks		

7	Is there a risk that the study will lead participants to disclose evidence of serious risk of other types of harm?		X
	If YES, please explain how you will take steps to reduce or address those risks		
8	Are you aware of the CU Disclosure protocol?	X	

Payments to participants

Question		**Yes**	**No**
1	Do you intend to offer participants cash payments or any kind of inducements, or reward for taking part in your study?		X
	If YES, please explain what kind of payment you will be offering (e.g. prize draw or store vouchers)		
2	Is there any possibility that such payments or inducements will cause participants to consent to risks that they might not otherwise find acceptable?		
3	Is there any possibility that the prospect of payment or inducements will influence the data provided by participants in any way?		
4	Will you inform participants that accepting payments or inducements does not affect their right to withdraw from the study at any time?		

Capacity to give valid consent

Question		**Yes**	**No**
1	Do you propose to recruit any participants who are:		
	a) children or young people under 18 years of age?		X
	b) adults who have learning difficulties, mental health condition, brain injury, advanced dementia, degenerative neurological disorders?		X
	c) adults who are physically disabled?		X

		Yes	No
	d) adults who are living in residential care, social care, nursing homes, re-ablement centres, hospitals or hospices?		X
	e) adults who are in prison, remanded on bail or in custody?		X
	If you answer YES to any of the questions please explain how you will overcome any challenges to gaining valid consent		
2	Do you propose to recruit any participants with possible communication difficulties, including difficulties arising from limited use of knowledge of the English language?		X
	If YES, please explain how you will overcome any challenges to gaining valid consent		
3	Do you propose to recruit any participants who may not be able to understand fully the nature of the study, research and the implications for them of participating in it or cannot provide consent themselves?		X
	If YES, please explain how you will overcome any challenges to gaining valid consent		

Recruiting Participants

Question		Yes	No
1	Do you propose to recruit any participants who are:		
	a) students or employees of Coventry University or partnering organisation(s)?	X	
	If YES, please explain if there is any conflict of interest and how this will be addressed	Should any participant be recruited who also happens to be an academic colleague, there is no conflict of interest. Students of the university will not be recruited.		

b) employees/staff recruited through other businesses, voluntary or public sector organisations?		X	
If YES, please explain how permission will be gained	Participants will be recruited from a personal network of professional colleagues who have expressed interest in the research area. Following an expression of interest, participant information sheets will be sent to each participant, along with consent forms, thus giving them time to consider their participation from an informed position. Should any of these participants work in the NHS, then for studies which involve only staff, NHS research ethics approval through IRAS is not required. No personal identifying information will be required for this study. Should any participant inadvertently mention their name or workplace, this information will be removed from the transcript.		
c) pupils or students recruited through educational institutions (e.g. primary schools, secondary schools, colleges)?			X
If YES, please explain how permission will be gained			
d) clients/volunteers/service users recruited through voluntary public services?			X

	If YES, please explain how permission will be gained		

e)	participants living in residential care, social care, nursing homes, re-ablement centres hospitals or hospices?			X
	If YES, please explain how permission will be gained			
f)	recruited by virtue of their employment in the police or armed forces?			X
	If YES, please explain how permission will be gained			
g)	adults who are in prison, remanded on bail or in custody?			X
	If YES, please explain how permission will be gained			
h)	who may not be able to refuse to participate in the research?			X
	If YES, please explain how permission will be gained			

Online and Internet Research

	Question	Yes	No
1	Will any part of your study involve collecting data by means of electronic media (e.g. the Internet, e-mail, Facebook, Twitter, online forums, etc)?		X
	If YES, please explain how you will obtain permission to collect data by this means		
2	Is there a possibility that the study will encourage children under 18 to access inappropriate websites, or correspond with people who pose risk of harm?		X
	If YES, please explain further		
3	Will the study incur any other risks that arise specifically from the use of electronic media?		X
	If YES, please explain further		
4	Will you be using survey collection software (e.g. BoS, Filemaker)?		X
	If YES, please explain which software		
5	Have you taken necessary precautions for secure data management, in accordance with data protection and CU Policy?	X	

	If NO	please explain why not	
	If YES	Specify location where data will be stored	In electronic files protected by passwords, on a Coventry University server, accessible only by the researcher through a password protected account.
		Planned disposal date	20/12/2018
		If the research is funded by an external organisation, are there any requirements for storage and disposal?	X (No)
		If YES, please specify details	

Laboratory/Workshops

	Question	Yes	No
1	Does any part of the project involve work in a laboratory or workshop which could pose risks to you, researchers or others?		X
	If YES: If you have risk assessments for laboratory or workshop activities you can refer to them here & upload them at the end, or explain in the text box how you will manage those risks		

Research with non-human vertebrates

	Question	Yes	No
1	Will any part of the project involve animal habitats or tissues or nonhuman vertebrates?		X
	If YES, please give details		
2	Does the project involve any procedure to the protected animal whilst it is still alive?		
3	Will any part of your project involve the study of animals in their natural habitat?		
	If YES, please give details		
4	Will the project involve the recording of behaviour of animals in a non-natural setting that is outside the control of the researcher?		
	If YES, please give details		
5	Will your field work involve any direct intervention other than recording the behaviour of the animals available for observation?		
	If YES, please give details		
6	Is the species you plan to research endangered, locally rare or part of a sensitive ecosystem protected by legislation?		
	If YES, please give details		
7	Is there any significant possibility that the welfare of the target species of those sharing the local environment/habitat will be detrimentally affected?		
	If YES, please give details		
8	Is there any significant possibility that the habitat of the animals will be damaged by the project, such that their health and survival will be endangered?		X
	If YES, please give details		
9	Will project work involve intervention work in a non-natural setting in relation to invertebrate species other than Octopus vulgaris?		
	If YES, please give details		

Blood Sampling / Human Tissue Analysis

	Question	Yes	No
1	Does your study involve collecting or use of human tissues or fluids? (e.g. collecting urine, saliva, blood or use of cell lines, 'dead' blood)		X
	If YES, please give details		
2	If your study involves blood samples or body fluids (e.g. urine, saliva) have you clearly stated in your application that appropriate guidelines are to be followed (e.g. The British Association of Sport and Exercise Science Physiological Testing Guidelines (2007) or equivalent) and that they are in line with the level of risk?		
	If NO, please explain why not		
3	If your study involves human tissue other than blood and saliva, have you clearly stated in your application that appropriate guidelines are to be followed (e.g. The Human Tissues Act, or equivalent) and that they are in line with level of risk?		
	If NO, please explain why not		

Travel

	Question	Yes	No
1	Does any part of the project require data collection off campus? (e.g. work in the field or community)		X
	If YES: You must consider the potential hazards from off campus activities (e.g. working alone, time of data collection, unfamiliar or hazardous locations, using equipment, the terrain, violence or aggression from others). Outline the precautions that will be taken to manage these risks, AS A MINIMUM this must detail how researchers would summon assistance in an emergency when working off campus. For complex or high risk projects you may wish to complete and upload a separate risk assessment		
2	Does any part of the project involve the researcher travelling outside the UK (or to very remote UK locations)?		
	If YES: Please give details of where, when and how you will be travelling. For travel to high risk places you may wish to complete and upload a separate risk assessment		
3	Are all travellers aware of contact numbers for emergency assistance when away (e.g. local emergency assistance, ambulance/local hospital/police, insurance helpline [+44 (0) 2071 737797] and CU's 24/7 emergency line [+44 (0) 2476 888555])?		
4	Are there any travel warnings in place advising against all, or essential only travel to the destination? NOTE: Before travel to countries with 'against all travel', or 'essential only' travel warnings, staff must check with Finance to ensure insurance coverage is not affected. Undergraduate projects in high risk destinations will not be approved		

5	Are there increased risks to health and safety related to the destination? e.g. cultural differences, civil unrest, climate, crime, health outbreaks/concerns, and travel arrangements?		
	If YES, please specify		
6	Do all travelling members of the research team have adequate travel insurance?		
7	Please confirm all travelling researchers have been advised to seek medical advice regarding vaccinations, medical conditions etc, from their GP		