Cape Peninsula
University of Technology

E-MENTORING AS A PLATFORM FOR THE DEVELOPMENT OF NOVICE TEACHER COMPETENCIES AT A RURAL SCHOOL IN THE WESTERN CAPE

by

JUAN BENJAMIN

Thesis submitted in fulfilment of the requirements for the degree

MAGISTER EDUCATIONIS

in the Faculty of Education and Social Sciences

at the Cape Peninsula University of Technology

Supervisor: Professor Yusuf Sayed
Co-supervisor: Professor Azeem Badroodien

Mowbray
14 November 2019

CPUT copyright information
The dissertation/thesis may not be published either in part (in scholarly, scientific or technical journals), or as a whole (as a monograph), unless permission has been obtained from the University

DECLARATION

I, Juan Benjamin, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed **Date 14 November 2019**

ABSTRACT

The focus of this study was to investigate the potential of an e-platform to mentor novice teachers in a rural school in the Western Cape. The premise of this study was that the Western Cape Education Department had no formal e-mentoring programmes in its basket of CPD programmes that specifically addresses the professional isolation of rural-based novice teachers. The problem was investigated by means of a literature review and empirical investigation, using a mixed method approach. The study had an explicit qualitative slant with a minor quantitative input.

The findings of the study reveal that novice teachers' initial competencies and skills can be improved through e-platform support. Novice teachers operate in an era of social media immersion and are willing to embrace virtually based support through social media. The study recommends that social media has the potential to build rural based novice teachers' competencies and skills, as a standalone exercise or part of a blended learning experience. Furthermore, in time, e-mentoring could make a meaningful contribution to the development of rural based teachers, whether novice or experienced.

ACKNOWLEDGEMENTS

I wish to thank:

- Professor Badroodien and Professor Sayed, for their unbelievable understanding as I undertook this journey,
- My family, for tolerating the ebbs and flows as I wrestled with the study,
- My work colleagues, for their continuous prodding and encouragement,
- The financial assistance of the National Research Foundation towards this research is acknowledged. Opinions expressed in this thesis and the conclusions arrived at, are those of the author, and are not necessarily to be attributed to the National Research Foundation.

TABLE OF CONTENTS

	Declaration	ii
	Abstract	iii
	Acknowledgements	iv
	References	vii
	List of Figures	vii
	List of Tables	vii
	List of Abbreviations	viii
	Appendices	viii
		viii

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1	Introduction	**1**
1.2	Background	**1**
1.3	Significance of the study	**4**
1.4	Aims of the study	**5**
1.5	The research question	**5**
1.6	Exposition of chapters	**5**
1.7	Conclusion	**6**

CHAPTER TWO: CONCEPTUAL FRAMEWORK

2.1	Introduction	**7**
2.2	Conceptual framework	**7**
2.2.1	Defining reflective practice	**7**
2.2.2	John Dewey	**7**
2.2.3	Donald Schön	**8**
2.2.4	The potential harmful effects of reflective practice	**9**
2.2.4.1	Ethical concerns	**10**
2.2.4.2	Professional concerns	**10**
2.2.4.3	Pedagogic concerns	**11**
2.2.4.4	Conceptual concerns	**11**
2.3	Professional development	**12**
2.3.1	Defining professional development	**12**
2.3.2	Defining mentoring	**13**
2.4	Types of mentoring relationships	**13**
2.4.1	Informal mentoring	**13**
2.4.2	Formal mentoring	**14**
2.5	The mentoring process	**14**
2.6	The value-add and challenges of traditional mentoring	**15**
2.7	What is e-mentoring?	**16**
2.7.1	The possibilities of e-mentoring	**16**
2.7.2	Challenges of e-mentoring	**17**
2.8	The novice teacher	**17**
2.9	Concluding remarks	**18**

CHAPTER THREE: LITERATURE REVIEW

3.1	Introduction	**19**
3.2	Social media and continuous professional development	**19**
3.2.1	Background	**19**
3.3	What is social media?	**21**
3.4	Social media as a tool for continuous professional development	**21**
3.5	The dilemma of the novice teacher and CPD	**26**
3.6	Concluding remarks	**27**

CHAPTER FOUR: RESEARCH DESIGN

4.1	Introduction	**29**
4.2	Research design and methods	**29**
4.2.1	Qualitative research methods	**29**
4.2.2	Quantitative research methods	**30**
4.2.2.1	Features of quantitative research	**31**
4.2.3	Mixed methods	**31**
4.3	The research design process	**33**
4.4	Participants and context	**35**
4.5	Ethical considerations	**36**
4.6	Data collection sources	**38**
4.6.1	Semi structured interviews	**39**
4.7	Trustworthiness	**40**
4.8	Positionality of the researcher	**41**
4.9	Analysis of the data	**42**
4.10	Study approval	**42**
4.11	Conclusion	**42**

CHAPTER FIVE: RESEARCH FINDINGS

5.1	Introduction	**43**
5.2	Findings of the study	**43**
5.2.1	The initial interactions with the survey link	**44**
5.2.2	The survey results	**47**
5.2.3	Social media interaction	**52**
5.2.4	The exit interview	**75**
5.3	Conclusion	**80**

CHAPTER SIX: ANALYSIS OF FINDINGS AND CONCLUSIONS

6.1	Introduction	**81**
6.2	Analysis of findings	**81**
6.2.1	Mobile technology adoption: underpinning e-platforms	**82**

6.2.2	What were the experiences of rural based, novice teachers to receiving support via an e-mentoring programme situated in WhatsApp?	**83**
6.2.2.1	Initial privacy concerns: trepidation to participation	**83**
6.2.2.2	Heightened engagement after initial concerns	**84**
6.2.3	How can support via WhatsApp improve the skills, knowledge levels and initial teaching competencies of novice teachers?	**86**
6.2.3.1	Raising competence through collaboration and reflection	**86**
6.2.3.2	Reduced professional isolation	**88**
6.2.3.3	Enhanced reflection opportunities through social media	**89**
6.2.3.4	Improved knowledge levels and initial competencies	**90**
6.2.4	How can the findings and recommendations of this study on e-mentoring inform the development of mentoring programmes for novice teachers offered by the WCED situated on an e-platform?	**91**
6.3	Limitations of the study	**92**
6.4	Summary of main findings	**93**
6.5	Implications / recommendations for policy and practice	**93**
6.6	Significance of study	**94**
6.7	Concluding remarks	**94**

REFERENCES **96**

LIST OF FIGURES

Figure 2.1:	Kram's stages of mentoring	**14**
Figure 3.1:	Social network users in Middle East and Africa	**19**
Figure 3.2:	Mobile Messenger APP usage across selected emerging market countries	**20**
Figure 3.3:	Leading social network users South Africa	**20**
Figure 5.1:	Mode of questions 1 to 22	**47**
Figure 5.2:	Mode of questions 23 to 42	**48**
Figure 5.3:	Mode distribution per question	**48**
Figure 5.4:	Technique 36 video link	**54**
Figure 5.5:	Group interactions per week	**60**
Figure 5.6:	Technique 37 video link	**61**
Figure 5.7:	Technique 38 video link	**61**
Figure 5.8:	Group interactions p/wk. per participant	**66**
Figure 5.9:	Technique 39 video link	**67**
Figure 5.10:	Technique 40 video link	**67**
Figure 5.11:	Technique 41 video link	**68**
Figure 5.12:	Group interactions p/wk. per participant	**68**
Figure 5.13:	Group interactions p/wk. per participant	**73**
Figure 5.14:	Graphic of Q1 responses	**76**
Figure 5.15:	Graphic of Q3 responses	**78**
Figure 6.1:	No of group interactions per week	**85**
Figure 6.2:	No of interactions per participant over 10 weeks	**85**

LIST OF TABLES

Table 4.1: Profile of participants **35**

APPENDICES **110**

Appendix A: 42 item questionnaire **110**
Appendix B: WCED research approval letter **113**
Appendix C: Participant consent form **114**
Appendix D: Interview schedule **115**

LIST OF ABBREVIATIONS

CPD:	Continuous Professional Development
CPTD:	Continuous Professional Teacher Development
EDO:	Education District Office
ICT:	Information and Communication Technologies
MS WORD:	Microsoft Word
SACE:	South African Council of Educators
PDF:	Portable Document Format
UNESCO:	United Nations Educational, Scientific and Cultural Organization
WCED:	Western Cape Education Department

CHAPTER ONE:

INTRODUCTION TO THE STUDY

1.1 Introduction

This chapter discusses the background of the study. The chapter also focuses on the objectives of the research, defines the aims of the study and research question (with sub-questions), the significance of the study, and provides an outline of the chapters to follow.

1.2 Background

The Western Cape Education Department employs an estimated 28 800 teachers to service close on one million learners across 1500 schools (WCED: 2013). The geographic area serviced by the WCED spans eight districts; four rural and four urban. Given that close to 750 schools (50%) are located in rural locations, with a significant number of Western Cape teachers work in rural environments. As such, the two fundamental challenges that confront such schools are how to attract teachers to rural areas and keep them there, and how best to assist and develop teachers in such settings in pursuit of good quality education.

With regard to the above, a UNESCO report on improving the conditions of teachers and teaching in rural schools across the African countries noted in 2011 that key challenges in improving the conditions of teachers and teaching in rural schools were: (1) the problem of attracting and keeping qualified teachers in rural schools; (2) poor funding in rural schools; (3) poor quality of education in rural schools; (4) poor teachers' status; (5) lack of career opportunities; (6) poor infrastructural facilities; (7) poor monitoring of teachers' attitude, behaviour and (8) performance in rural schools and administrative bottlenecks which make the teachers in rural schools feel neglected (UNESCO. 2011).

Furthermore, coupled to the highlighted difficulties above of conditions in rural schools, novice teachers entering the profession in rural environments need substantially more support to cope with their attached challenges. In the above regard, Normore and Loughry (2006: 25) state that "without support and supervision, novice teachers often feel overwhelmed, disoriented, and frustrated when they find themselves totally on their own in their classrooms".

Anecdotal observations from visits to schools and discussions with teachers highlight that novice teachers are invariably "thrown-in-at-the-deep-end" when appointed in schools – a situation which inevitably overwhelms, disorients, and frustrates them as they seek to develop and grow their individual practices (David. 2000).

While at the provincial level the WCED runs a Centre for Teacher Development that assists with the continuous professional development of teachers in public schools, focusing predominantly on classroom and curriculum management as well as leadership development, the WCED does not however have any formal mentoring programme to support novice teachers.

There is also no formal requirement for schools in the Western Cape to provide mentoring to their novice teachers, with some schools running mentoring programmes while schools not even providing a shadowing programme. This presents a serious challenge to the profession Le Maistre and Paré (2009) note that no profession takes on new recruits, places them in the same situation as seasoned staff, and provides them with little or no support.

Whether provided or not, the importance of mentoring in the schooling context is indisputable, and thus it is important to understand and reflect on mentoring as a programme and how it is understood and has been used to support teachers in different contexts.

A number of studies talk to the tension for novice teachers to develop particular professional competencies needed to fulfil their role. Olsen (2010) states that developing these professional competencies are critical to them becoming successful teachers. McLean (1999) observes that the teaching profession is in constant flux and therefore learning to teach is not only a very complex matter but is also a very personal process. Carter and Doyle (1996) underline that becoming an educator means, among other things, learning how to express oneself in the classroom and how to adapt personal understanding and goals to institutional stresses. Lipka and Brinthaupt (1999) suggest that developing particular professional competencies involve finding a balance between the personal and professional side of becoming and being an educator. According to Alsup (2006: 27), teachers should consequently develop a sense of professional identity so that they will be able to combine their personal biases into the professional expectancies of what it means to be an educator.

In a study on challenges facing novice teachers, Pillen, Beijaard & den Brok (2013) identified at least thirteen tensions, some of which were:

a) Feeling like a student versus being expected to act like an adult teacher.
b) Wanting to care for students versus being expected to be tough.
c) Feeling incompetent in terms of knowledge versus being expected to be knowledgeable.
d) Experiencing a discrepancy between one's own, usually implicit, lay theories and theories that are relevant to the teaching profession.
e) Experiencing conflicts between one's own and others' orientations regarding learning to teach.
f) Being exposed to opposing institutional attitudes

One of the conclusions of the study was that novice teachers felt strengthened by sharing their experiences, especially when they noticed that others also experience the same tensions. They argued that the role of the mentor in such a situation is to monitor how the novice teachers that they are mentoring deal with the above tensions (Pillen et al 2013: 256). Similarly, in a study on the Effects of Teacher Induction and Mentoring on Teacher Turnover, Ingersoll & Smith (2004) suggested that novice teachers provided with mentors, and who participate in collective activity, were less likely to fail than those who did not have this support.

Teaching has customarily been a profession where the professional work has been done individually and where teachers have been alone with their classes. Lortie (1975) has argued that this 'defining individualism' was often a major obstacle to novice teachers' coping with their work, in that it encouraged them to rely on their own "indicators of effectiveness" and to align their goals to their "own capacities and interests" (Lortie 1975: 210- cited in Hargreaves 2010). This isolated teachers within their own classrooms and practices, insulated them from collegial feedback, and made them less likely to engage in substantial, collective change. (Hargreaves 2010:147).

Hudson (2008) defines mentoring as a tool for professional transformation and something that provides structure to the relationship between the mentee (preservice teacher) and mentor (in-service teacher). A mentor is "one who is more knowledgeable on teaching practices and through explicit mentoring processes develops pedagogical self-efficacy in the mentee towards autonomous teaching practices" (Hudson, 2004b: 216). In turn, Donaldson, Ensher, & Grant-Vallone (2000) define mentoring as a term generally used to describe a relationship between an inexperienced individual, called a mentee, and an experienced individual known as a mentor. Bowen (1985) indicates that mentorship occurs when a senior person (the mentor) in terms of age and experience undertakes to provide information, advice and emotional support for a junior person (the protégé) in a relationship lasting over an extended period of time, and marked by substantial emotional commitment by both parties. Burke and McKeen (1989) note that mentorships are relationships that provide guidance and support for junior members of an organization until they reach maturity. Nasser (1987) indicates that mentoring is the process of transmitting knowledge, skills and life experience of a selected, successful manager to another employee in the organization with the purpose of improving that employee for greater efficiency and effectiveness.

Various studies of novice teachers have shown that many new teachers intentionally network with other teachers inside and outside of their school in an effort to build mentoring networks (Fox & Wilson, 2009; Fox et al., 2011). These connections are often informal and loose in nature (Carter & Francis, 2001). Oberski, Ford, Higgins & Fisher (1999) contend that relationships with informal mentors are often quite successful. There is consequently growing interest in how and why teachers form networks of their own mentors to support their

development. Baker (1990: 619) suggests that novice teachers are drawn to this as a way of developing forms of social capital, and the needed connections, that then serve as “resources within specific social structures”. Informal mentoring relationships often give novice teachers the access to information on the practice of teaching, curriculum, or content which they would not previously have had.

One such informal mentoring relationship has been the proliferation of popular online tools that seek to support novice teachers. A number of recent studies show that teachers regularly use social media to empathize and collaborate with other teachers, to keep up-to date on education issues (Brown, 2012; Ferriter, 2010), to offer emotional support to fellow teachers (Deryakulu & Oklun 2007), and to share resources with other teachers (Lalonde 2012; Hew & Hara 2007; McLoughlin et al. 2007).

This points to many novice teachers teaching in the 21st century (the Millennial generation) starting to use technology, according to Baker-Doyle (2011: 31) to “maintain long-term relationships outside their workplace” and to seek out teacher support development (Lieberman & Mace, 2010).

To support novice teachers, the implication of this development is how best to develop and monitor online support networks that provide insight of the needed competencies. Online mentoring programs are proliferating across the globe to support novice educator development (Clift, Hebert, Cheng, Moore, & Clouse, 2010; Lee & McLoughlin, 2010), which has led to the establishment of a number of tele-mentoring or e-mentoring programs (Heider, 2005). These are quite different to previous teacher platform interactions that focused mainly “on behaviour management, general questions about aspects of the curriculum, and questions about resources” (Schuck 2003: 57).

These studies offer important guides on how to understand, monitor, and build confidence through e-mentoring in South Africa, and how to nurture novice teachers in different settings that help them develop as teachers.

1.3 Significance of the study

With regard to the above, there are few studies that have explored mentoring programmes in public schools in South Africa, let alone in rural schools. A few studies have specifically focused on the mentoring of science teachers, but it is evident that there are limited studies on or system-wide mentoring within public schools. As a way of engaging with this absence, the current research contribution will zoom in on an e-mentoring programme for a group of novice teachers in a rural Western Cape school.

Recently, ICTs have been used for multiple purposes in education, including improving teacher practice, teacher education, and learner engagement. However, there has been very little research about the role of ICTs in supporting novice teachers, particularly in rural contexts within South Africa. An innovation of the study, is that it provides e-mentoring as the main platform by which to develop and support novice teachers.

1.4 Aims of the study

The aims of the study are to:

1.4.1 Explore the value and contribution of an e-mentoring programme situated in social media, in developing and supporting teachers at a school in a rural setting,

1.4.2 Analyse the nature of the interaction of this support to novice teachers and the potential for developing a systemic approach to support novice teachers via social media.

1.5 The research question

How can a professional development support programme based on an e-platform build the initial teaching competencies of novice teachers in a rural school setting?

Research sub – questions

a) What were the experiences of rural based, novice teachers, to receiving support via an e-mentoring programme situated in WhatsApp?
b) How can support via WhatsApp improve the skills and knowledge levels and initial teaching competence of novice teachers?
c) How can the findings and recommendations of this study on e-mentoring inform the development of mentoring programmes for novice teachers offered by the Education Department situated on an e-platform?

1.6 Exposition of chapters

This thesis consists of six chapters. An overview of each chapter is summarized below:

Chapter One discusses the background of the study. The chapter also focuses on the objectives of the research, defines the aims of the study and research question (with sub-questions) and significance of the study.

Chapter Two provides the conceptual framework and outlines the key theorists in the conceptual framework for the research. It examines professional development and the nature and forms of mentoring, the mentoring process and traditional mentoring vs e-mentoring.

Chapter Three provides the literature review. It focuses on social media and continuous professional development, at the traction of social media and the dilemma of the novice teacher and social media.

Chapter Four discusses the research design, describes the features of the various research methods and the methodology settled on to inform the research process for this study. The process, methods and instruments of data collection are outlined. It describes the participants selected for the study and issues of credibility, validity, trustworthiness and the positionality of the researcher.

Chapter Five presents the findings from the data collection according to the research questions, drawing out particular issues that will be reflected in Chapter Six. The ten-week e-mentoring journey is described in detail, including the tools (video links) and techniques provided on the e-platform, that informed the social media interactions between the researcher and the participants, the nature of the interactions and the extent to which the e-mentoring platform was embraced, concluding with the exit interview exposition.

Chapter Six presents the analysis of findings. The analysis is provided under the headings of the sub-questions of the research question, comments on the study limitations and concludes with a reflection of a summary of the key findings, the implications for policy and practice, the implication of the study for further research, the significance of the study and closing remarks.

1.7 Conclusion

Chapter One sought to set-the-scene for the study. Chapter Two is focused on a more detailed outlay of the conceptual framework that underpins the study.

CHAPTER 2: CONCEPTUAL FRAMEWORK

2.1 Introduction:

The preceding chapter focused on the rationale for the study and sketched the context for the study within the current South African public schooling system. This chapter situates the study within an appropriate conceptual framework and the current thinking around the role of social media and its usefulness in developing the professional competencies of teachers, specifically in the case of this study, the novice teacher within a rural environment.

2.2 Conceptual framework

2.2.1 Defining reflective practice

In the context of the South African public education system, reflective practice or the idea of reflecting on ones' practice, has become a familiar reference over the last five years when defining strategies of support for classroom practitioners and as a platform to build competencies in the educator workforce. The notion of reflective practice is not new though. The term 'reflective practice' carries numerous and a variety of meanings. These span from the idea of teachers engaging in self-reflection to that of engaging in conversation with others. Finlay (2008) posited that for some, reflective practice simply referred to embracing a thinking approach to practice, whilst for others it may simply be self-indulgent navel gazing. On a third level, it involved carefully structured and crafted approaches towards being reflective about one's experiences in practice. With reference to teacher education, Larrivee argued that:

> "*Unless teachers developed the practice of critical reflection, they stayed trapped in unexamined judgments, interpretations, assumptions, and expectations. Approaching teaching as a reflective practitioner involved fusing personal beliefs and values into a professional identity"*
> (Larrivee, 2000: 293)

The roots of modern thought on reflective practice can be located in the writing of John Dewey and Donald Schön. What were Dewey's and Schön's theories of reflection?

2.2.2 John Dewey:

Dewey distinguished reflective thought from a random 'stream of consciousness' that is thought we experienced on an on-going basis. He described reflection in

broad terms as ‘active, persistent, and careful consideration of any belief or form of knowledge in the light of the grounds that supported it and the further conclusions to which it tends’ (Dewey, 1933: 9). For Dewey, reflective thought was prompted when we are confronted by perplexity or surprise which interrupts the normal flow of our regular activity and follows in a series of thinking phases during which one searches to find material that would resolve a pre-existing doubt. Dewey (1933: 199-209) captured this reflective cycle in five steps, namely,

a) Experiencing a feeling of discrepancy, in thought or in feeling as a result of mismatches between the ends we seek and the means we have available, or between our beliefs and incidents occurring in practice;
b) Deliberately observing and intellectualising the perplexity that has been experienced in order to resolve it. In order to determine the nature of the problem, suspending judgment is essential in this phase.
c) Cultivating alternative suggestions to solve the difficulty at hand;
d) Elaborating on the implications of the various suggestions and selecting the most appropriate one that would resolve the original difficulty;
e) Testing the theory in order to confirm it, and eventually adopting it as personal knowledge (Dewey: 1933).

Dewey (1933: 100-101) noted that the function of reflective thought was “to transform a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clear, coherent, settled and harmonious”.

2.2.3 Donald Schön

Schön (1987) extended Dewey’s definition of reflection by observing how practitioners think-in-action and promoted the notion that learning is dependent upon the integration of experience with reflection. Schön (1983, 1987) identified ways in which practitioners could become aware of their implicit knowledge and learnt from their experience. His key concern was to facilitate the development of reflective practitioners rather than simply describe the process of reflection. His most important and enduring contributions were to identify two types of reflection: reflection-on-action (post-event thinking) and reflection-in-action (in-the-event thinking).

In the case of reflection-on-action, practitioners are understood to consciously review, describe, analyse and evaluate past practices to gain an understanding needed to improve future practice. With reflection-in-action, practitioners are seen as examining their experiences and responses as they occur. In other words, practitioners could use reflection as a tool to discover and interrogate implicit understandings that have been internalised and accumulated over time. Through reflection they can articulate and describe the knowing of actions and feelings that they spontaneously employ in practice.

Both 'reflection-in-action' and 'reflection-on-action' formed the core of Schön's study of reflective practice. Schön's argument was that professional practice is complex, unpredictable and messy. In order to cope, practitioners have to be able to do more than follow set procedures. They drew on both practical experience and theory as they think on their feet and improvise. They acted both intuitively and creatively. And both reflection-in and on-action allowed them to revise, modify and refine their expertise.
Schön further argued that practitioners needed to step back and, from a distance, take time to think through situations. Whether expert or novice, all practitioners needed to reflect on practice – both in general and with regard to specific situations.

Schön's work has been hugely influential in shaping practice and professional training and education. Whilst generally acknowledged as inspiring the practice of reflective practice, Schön has also drawn criticism. Eraut (2004) faults the work for its lack of precision and clarity. Boud and Walker (1998) posited that Schön's analysis ignored important features of the context of reflection. Usher et al (1997) found Schon's account and methodology unreflexive, while Greenwood (1993), critiqued Schön for minimising the importance of reflection-before-action. Moon (1999) regarded Schon's pivotal concept of reflection-in-action as unachievable.

In terms of this study, participants will start a professional journey to become reflexive practitioners by reflecting-on-action and reflecting-in-action as they engage their peers through an e-platform, discuss their views and behaviours in the classroom, based on the stimuli provided via audio-visual clips and the conversation threads generated on the e-platform. This process should inform whether the research question and sub-questions are attainable or viable.

2.2.4 The potential harmful effects of reflective practice

Although no one doubted the enhancing characteristics of reflective practice, Loughran (2002: 42) observed that since "the use of reflection is eminently sensible and reasonable in

developing one's understanding of the practice setting, it is inevitably bandied about, misunderstood and reinterpreted as it is used by different people in different ways to highlight particular aspects of practice. In part, it is as a result of this diversity of views and understandings that has led me to preface reflective practice with a qualifier – *effective* – in order to begin to focus attention on the action as well as the outcome of reflection".

In that regard, there are three key cautions around reflexive practice, namely (1) there are cultural and personal risks involved and not everyone ends up feeling empowered (Brookfield, 1994, 1995), (2) new teachers could "choose *not* to reflect on their practice constructively and critically, preferring to fall back on pre-conceived understandings of how they and their pupils should conduct themselves in the classroom" (Ash 2002, cited in Hobbs, 2007: 406), and (3) reflection can easily be turned into recipe-following "checklists which students work through in a mechanical fashion without regard to their own uncertainties, questions and meanings" (Boud & Walker, 1998: 193). As such, Finlay (2008) identified four areas of concern: (a) Ethical, (b) Professional, (c) Pedagogic and (d) Conceptual.

2.2.4.1 Ethical concerns

Finlay (2008) suggested reflective practice has generated concern related to confidentiality, rights to privacy, informed consent and professional relationships. Practitioners who are engaged in reflective practice needed to be aware of the risks and also of the potential for conflicts of interest and that it needed to be remembered that reflection can have a profound emotional impact on the person reflecting and therefore has the potential to be harmful. Quinn (2000) noted that practitioners appeared to have little choice about having to do reflections, as it is often a significant component demanded by those in authority. Ethical issues also arise where inappropriately high levels of disclosure are coerced from practitioners. Quinn (2000) also suggested that if an individual understands the word 'critical' to mean 'negative', they can end up in an unduly negative frame of mind.

2.2.4.2 Professional concerns

Professional concerns come to the fore when reflective practice is done badly, ineffectively or inappropriately. In such cases, the point of the undertaking is missed and its value goes unrecognised. Loughran (2000) suggested that too often the process may simply rationalise existing practice whilst Boud and Walker (1998) noted that if applied uncritically, reflections can reinforce prejudices and bad practice.

2.2.4.3 Pedagogic concerns

Finlay (2008) posited that teaching reflective practice raised two main pedagogic concerns: developmental readiness, and the extent to which forcing students to reflect may prove counter-productive. There was evidence that novices, by definition lacking 'practical mastery', are inclined to follow models mechanically, and also that such reliance on models lessens with experience (Gordon, 1984). Roberts (1998) argued that novice teachers have not yet examined their own personal theories of learning/teaching, and that using 'borrowed' routines requiring depths of understanding these new teachers did not possess. As a result, the reflection that does occur would only be less effective.

2.2.4.4 Conceptual concerns

Finlay (2008) argued that a significant problem was posed by the way practitioners appropriate and embrace models of reflective practice in uncritical, piecemeal and reductionist ways. Often ideas were transplanted without sufficient care across philosophical, disciplinary and cultural boundaries, in the process becoming distorted or 'lost in translation'. Finlay (2008) cautioned that care needed to be taken to recognise complexity and problematize what is involved in reflective practice, rather than accept it unquestioningly as 'fact' or 'self-evident'.

Finlay (2008) also provided some suggestions on how to counter-act some of the areas of concerns. Finlay (2008) suggested that reflective practice(s) needed to be presented with some care to motivate practitioners to want to engage the process; for students to hear about the experiences of other learners and practitioners in practice and how reflection helped them; Opportunities for discussion also allowed students to question and be questioned. Importantly, students needed to see (early on) that practice often involved uncertainty and that answers are never clear-cut. Furthermore, once practitioners started engaging in reflective practice, that structured models could be offered, in context, to help them deepen their thinking and it should be emphasised that each is simply one of a range of tools. Models should be used to trigger broader reflection rather than feature as ends in themselves. Hobbs (2007) proposed that practitioners may appreciate being introduced to simpler, more descriptive models initially and being allowed to try them out safely in practical/experiential ways before they learn to embrace models demanding more analysis and critical, reflexive evaluation.

It is apparent from the afore-mentioned concerns, that practitioners should not be left to their

own devices and that they be nurtured until they are sufficiently skilled (professionally developed) to engage in reflective practice on their own or in collaboration with others. There is clearly a role for a mentor/mentee relationship in this journey and led one to look at this aspect in more detail.

2.3 Professional Development

In a 2008 report by a SACE-DoE CPTD Task Team titled “The Design of the Continuing Professional Teacher Development (CPTD) System”, it is noted that teaching is at the heart of the schooling system and that the quality of teachers’ professional practices is at the heart of the quality of schooling, and the development of these practices is a continuing process that lasts for the duration of the career of a committed professional teacher. (RSA, 2008: 4)

2.3.1 Defining Professional Development

Professional development has varied meanings. Showers, Joyce, and Bennett (1987) stated that the purpose of professional development is to increase levels of knowledge to sustain and support new practice until it becomes embedded into the daily practice. Desimone (2009) and McLeskey & Waldron (2002) noted that traditionally, professional development is delivered through the sit-and-get approach, which relies on an expert in the field to model and disseminate various information to the audience.

Jao, & McDougall (2015) argued that once-off professional development opportunities are not an effective means to improve teacher practice. Stein, Smith, & Silver, (1999) contended that these sessions are seen to be fragmented, disconnected from classroom practice, and not providing enough resources that teachers believe can easily be implemented into their teaching. These professional development sessions were usually presented using a transmission model rather than used transformative strategies in which teachers experimented and tried out the new strategies being presented and have the space to consider how the practices might be adapted to their teaching context (Guskey & Yoon, 2009).

Jao & McDougall (2015) highlighted that current literature on professional development describes long-term, inquiry-based models that allow for participants to be active learners in the process. This model involved facilitators firstly modelling exemplary practices to teachers, allowing teachers to then reflect and critique the strategies as learners. This is considered important where new practices that may significantly differ from current teaching practice or what teachers have been taught (Jao & McDougall, 2015: 4). Borko et al. (2010) noted that teachers, as active participants in the process, also feel as though their experience and opinions are valued.

There is a dearth of research on what constitutes effective and meaningful professional development. Bull and Buechler (1997) and Desimone (2009) though have outlined effective professional development qualities. These qualities include: (a) be individualized and school based, (b) utilized coaching and other follow up procedures, (c) engaged in collaboration, and (d) embedded practices into the daily lives of teachers. Desimone (2009) further argued that the most powerful teacher learning and application occur inside individual teacher's classrooms through practice and self-reflection.

2.3.2 Defining mentoring

Hudson (2008) defined mentoring as a tool for professional transformation and something that provides structure to the relationship between the mentee (pre-service teacher) and mentor (in-service teacher). A mentor is "one who is more knowledgeable on teaching practices and through explicit mentoring processes develops pedagogical self-efficacy in the mentee towards autonomous teaching practices" (Hudson, 2004b: 216). In turn, Donaldson, Ensher, & Grant-Vallone (2000) defined mentoring as a term generally used to describe a relationship between an inexperienced individual, called a mentee, and an experienced individual known as a mentor. Bowen (1985) indicated that mentorship occurs when a senior person (the mentor) in terms of age and experience undertakes to provide information, advice and emotional support for a junior person (the protégé) in a relationship lasting over an extended period of time, and marked by substantial emotional commitment by both parties. Burke and McKeen (1989) noted that mentorships are relationships that provide guidance and support for junior members of an organization until they reach maturity. Nasser (1987) indicated that mentoring is the process of transmitting knowledge, skills and life experience of a selected, successful manager to another employee in the organization with the purpose of improving that employee for greater efficiency and effectiveness.

2.4 Types of Mentoring Relationships

2.4.1 Informal Mentoring

Informal mentoring occurred when a senior employee chose to establish a relationship with a young employee who has particular talents and skills (Ehrich & Hansford, 1999; Ehrich, 2008) or when two individuals who are working in the same field decided to establish a mentoring relationship (Ehrich, 2008). With informal mentoring, the mentor and mentee make a consensual decision to work together instead of being matched by a third party (Eby & Lockwood, 2005; Ehrich, 2008). One form of informal mentoring is called "peer mentoring" where two or more parties agree to have a collaborative relationship with one another to provide emotional and professional support through ad hoc or regular meetings, phone calls,

and/or exchanges of information via the internet (Amelink, 2008; Bryant, 2005).

2.4.2 Formal Mentoring

Formal mentoring programs usually have specific objectives, e.g. enhancing staff members' knowledge and/or aptitudes, or building specific abilities required by the organization (Eby & Lockwood, 2005; Eddy et al., 2001). Moreover, formal mentoring programs emphasize the frequency and the nature of the relationship and frequently offer training opportunities to help mentors and mentees to comprehend their respective roles and the goals of the relationship (Allen, Eby & Lentz, 2006; Eby & Lockwood, 2005). Formal mentoring programs normally contain more structure when compared to informal programs which are usually more fluid and driven by the participants rather than processes (Ehrich, 2008; Ragins & Cotton, 1999). However, given the fact that the pairing between both the mentor and the mentee in formal mentoring is determined by the organization rather than by the individuals themselves, a poor match between both can occur and the mentee can be left feeling less satisfied with the mentoring relationship (Eby, Butts & Lockwood, 2004; Eby & Lockwood, 2005).

2.5 The Mentoring Process

Kram's (1983) research into the mentoring process identified four important and distinct stages of mentoring:

Figure 2:1: Kram's stages of mentoring

Teach Like a Champion Technique #41 - Threshold

Figure 5.11: Technique 41 video link

The ping rate for both week 5 and week 6 was 32 pings, inconsistent with the rates in previous weeks. The total ping rate was 64 pings, broken down as listed below:

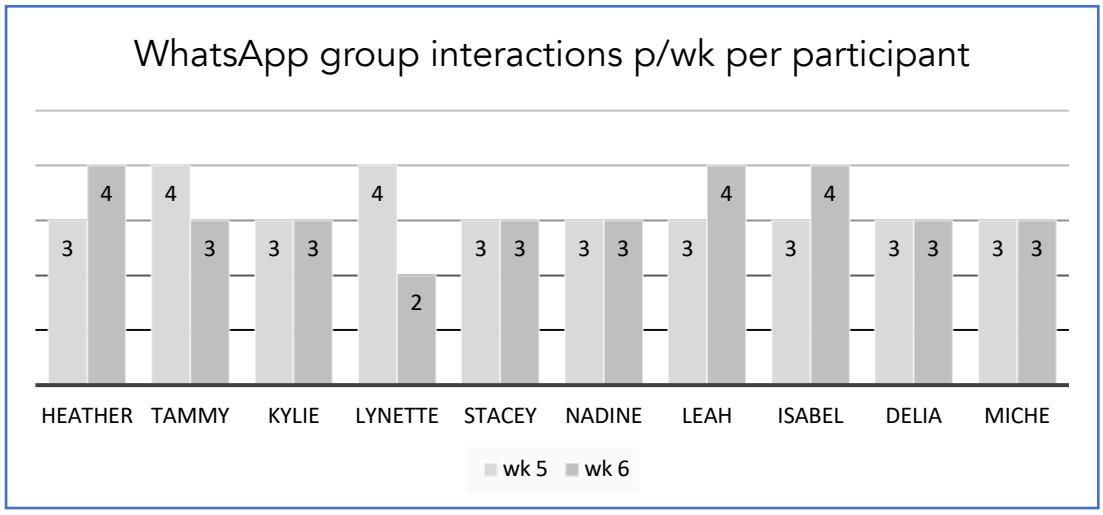
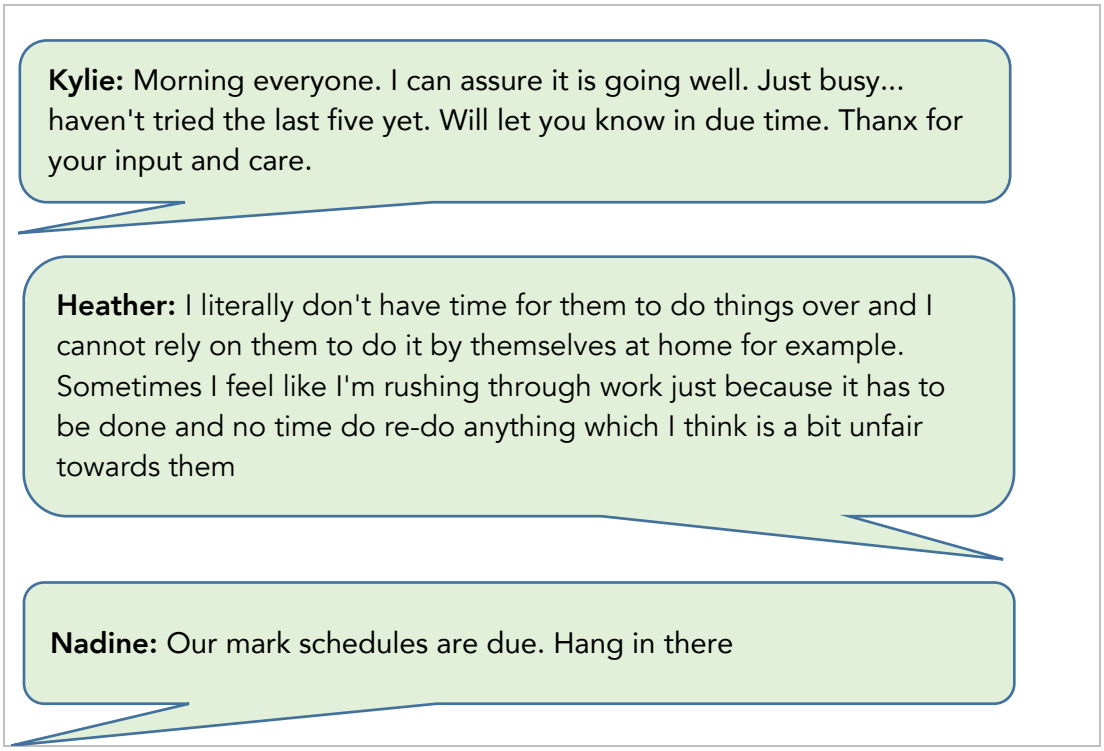


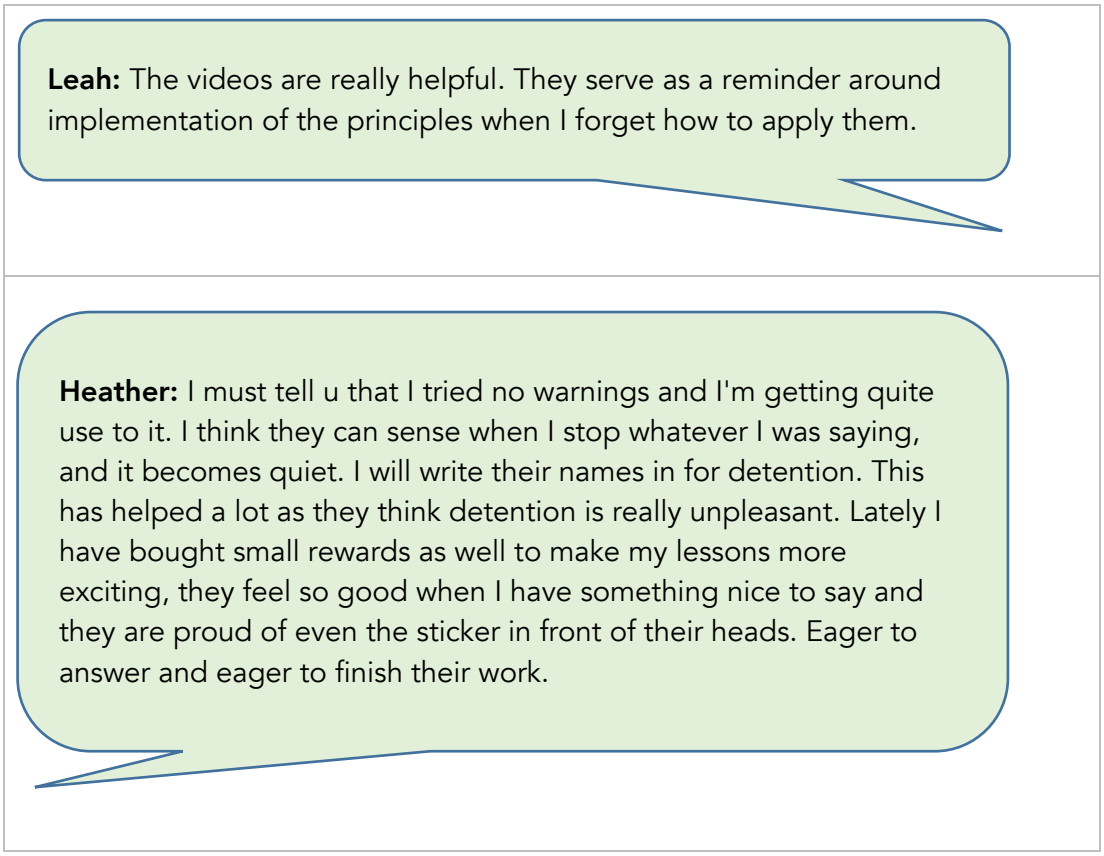
Figure 5.12: Group interactions p/wk per participant

The drop in the ping rate can be directly attributed to the roll-out of the Formal Assessment Tasks (FATs) during week 6 of the school term. The novice teachers felt the pressure of completing the curriculum content required to prepare learners for the FATs. Interaction on the platform became focused on the curriculum coverage aspects, with the classroom management techniques becoming a secondary focus for the engagements.

Some of the comments on the tension in preparing for the FATs are highlighted below:



Notwithstanding the need to complete FATs, some of the novice teacher still found time to apply the techniques provided and share their experiences:



Researcher: Thanks for all the detail Heather. I appreciate you telling it as it happens. It great to hear learners are responding positively.

With the end of the first school term in sight (week 7 of our interactions but week 10 of the term), the novice teachers provided a reflection piece on their experiences interacting with their learners and the techniques provided, including their challenges and successes.

Nadine: I Struggled with this technique 36 the most. I realised that I go off on a tangent when trying to eliminate unacceptable behaviour- especially when the learners bully each other. I made a system where I can calmly refer them to the behaviour and intervention chart without disrupting my lesson.

Isabel: During the past few weeks I have used the 3 principles of technique 36 together with other techniques to improve my classroom management. I realized that learners respond better to indirect forms of correction and that their attention is back quicker on teaching and learning. By this I mean that the learners have responded faster if I gave them commands e.g. pens, books and eyes (as well as the other 2 techniques) to me as those on whose actions I have stood and addressed. The result was that work can be completed faster, because less teaching time was spend-correction (it did, however, improve with time only when learners understand the consequences) To move on after the technique 100% was applied, pupils realized the importance of the assignment. Discipline in the class did not change overnight and is a process. It improves every day with consistency behaviour. Learners also have the why they needed to respect the instruction and that their actions had consequences, e.g., suspension of privileges.

Delia: I tried these methods and feel that these are not really new to me but reminders. I usually use these techniques but during these few weeks i kept reminding myself of them. When i ask for all the eyes it helps. I had to make it more interesting by saying things like: "I want to see your beautiful, cute, shiny eyes". The next week that got boring and I transformed onto an eye magnet! (Tech 36)
I tried not calling their names and just saying someone is not sitting properly...this worked when they were calm… when they are hyper it doesn't really help much.
It always helps to be firm with kids, but there are still kids who take chances. I walked around in class and yes, it helps a lot.

Lynette: I've used the techniques and it works. The learners give me their full attention and their concentration span has also improved. Great.

Miche: My learners can be very talkative. I've had to alleviate my voice to get their attention. This didn't always work. I usually end up shouting at them towards the end of the day. Since using the techniques, the behaviour of the learners changed. To be firm and not monotonous keeps their attention. They are also more productive when I get their immediate attention, e.g. by asking them to not pick up their pencils, or to put them down, BEFORE I start to explain a new concept. They have a clearer understanding on my expectations and the need to repeat myself has dramatically changed. There is also less disruption of the class since employing the techniques.

Tammy:
Principle 1- Worked pretty well. The learners learned that there is a consequence to big or small situations.
Principle 2- I started using a more firm tone and they responded quite well.
Principle 3- the learners responded quite well. There is still one or two very stubborn learners that just can't/ won't give their attention. I have isolated my learners that don't work well in groups.

Leah:
1. The positive group correction did wonders because at some point I could ask any leaner to continue or ask them what we just read about. Following along "forced" each leaner to participate.
Learners were used on a somewhat frequent bases to assist with demonstrations in class. This promoted interest and willingness to want to understand better.
Leaders are constantly addressed by name in order to gain attention and understand why they are wrong.
I try to remain consistent regarding certain punishments for transgressions.
2. My learners knows and understand my classroom rules from the beginning. We work and play together but we both know there's a time and place for everything. I set the example essentially. Up until this point attention and progression are done on "my" terms because for every wrong doing, privileges are removed or lessons lengthened.
3. I always implement all these tips. This always control and the learners know I am confident and in charge. This also doesn't allow anyone to slack because anyone can be asked anything. I do have their attention.it is so important to maintain therefore I too need to concentrate and return the individual attention during presenting.

With the end of the first school term in sight [Week Seven (7) of our interactions but Week Ten (10) of the 1st Term], the novice teachers provided a reflection piece on their experiences interacting with their learners and the techniques provided, including their challenges and successes.

I agreed with the novice teachers that Week 11 of the 1st Term and Week One (1) of the 2nd Term would be interaction free to allow them to concentrate on rounding off the administrative processes attached to the submission of progress reports for each learner in their respective classes. The 1st week of the new term would be required to engage with parents during Parent-teacher meetings at the school.

When we reconnected in the 2nd week of Term Two (Week 8 of our interactions, the focus was on reorientation of the group to remain committed to the interactions on the WhatsApp group. The last four weeks looked to implement techniques 40 and 41. The descriptors for both techniques we re-shared as well as the links to the videos.
The ping rate for weeks 7 to 10 peaked at 38, 42, 37 and 38 respectively, representing a spike when compared to the ping rates in previous weeks leading up to the end of Term One. The total ping rate was 165 pings, broken down as below:

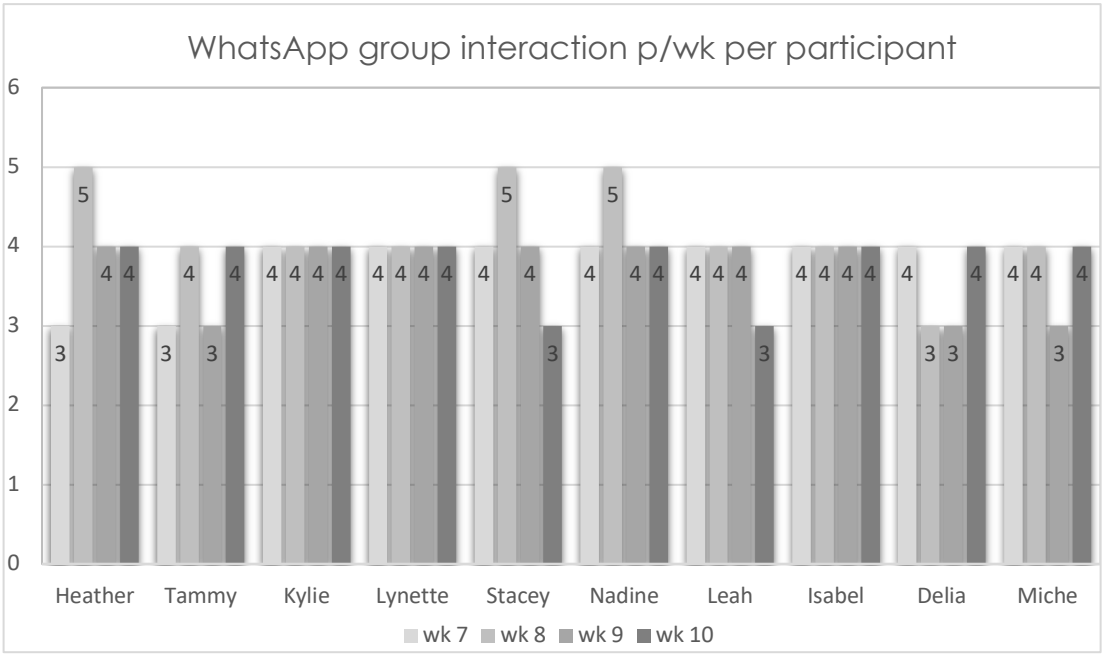


Figure 5.13: Group interactions p/wk per participant

I believe the heightened activity related to the start of the new term, the desire to get stuck into the remaining techniques and gauge whether the learners would still be tuned into the previous techniques. The group was also eager to feedback over the two week period.

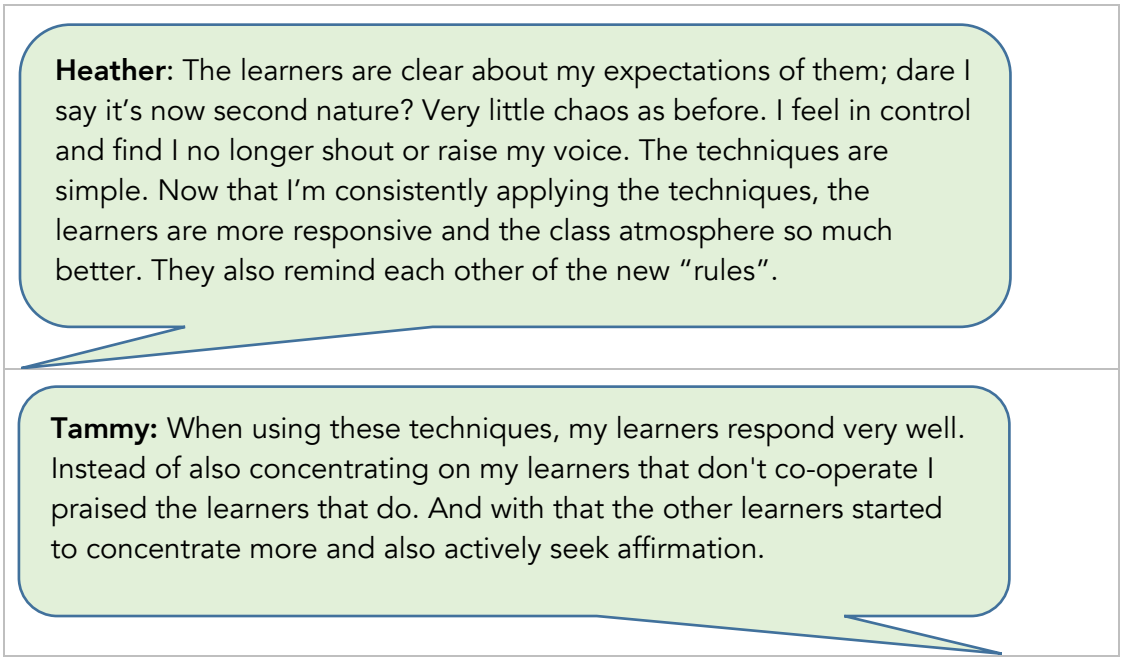
Given the feedback around Weeks 8/9, it was evident that the novice teacher group had grown in the confidence to manage the classroom environment and their resilience levels were also improving. Some of the interactions are shown below.

Kylie: Refreshed the techniques. Works with most learners. I have a few who constantly challenge my authority. *Do not talk over* is a technique I always use. *Do not engage* works but not without mini tantrums (from learners not me). *Quiet Power* still a challenge for me.

Miche: Just spend the day refreshing the techniques with the learners. I found that this caught their interest and some learners also assisted in managing the class by asking disruptive learners to participate. I also made use of a scoring system wherein each group in class (sometimes boys against girls) will receive a mark for good behaviour and answering questions correctly- I found that this helps them pay attention during lessons and also sets a platform where all learners take responsibility for their behaviour. My aim was and still is to build a trustworthy relationship with all my learners where they are encouraged to excel. I found that putting faith in your learners abilities not only encouraged them but also created a love for that specific subject as they begin to feel that they can now do this. I found that specifically in a Afrikaans oral that this has delivered great results.

Stacey: I too consolidated techniques before moving on. The techniques have a number of principles which has been very helpful with quick results. The techniques help reduce time wasted and allows for more teaching time. Playing with the tone of my voice, I've noticed the learners are more responsive. I found that when I stood still and faced the specific learner whom I corrected, reaction to my instructions were obeyed quicker.

Nadine: These techniques help to direct the learners more clearly in what I expect from them. I added a few things to the mix… e.g. I told them to put their hands on their thighs and that i expected one shoulder to point in my direction (they sit in groups). I figured that when I tell them to orientate their body in my direction, they are more likely to absorb what I am about to say. Now when I start talking in class I don't even have to say "eyes on me, shoulders and hands". They do so naturally. This was an unexpected development as I've had to repeat "quiet please" , "please listen" a million times BEFORE without much success.



In Week 10 of our interaction [Week Four (4) of the 2nd Term], arrangements were made for a reflection session to gauge the impact of the e-mentoring approach. To ensure that the reflection meeting would have a minimal impact on the teaching programme or extra mural programme of the institution, I sought permission from the principal for a suitable date. Due to a change in the principalship, i.e. the curator had been relieved of his responsibilities and replaced by a permanent appointment, this proved to be a challenge. I was confronted by feedback from the novice group that the school manager was hostile to such an engagement, questioning why the group were meeting with the most senior official in the district. As the researcher, I also stood as the Head of the District in my professional capacity. Acutely aware of my positionality and the power dynamics as a researcher who was also senior education official, I endeavoured at all times to be transparent, empathetic, understanding and accommodative. I was always consultative throughout and allowed the participants to guide the timing of contact sessions. Any concerns were addressed without delay and the trust relationship established was enhanced through open channels of communication and respect for the confidential nature of the WhatsApp group interactions with the participants. The school management was always made aware of the interactive sessions although the content was not discussed in any specific way. This also placed the novice teachers at ease, knowing the management was aware of the face-to-face contact.

5.2.4 The exit interview

I arranged a meeting with the new principal to explain the reason for my contact with the novice teachers and the ethical clearance and consent received. Despite unpacking the nature of my research, the request was viewed as compromising the position as headmaster since the

person did not understand why novice teachers had direct access to such a senior district official. It was a dynamic the individual never experienced as a teacher and believed would have a destabilizing effect on the desire to set a new management tone in the institution. I reassured the school manager that there was no need to fear this interaction, that it had been happening over nine (9) weeks prior to arrival, and that this was simply the wrap up consultation of the research. The meeting was allowed to proceed. This dynamic, unexpected, fortunately did not derail the concluding week of the study.

Despite the tension at the end, the general feedback of the ten week interaction was extremely positive. The participant group were asked to reflect on the listed questions. They were further asked to rate their responses to questions One and Three on a five-point scale.

1. Do you believe the WhatsApp interaction was a worthwhile tool to address your professional development requirements as novice teachers?
2. Do share your thoughts on why you chose your rating in Q1, based on your interactions on the group.
3. Do you believe the WhatsApp interaction is a tool the WCED should introduce to address your professional development requirements as novice teachers?
4. Do share your thoughts on why you chose your rating in Q3, based on your interactions on the group.

The tabulated responses for Question 1 are shown below:

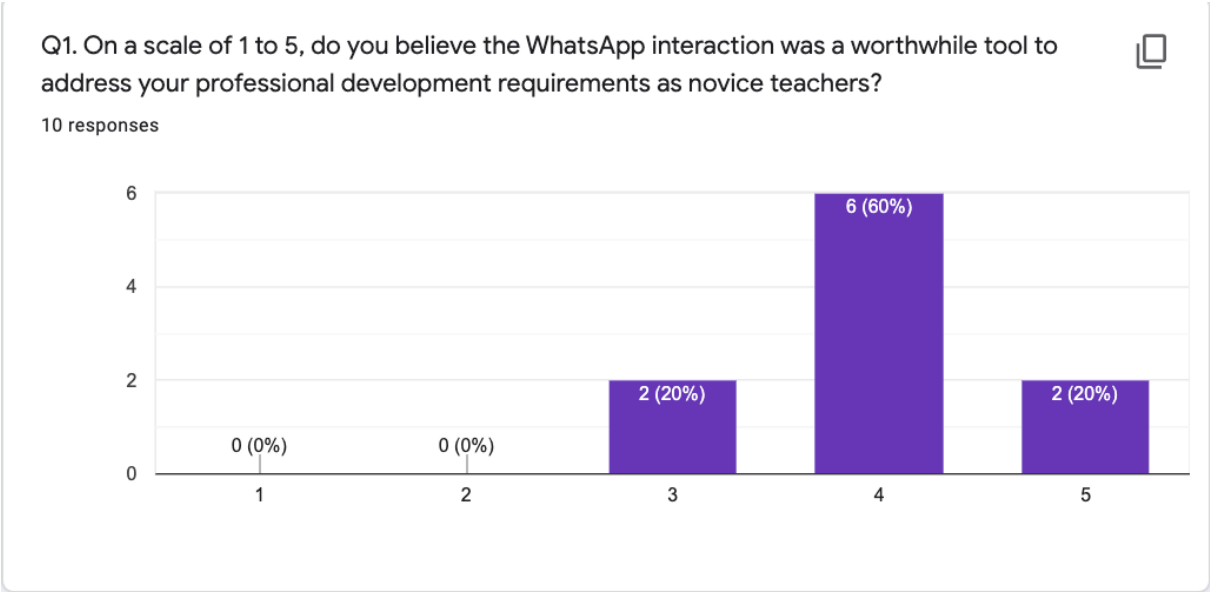


Figure 5.14: Graphic of Q1 responses

Some of the commentary of the 10 novice educators for Question 2 are shown below:

Isabel: With the tool, we could ask for assistance when needed. Where we were coping fine, we could share ideas. It helped with ideas but wasn't always helpful for my grade and situation at the time. It was inspirational at times and helped us to talk about what they were going through at the time.

Nadine: the safety of a closed group was great. I liked the archiving built into WhatsApp, which allows me to go back an look at the audio-visual aids and comments in my own time.

Stacey: The principles discussed really helped me into starting me career. The WhatsApp platform made addressing certain things much easier and quicker as it became a tool that everyone is using. Feedback on developing and growth was available much easier and it was age friendlier.

Miche: the confidentially of the conversations were uplifting. I didn't fear that my concerns and shortcomings would be on public display. I also loved the sharing of ideas and the way we reached out to each other in school based on our interactions on the group.

Heather:
1.the "take-my-hand" experience albeit a virtual one
2.the open exchanges and safety of a closed group communication platform,
3.it allowed us to share our insecurities and successes
4.there was a reduced feeling of isolation and increased levels of collaboration between us at school
5. a bond developed through the virtual chatroom spilled over into the school environment in a positive way, opening real-time interaction without fear or ridicule

The tabulated responses for Question 3 are shown below:

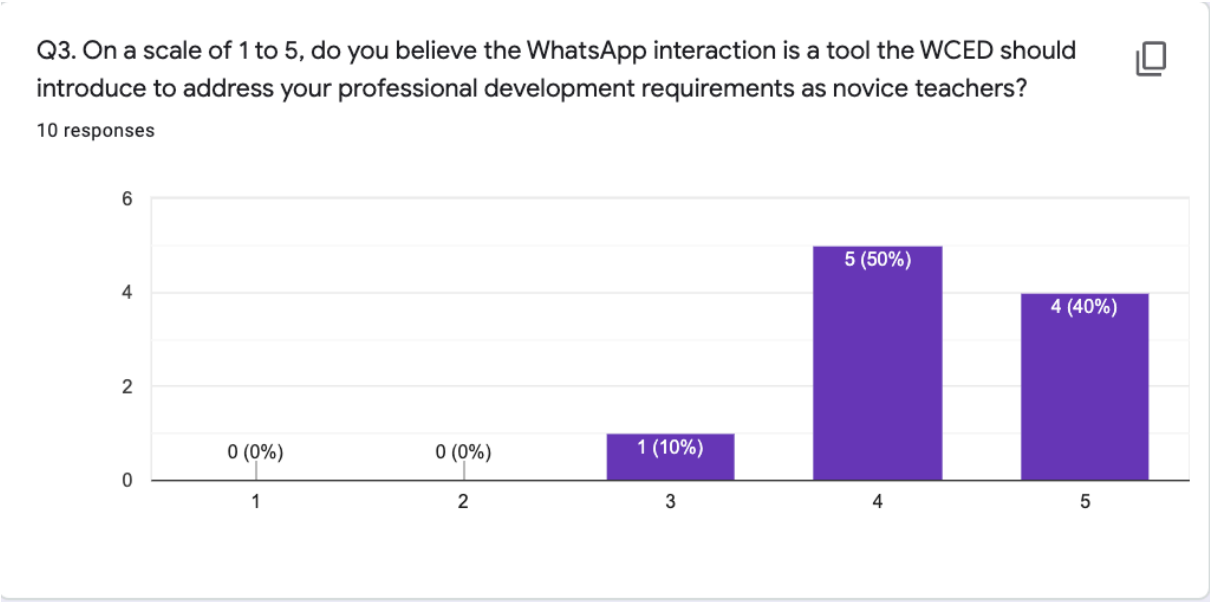


Figure 5.15: Graphic of Q3 responses

A sample of responses for question 4 are shown below:

Isabel: As a novice teacher you are very scared at the same time excited to be a teacher, but you are not always sure how things work in the real class you now have. This group definitely gave me the best ideas and advice on how to get you and your classroom on a good track, while enjoying it. You also meet new people on the group.

Nadine: Definitely,instead of too many workshops

Delia: Social media is being used most of the time especially by teachers. We communicate using groups and to give through certain important information. It is more convenient than mailing and you get responses much faster.

Miche: the face-to-face and the chatroom combination worked very well. a mixed approach can work. I can't stand the novice workshops which is death-by-pptx.

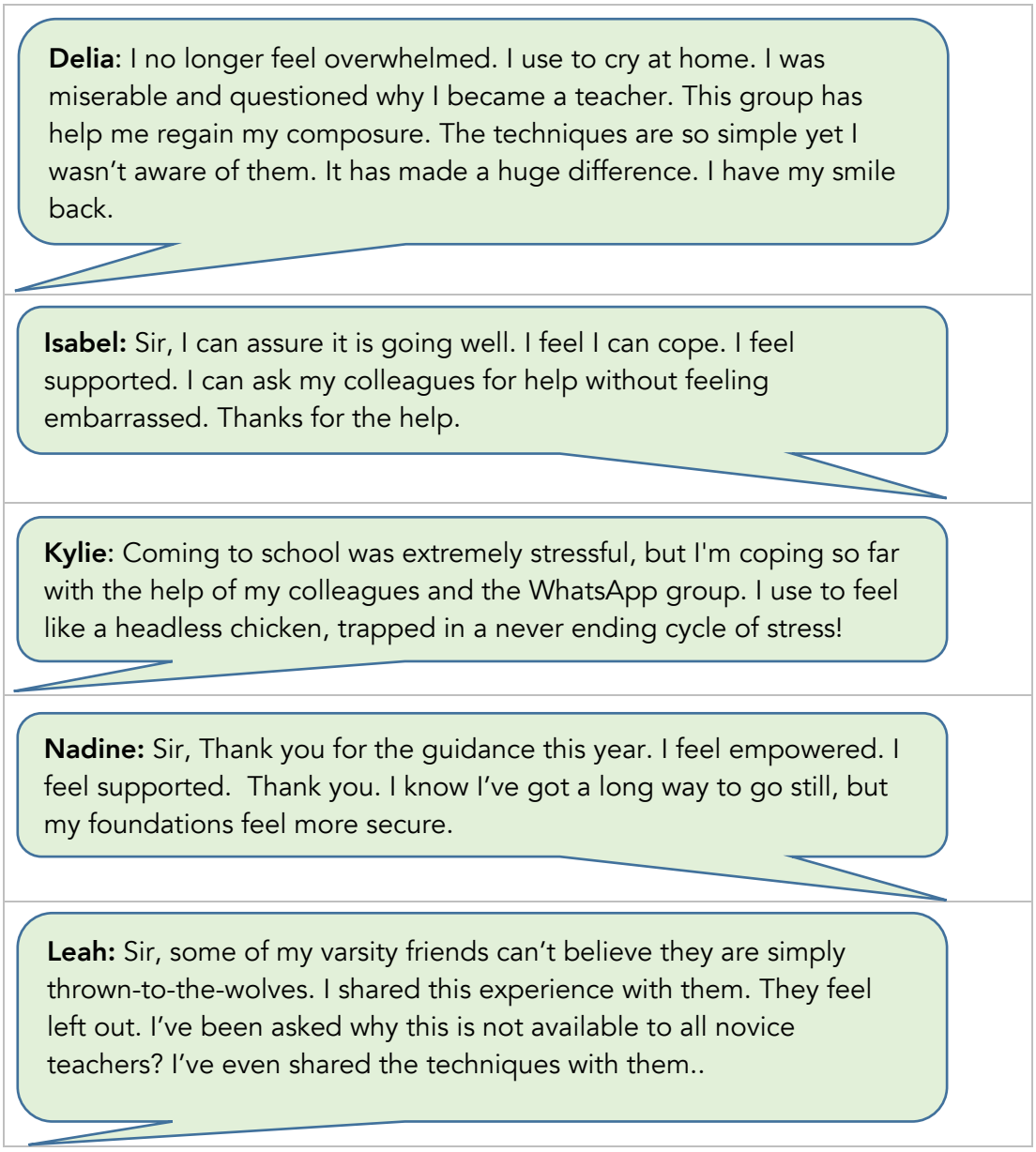
Kylie: WhatsApp had become a tool or platform that everyone is using so whenever a teacher needs to be informed about developing, it is the quickest way to get the information across. So it will certainly be useful to address more than just professional developing.

Stacey: With the tool novice teachers can ask for assistance when needed. If they are coping fine, they can share ideas. Sometimes it is assumed that they know what they're doing which is not always accurate.

During the conversation, all the novice teachers were also highly appreciated of,

a) A toolkit of actions that could shape the behaviours of the learners positively and gave them a more secure feeling of 'being-in-control' and not overwhelmed and drowning in the classroom,
b) The more secure feeling around the content given the improved classroom atmosphere,
c) Learners that embraced the techniques and class monitors could be used to augment the implementation of the techniques,
d) The ability to reflect honestly and go back to the videos and technique definitions within the chatroom,
e) The value in having a senior educator 'accompanying' them in a virtual way on their first few months,
f) The ability to reflect on a personal and group level via the WhatsApp group
g) Encouraged them to be brave and expose their concerns without the fear of retribution,
h) Reflect on the techniques shared both within the school environment and also outside of it,
i) The materials were always available, and
j) The ability to share their own material and "snapshots-of-success" on the group.

Some of the direct responses, shared on the group afterwards, are shown below:



5.3 Conclusion

This chapter represented and captured the findings of the research construct as highlighted in chapter three. It sought to provide a window into the ten (10) weeks of interaction and offer insight into the possibility of mentoring novice teachers, in a rural setting, via an e-platform (WhatsApp). The next chapter will offer a reflection on the process with a view to highlighting the potential for a systemic roll-out.

Chapter 6: ANALYSIS OF FINDINGS AND CONCLUSIONS

6.1 Introduction:

Chapter five focused on unpacking the findings of my study. It detailed the "journey" the novice teachers undertook via the narrative captured through their WhatsApp interaction and graphically highlighted the rate on interactions via the data collected from the semi-structured interviews and engagements on the platform. This chapter is set out to highlight the analysis of my findings, by focusing on the research question and sub-questions. Chapter Six is structured to respond to each of the sub-questions and conclude with a look at the systemic potential of WhatsApp as a tool for e-mentoring novice teachers.

As a prelude to the analysis of my findings and my conclusion, I wish to restate the research question and sub-questions, as a reminder of the platform put in place for the engagement over ten (10) weeks with ten (10) novice teachers.

The stated research question is *"How can a professional development support programme based on an e-platform build the initial teaching competencies of novice teachers in a rural school setting?"*

The research sub – questions are:

a) What were the experiences of rural based, novice teachers, to receiving support via an e-mentoring programme situated in WhatsApp?
b) How can support via WhatsApp improve the skills and knowledge levels and initial teaching competence of novice teachers?
c) How can the findings and recommendations of this study on e-mentoring inform the development of mentoring programmes for novice teachers offered by the Western Cape Education Department situated on an e-platform?

6.2 Analysis of the findings

Schön (1983: 54) stated, in referencing reflection-in-action, "*that if common sense recognizes knowing-in-action, it also recognizes that we sometimes think about what we are doing. He further suggested that we not only think about doing but that we can think about doing something while we doing it"*. He goes on to say that *"if reflection-in-action hinges on intuitive, spontaneous performance yielding the experience of surprise, we may respond by reflecting-in-action"* (Schön 1983: 56). He further stated that reflection-in-action can *"stretch over minutes, days or even weeks and months, depending on the pace and durations of the*

situations in practice". He believed that reflection-in-action is *"central to the art through which practitioners at time cope with the divergent situations of practice"* (Schön 1983: 62).

6.2.1 Mobile technology adoption: underpinning e-platforms

My first observation, given the interactions with the novice teachers, is that the sustainability of any e-platform would need to be underpinned by hardware architecture and services of telephony companies. As depicted in Figures 3.1 to 3.3 in Chapter 3, the use of mobile technology and the subsequent adoption of messenger service applications, has shown phenomenal growth in Africa and Sub-Saharan Africa. South Africa, has a mobile telephony penetration rate exceeding 80% of the population. A report published by a leading Financial Sevices firm noted that the rise of the smartphone continues to accelerate and South Africa now finds itself among the leading global adopters with 93% of the general population having ready access to smartphones. They further state that consumers have embraced the 'data exclusive' world and while 63% do use text messages, South African mobile phone users prefer to communicate via instant messaging (82%) and social networks (74%) than through text messaging and voice calls (Abraham, 2019).

Most of the major mobile networks have cover for virtually the entire country in terms of footprint and signal strength. According to MyBroadband.com, the three major mobile operators in South Africa have data coverage at 99.9% and 3G coverage between 96% to 99%. There can therefore be little doubt that access to mobile technology is close to saturation point and that the hardware infrastructure needed to buttress the use of an e-mentoring platform situated within a social media application, could be sustained if actioned correctly.

The actual infrastructure to roll-out an e-mentoring system for novice teachers is in place and it is clear that there is large scale familiarity of instant messaging and social media. The "ping" rate of the participants over the 10 weeks of interaction also demonstrated that the potential exists to engage teachers within a social media space to support and underpin their continuous professional development as well as a willingness, from them, to explore this platform.

Whilst the physical infrastructure is one dynamic, the usage of the technology and interaction on the platform, is another. Given the aforementioned, *the first question this study attempted to answer,* related to how the novice teachers experienced WhatsApp as a CPD platform.

6.2.2 What were the experiences of rural based, novice teachers, to receiving support via an e-mentoring programme situated in WhatsApp?

The experiences of the novice teachers are analysed below. The analysis is "ordered" to capture their initial responses and subsequent journey as they became more familiar with the platform interface.

6.2.2.1 Initial privacy concerns: trepidation to participation

At the time of initiating the fieldwork, participants were briefed on the modus operandi and the engagement process that would commence with a link sent via WhatsApp to their respective mobile numbers. Whilst they understood this, their behaviour to the initial contact link showed a distinct distrust of the link, fuelled by not having my mobile number as part of their contact list. The suspicious link, from an unknown number, had many of them ignoring or deleting the link, suspecting malware. At the follow-up engagement, where the lack of responses to the link was discussed, distrust of the "ping" received was confirmed. Two of the participants, succinctly captured the behaviour of the group, Nadine, noted that when she received the link, the nature of the link, with its coded URL, came across as suspicious. She viewed the request as a potential phishing or scamming link and chose to delete it, given her Android smartphone settings alerted her to this risk. Although she was expecting the survey link, she chose to follow the security alert generated by the phone's operating system. Another participant, Kylie, highlighted that she noticed the "novice group" being established but did not recognize the admin's cellphone number. Given that he didn't establish the group, and not knowing the administrator's number, he exited the group and deleted the group reference.

This initial reaction to the link provided at the start of the engagement, placed emphasis on a requirement to ensure that appropriate security measures are in place to reduce the risk of suspicion or unsolicited feedback. Phishing is defined as the fraudulent attempt to obtain sensitive information such as usernames, passwords and credit card details by disguising oneself as a trustworthy entity in an electronic communication. Closed groups, like the one created in WhatsApp for this study, reduce this risk and ensure a closed and secure environment exist for the interactions between the participants and the e-mentor. The privacy settings within WhatsApp also provide for those with Admin rights to have control over who is allowed to join the group, or not.

This dynamic is one that would need to be addressed through a well-structured orientation programme should WhatsApp be used as a tool to implement an e-mentoring programme. The security risks are real and ever-changing, and to ensure proper buy-in by teachers, these elements must be engaged prior to the use of a social media platform as a mentoring tool.

Once this hurdle was overcome, and the participants were comfortable, engagement levels picked up and conversation pings accelerated.

6.2.2.2 Heightened engagement after initial concerns

In a study focused on a *Framework for Designing Collaborative Learning Environments Using Mobile AR*, Cochrane and Rhodes (2013) noted that learning can be enhanced by using information and communications technologies (ICT), in particular, social networking tools that provide a heterogeneous system accessible through a variety of mobile devices. They further stated that mobile technologies are inherently collaborative given the variety of collaborative presentation and interaction tools available through social media applications.

A study on virtual mentoring in New Zealand (Owen, 2015) showed that the process of sharing in the online community of practice resulted in an integrative process where different types of knowledge intersected, and potentially resulting in the creation of new forms of knowledge. Furthermore, the online environment provided the means to ask for advice, discuss theory and practice, share knowledge and resources, offer practical assistance and reflect, think and process. My study showed similar engagement and trends as the 10 week period progressed and the participants became familiar with the platform and comfortable with the exchanges within the platform.

Once past the initial orientation, participants showed a consistent level of engagement and interaction. The graphics (Figures 5.8, 5.12 and 5.13 in chapter 5) highlight the levels of engagement over the contact weeks. The number of engagements, which prior to the study stood at zero (0) between participants, generated 375 interactions over ten weeks, with participants averaging 37,5 “pings” per participant over the period. It was evident, as the weeks went by and conversation stimuli through the video links were provided, the level of engagement settled into a pattern of ongoing interaction and reflection on the technique inputs, experiences as well as sharing and reflecting on its impact. The take-up rate is evident in the graphics (figures 6.1 to 6.2) and demonstrate that the participants were actively engaged throughout the ten weeks.

The slight drop off of engagement “pings” during weeks 5 and 6 (Figure 6.1) was commented on in Chapter Four and relates directly to the pressure to prepare for the Formal Assessment Tasks (FATS) for the term.

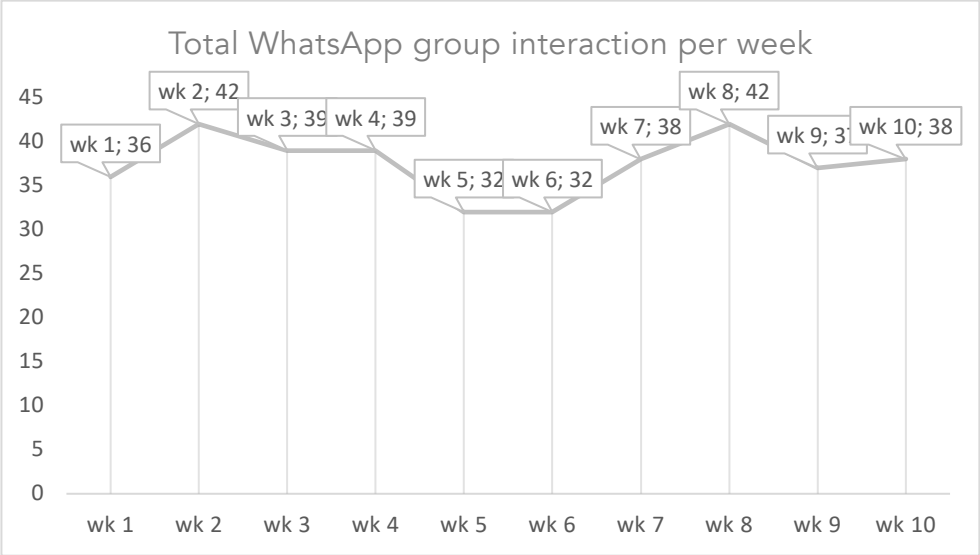


Figure 6.1: No of group interactions per week

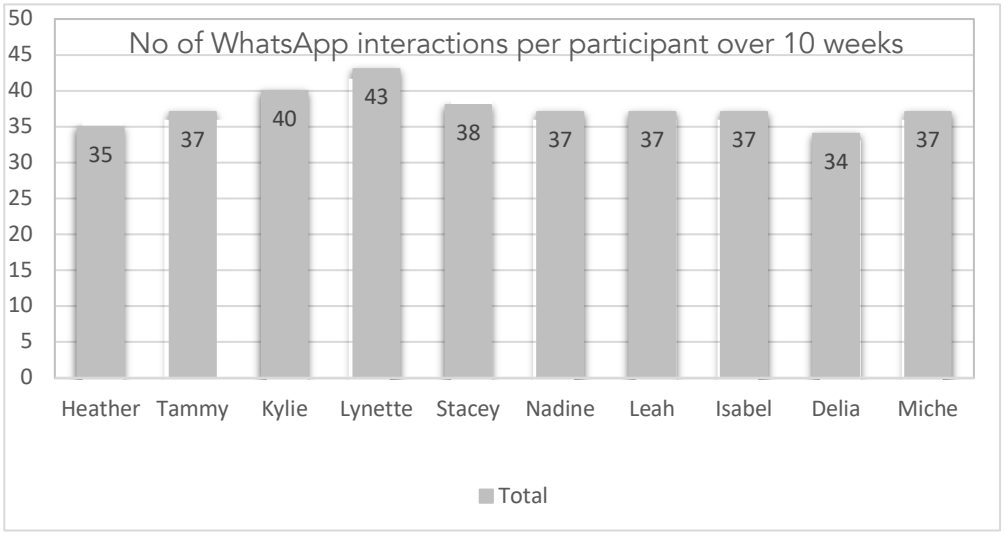


Figure 6.2: No of interactions per participant over 10 weeks

Figure 6.2 captures the engagement ”pings” per participant over the ten weeks. It is noteworthy that Heather and Delia were less engaged due to both being newly married and Delia having given birth to a baby. At the other end of this spectrum, Lynette and Kylie enjoyed the use of technology and the opportunities it created to interact. The personal circumstances of teachers, their levels of enthusiasm, and the potential impact on engagement in an e-environment, must be recognised and is commented on in Chapter 6.2.4.

The potential for an e-support platform is underpinned by the data and supported by the feedback sessions held with the participants over the period. Post the contact period, the researcher noted that the ping rate was sustained for a further 4 months, although the platform was shutdown. The post period interaction further augment the position that the potential exists for this type of support to teachers, in particular, those who find themselves in remote or rural settings with South Africa.

6.2.3 How can support via WhatsApp improve the skills and knowledge levels and initial teaching competence of novice teachers?

6.2.3.1 Raising competence through collaboration and reflection

According to Dymoke and Harrison (2008), reflective thinking skills can be supported by different reflective thinking tools such as recording, writing, drawing, photography, learning journal, portfolio, lesson plan, co-teaching and collaborative practitioner enquiry.

Mirzaei et al. (2014) noted that using reflective thinking tools are important way to support teachers' reflective thinking skills. The number of interactions of participants in this study support the notion that reflection skills can be developed via a social media platform. This was supported by their commentary on their journey as it reached its conclusion after ten (10) weeks.

At the exit interview and subsequent completion of the reflection questionnaire, the following detail emerged from the participants. Delia, explained that she no longer feel overwhelmed; that she use to cry at home, was miserable and questioned why she became a teacher. She noted that the group had helped he regain her composure. The techniques were so simple yet she was not aware of them. It had made a huge difference … *"I have my smile back".* Isabel noted that she felt she can cope and was supported; that she could ask her colleagues for help without feeling embarrassed and was most thankful for the help. Kyle, related that "*coming to school was extremely stressful, but I'm coping so far with the help of my colleagues and the WhatsApp group support. I use to feel like a headless chicken, trapped in a never ending cycle of stress!"* Nadine, in her reflection on her journey thanked the group for the guidance and she felt empowered and more supported as a consequence, with "*my foundations feeling more secure*". She further stated that the techniques shared on the platform helped her to direct the learners more clearly in what she expected from them. As her confidence grew, she added a few things to this mix, e.g. *"I told them to put their hands on their thighs and that I expected one shoulder to point in my direction (they sit in groups). I figured that when I tell them to orientate their body in my direction, they are more likely to absorb what I am about to say. Now*

when I start talking in class I don't even have to say 'eyes on me, shoulders and hands'. They do so naturally. This was an unexpected development as I've had to repeat 'quiet please' , 'please listen' a million times before without much success". Leah stated that some of her varsity friends could not believe that they are simply "thrown-to-the-wolves" in their first teaching years. She shared her WhatsApp experiences with them, with her friends questioning why this type of support was not available to all novice teachers. She subsequently shared the techniques with them. In Miche's reflection, she noted: *"My learners can be very talkative. I've had to alleviate my voice to get their attention. This didn't always work. I usually end up shouting at them towards the end of the day. Since using the techniques, the behaviour of the learners changed. To be firm and not monotonous keeps their attention. They are also more productive when I get their immediate attention, e.g. by asking them to not pick up their pencils, or to put them down, before I start to explain a new concept. They have a clearer understanding on my expectations and the need to repeat myself has dramatically changed. There is also less disruption of the class since employing the techniques"*.

As their confidence grew and the level of trust improved, it was noticeable that the engagements became more meaningful and a willingness to "open" themselves to each other, was apparent. The novices enjoyed interacting via the technology and were positive about being part of a collaborative community. All of the novices expressed the belief that mobile technology engagements benefited both themselves and the collective. They found the experience mostly enriching and cited that through the WhatsApp group they could learn a lot by sharing their views with other colleagues on the group. The interactions encouraged collaboration and sharing of knowledge and allowed reflection to take place in a safe space.

In a study conducted in South Africa with rural nurses and the use of social media to improve their competencies and skills, Pimmer et al. (2014) found that mobile phone and social media usage facilitated (1) authentic problem solving; (2) reflective practice; (3) emotional support and belongingness; (4) the realization of unpredictable teaching situations; and (5) life-long learning. In addition, the study found that these tools are suitable to connect learners and learning distributed in marginalized/remote areas.

These findings are not dissimilar to the revelations of the participants in the study I conducted and give credence to the notion that reflection-in-action is *"central to the art through which practitioners at times cope with the divergent situations of practice"* (Schön 1983: 62). Dewey's (1933) narrative of reflection as "*turning a subject over in the mind and giving it serious and consecutive consideration, thereby enabling us to act in a deliberate and intentional fashion… and that reflection involves active, persistent and careful consideration*", held true for this study too.

Krutka et al. (2014), in a study focused on the use of the Twitter App as a reflective tool, found that users who frequently uses the medium to stay in contact, sought advice from the group and identified certain individuals as supportive because their expertise extended into areas where they may have been inexperienced in. The App allowed users to share resources, post discussion points relevant to community topics, and staying in touch with fellow members between events and interactions, fostered collaboration and reflection on practice. Similarly, the study with novice teachers showed comparable outcomes.

6.2.3.2 Reduced professional isolation

Gavish and Friedman (2010) noted that the experiences of novice teachers are considered to be the most difficult time in a teacher's career. Other research talked about and have described as an experience of "sink or swim" (Lawson 1992; Lortie 1975) or a "baptism of fire," or "trial of fire" experiences (Hall 1982; Pataniczek and Isaacson 1981). Terms such as "reality shock" (Veenman, 1984) or "praxis shock" (Kelchtermans & Ballet, 2002) have been used to describe the emotional reactions of new teachers when confronted with the realities and responsibilities of teaching. Green (2014) suggested early career teachers, whether mature or younger beginners, need support and guidance in their first years as teachers. Manuel (2003: 145) stated that this is particularly true in smaller, rural, or remote schools and goes on to point out that in practice, "the distinction between 'novice' and 'accomplished' teacher is virtually irrelevant" as new teachers are expected to perform all the roles and functions of experienced teachers from their first day on the job.

During the ten week engagement with the novice teachers who participated in this study, it is evident that the engagement and interaction on WhatsApp helped to reduce the feeling of professional isolation and loneliness. Isabel noted that It was "*good to interact as a group who could empathise with ones position as a novice teacher and that good information was shared on the group and also help whenever needed, was available"*. Leah stated that she enjoyed "*(i) the 'take-my-hand' experience albeit a virtual one, (ii) the open exchanges and safety of a closed group communication platform, which allowed for the sharing of ones insecurities and successes, (iii) that there was a reduced feeling of isolation and increased levels of collaboration between the group at school due to the WhatsApp engagements, and that (iv) a bond, developed through the virtual chatroom, spilled over into the school environment in a positive way, opening real-time interaction without fear or ridicule"*.

Prior to the study, the engagement of the novice teachers between themselves, and the rest of the staff at the school, was confined to staff meetings arranged by the management of the

school and the agenda driven by the operational requirements of the institution. As is evident from the graphics on interaction rates shown earlier, the interaction, once activated via social media, lifted significantly from “zero” and was consistently sustained over the ten week period. At the end of the period, and following the formal closure of the research study, the novice teachers kept the group going for a further four months, with interaction tapering off towards the end of the fourth month given my insistence (as the researcher) the channel must be closed down. The novices found it difficult to simply shut-down the channel given the usefulness of the engagements. As a consequence, they established a new channel involving themselves, with an administrator that was school based.

6.2.3.3 Enhanced reflection opportunities through social media

The use of social media has surged globally as highlighted in my literature review. Social media has been defined in different ways. For the purposes of this study, I highlight the definition advanced by Bryer and Zavatarro (2011: 327), that social media are technologies that facilitate social interaction, make possible collaboration, and enable deliberation across stakeholders. Diffley, et al. (2011: 48) stated that the two main reasons humans use social media are to communicate and to maintain relationships. As users create relationships through interaction, they create communities where members share a sense of belonging, have a specific culture, a specific set of norms (‘netiquette’), affective ties that bind them together and a sense of shared history” (Cărtărescu, 2010: 82).

The novice teachers, who participated in this study, underscored the reasons for the nuances ascribed to the usefulness of social media in stimulating conversation, as highlighted above. A number of the participants commented on this dynamic. Miche noted that “*the confidentially of the conversations were uplifting. I didn't fear that my concerns and shortcomings would be on public display. I also loved the sharing of ideas and the way we reached out to each other in school based on our interactions on the group*”. Ion her reflection, Nadine stated that ”*the safety of a closed group was great. I liked the archiving built into WhatsApp, which allows me to go back and look at the audio-visual aids and comments in my own time too. I could also consolidate my understanding by going back to the videos through replays”.* This view was shared by all the participants, and was especially so when they did not have the time to share their thinking immediately.

6.2.3.4 Improved knowledge levels and initial competencies

The nature of the interactions, coupled with the video links shared and the feedback received during the semi-structured interviews, confirm the potential of the use of social media as a tool to raised knowledge levels and initial competencies of novice teachers. In the exit interview, referenced in Chapter Four, the confidence levels of the novices and their improved practice was evidenced by their feedback commentary. Delia stated that "*the WhatsApp platform made addressing things easier and quicker as it became a tool that allowed for immediate feedback and development. We all use WhatsApp, and this made 'talking' easier too"*. Isabel noted that the WhatsApp group allowed "*us to ask for assistance when needed. Where we were coping fine, we could share ideas*". She further noted that "*as a novice teacher, you are very scared at the same time excited to be a teacher, but you are not always sure how things work in the real class you now have. This group definitely gave me the best ideas and advice on how to get me and my class on a good track, while enjoying it.*". Stacey stated "*that the principles discussed really helped me into starting my career. The WhatsApp platform made addressing certain things much easier and quicker as it became a tool that all of us embraced. Feedback was immediately available and it was age-friendlier"*. Miche noted that *"the confidentially of the conversations were uplifting. I didn't fear that my concerns and shortcomings would be on public display. I also loved the sharing of ideas and the way we reached out to each other in school, based on our interactions on the group. I am definitely more confident in my class".*

Tur and Marín (2014), in a study focused on the educational experience of students using the social media platform Twitter for debate activities, asked their students to reflect on the experiences. Most noted the following, (1) the activity with Twitter had helped them to better understand the topics in the debate, (2) the online activity had a positive effect on the preparation of the performance for the face-to-face debate activity, and (3) the participants stated that using their mobile device for this learning activity extended their perception of the possibilities of mobile technology in education.

In this study, the Ten (10) participants too championed the view that the WhatsApp group improved their understanding and skills set, promoted peer-to-peer engagement and improved their confidence. Furthermore, they reflected on the "archiving" nature of the platform, allowing them to personally reflect on the ideas shared, even post the initial interaction, finding this a benefit to their professional growth.

6.2.4 How can the findings and recommendations of this study on e-mentoring inform the development of mentoring programmes for novice teachers offered by the Western Cape Education Department situated on an e-platform?

Arends and Phurutse (2009: 32), in a study of beginner teachers In South Africa, found that most participants, including both beginner teachers and school managers, were not aware of any support specifically meant for beginner teachers, neither from education district offices nor from schools or their governing bodies. The study further noted that district officials themselves were not sufficiently equipped to support teachers' development needs.

Luneta (2012) pointed out that in-service teacher education programmes in South Africa predominantly make use of off-site approaches. According to De Clercq and Phiri (2013: 80), however, often off-site teacher development is rarely able to make teachers change paradigm and improve their classroom practice. Furthermore, the inability of the subject advisors to supervise teachers' performance (De Kadt: 2010) added to the improbable ability of most CPD programme to change teachers' practices. There are also claims that many CPD programmes are not geared to *'address the context in which teachers are operating in the classrooms'* (Islam, 2012: 20).

A cursory glance of the WCED's provincial training centre's course offering planned for teachers in 2020 (Wcedctli.co.za, 2019), shows that twenty six (26) courses will be available, excluding management level courses. All of these are residential based and are limited in terms of the number of teachers who may attend. The courses are essentially content based and not specifically directed at addressing the challenges of novice teachers.

Given the aforementioned, it is clear that the education department has no structured, blended model of support for novice teachers, or e-based mentoring system in place.
The current offering still perpetuates the traditional approaches to CPD. Very little evidence exist that e-mentoring is embraced as an option or part of the current offering. There is also no offering for support via social media.

It is in this arena that the current study provides opportunity for reinventing or cementing an alternate approach to CPD, especially focused on meeting up with young teachers where they find themselves operating with technology. The participants, through their peer-to-peer engagement on their devices and the level of interaction on the social media platform, provide evidence that they are more than willing to try a different approach to support the development of their initial teacher competencies. They too, provide distinct direction on the advantages of the engagements, including citing the archive dynamic attached to the social media application, as well as the private, intimate, closed and safe space the application provides.

Furthermore, some of the challenges that the WCED would have to take cognisance of relates to,

(1) Clearly identifying the nature of support required. In this study, albeit a questionnaire was completed to identify the needs of novice teachers, the semi-structured interviews informed the scope of the support required and narrowed the offering. In the case of this study, the agreed upon mentoring area became classroom management.
(2) Cyber risks and the potential impact on compromising participants' privacy. Social media platforms encourage the open exchange of information, allowing users a look-into-the-lives of others and vice versa. The space is often also bombarded with advertisements and revenue sweeteners, that may be distracting. The space must be secure and malware risks reduced through appropriate anti-virus software and keeping the platform's software updated.
(3) A moderator level needs to be in place, to ensure that the conversations remain focused on the topics under discussion and do not meander off into all kinds of directions. Social media is primarily focused on stimulating social engagement, which often sees participants wanting to share more-than-their-professional experiences. There has to be vigilance around the potential risk of workplace gossip filtering into discussions.
(4) Defining the time for engagement is also an important consideration. The 24-hour, always available, nature of social media applications can result in participants engaging their fellows at all times of the day. This may interfere with the work environment or even infringe on the private space of participants. It will be important to demarcate times-of-engagement before the interactions take place, to help minimise unwanted intrusions, and curb over-enthusiastic engagement by participants who enjoy using technology.
(5) Training mentors and support staff in the use of the technology. Whilst most users of social media platforms use the tools primarily for social interaction, the software offers huge benefits to organisations when the ability of the platforms are maximised. The WhatsApp platform has evolved over time, and now allow for the sharing of pdf files and MS Word documents, editing of videos before distribution and e-mailing the conversation threads to oneself.

6.3 Limitations of the study

The findings of this study was based on the engagements with ten (10) novice teachers based at a rural primary school in the Western Cape. The interactions took place over a ten week period. All the teachers has one year teaching experience and had access to mobile devices (smartphones). They were active engagers of the WhatsApp platform at the time of the study,

albeit if not as a CPD group on the social media platform. The school at which the novice teachers were based was newly established, and had a mixture of new teachers and seasoned teachers. The experienced teachers were transferred into the school from surrounding schools. A curator principal was in place initially. By the last week of the study, a new principal was appointed which brought tension to the process but did not derail the interactions. This dynamic, i.e. a lack of staff cohesion, added to the feeling of professional isolation amongst the novice teachers and may have contributed to the early and swifter adoption of the WhatsApp group. Should the school have been more settled, this could have influenced the participation rate on the social media platform, albeit that the participants were not unfamiliar with the medium or the use of smartphone technology.

6.4 Summary of main findings

The mentoring journey with the novice teachers through WhatsApp as an e-mentoring tool, highlighted that millennial teachers thrive on social interaction via social media platforms. They were very comfortable to embrace technology and virtual spaces to support their development and appreciated the safe space that WhatsApp created for them to share their experiences, fears, failures and successes, without worrying about being judged or condemned. The study also highlights that an e-mentoring platform is potentially, a viable, alternative platform to the traditional face-to-face CPD sessions offered by the WCED or could, as a tool, form part of a blended model of professional support. The participants also confirmed, that the social media platform allowed for rich multi-media stimulation, real-time conversation, feedback and reflection, and included the value of archiving of experiences shared for later consultation and reflection. The study also showed, that even when formal mentoring on the platform was disengaged, the participants were happy to continue using the platform. They had developed a level of confidence to continue sharing their experiences and seeking advice, highlighting the value of the application for self-enrichment exercises. The platform is also not geographically restricted given the cellular network coverage in South Africa, as the participants' engagement clearly showed.

6.5 Implications/recommendations for policy and practice

The nature of the findings make a case for the review of traditional CPD offerings by policy makers within the education department. Tech savvy novice teachers must be met where they find social stimulation. Tapping into social media to promote CPD is no longer an option to ignore. It has distinct potential to underpin and support CPD and efforts will have to be made to embrace social media formally as an instrument for CPD, whether as a standalone or as part of a blended model. CPD via Social media engagement allows access to deep rural

environments without compromising the quality of CPD material. Distance no longer becomes a factor to deliver access to CPD programmes and the ability to mentor and nurture rural teachers, whether novice or experienced, is only inhibited by the availability of a cell phone or internet signal. Policy makers should look at this platform with the same commitment that they have for traditional support programmes, provided to teachers.

6.6 Significance of the study

The novice teachers who participated in this study have clearly shown, through their engagement rates, reflections and survey commentary, that social media as a tool for e-mentoring and CPD, is a viable option that they would not be averse to experiencing. The study also shows that social media platforms provide for the sharing of rich, diverse multi-media stimuli. This is a distinct advantage over traditional CPD workshops or events, where participants often receive handouts that are one-dimensional and cannot be electronically accessed, stored or archived in the same way as material shared over social media platforms.

6.7 Concluding remarks

It is evident from the feedback provided by the novice teachers in this study, that there is definite potential for the systemic roll-out of social media based CPD platforms within the schooling system, to support the development of the skills and competencies of school-based teachers. Some of their feedback was non-complimentary of traditional pathways, with comments such as *"I can't stand the traditional 'death-by-PowerPoint' workshops".* Social media applications, together with traditional face-to-face CPD sessions as currently experienced by teachers within the schooling system, can create a blended professional learning space, which will allow remote or rural teachers to engage teachers in urban environments or content from the confines of the geographic location, Furthermore, as emphasised in earlier chapters, the adoption of social media across the globe and in particular, sub-Saharan Africa, is growing in leaps-and-bounds. Together with ever-improving smartphone technology and broadband access, the possibilities to create virtually-based CPD programmes for teachers to access at any given time or place, will provide further impetus for teachers to embrace life-long learning. Given that saturation stats of mobile technology usage in South Africa stands at 80%, it is clear an opportunity also exists to reach teachers who are more experienced, in the same way.

Social media furthermore, creates the opportunity to address the challenges faced by rural teachers, i.e. that of travelling to central locations or urban settings. Mobile technology and broadband coverage across South Africa is expanding continuously, and with a stable internet signal, programmes can be beamed to mobile devices without the need for teachers to travel to a location. They can quite literally, be sitting at home or at work, depending on scheduling. The willing embrace of WhatsApp and the capability of the application to accommodate the streaming of written and audio-visual content, removes any barriers in this regard. The interactive nature of the application, enhances feedback and peer-to-peer engagement, and cuts down on expenditure related to time and travel.

With appropriate and coordinated planning, skilled and tech savvy e-mentors, and the appropriate orientation of participants, social media opens up another avenue to address the demand for our teacher corps to remain current and relevant in an ever-changing world.

REFERENCES

Abraham, A. (2019). *Global Mobile Survey 2017*. [online] Www2.deloitte.com. Available at: https://www2.deloitte.com/content/dam/Deloitte/za/Documents/technology-media-telecommunications/ZA-Deloitte-South-Africa-Mobile-Consumer-Survey-2017-Mobile_090718.pdf [Accessed 31 Jan. 2019].

Alasuutari, P. (1995). *Researching Culture: Qualitative method and cultural studies*. London: Sage.

Alsup, J. (2006). *Teacher identity discourses: Negotiating personal and professional spaces*. Mahwah, N.J.: L. Erlbaum Associates.

Anderson, A., Steinerte, E. and Russell, E. (2010). The Nature of Trust in Virtual Entrepreneurial Networks. *International Journal of E-Entrepreneurship and Innovation*, 1(1), pp.1-21.

Arends, F. and Phurutse, M. (2009). *Beginner Teachers in South Africa: School Readiness, Knowledge and Skills*. Cape Town: HSRC Press, p.32.

Babbie, E. (2010). *The Practice of Social Research*. 12th ed. Belmont, CA: Wadsworth Cengage.

Baker-Doyle, K. (2011). *The networked teacher: How new teachers build social 15 networks for professional support*. New York: Teachers College Press.

Bassey, M. (1999). *Case study research in educational settings*. Buckingham: Open University Press.

Bazeley, P. and Kemp, L. (2012). Mosaics, Triangles, and DNA. *Journal of Mixed Methods Research*, 6(1), pp.55-72.

Beach, R. (2012). Can online learning communities foster professional development? *Language Arts*, 89(4), pp.256-262.

Beauchamp, T. and Childress, J. (1989). *Principles of biomedical ethics*. New York, NY: Oxford University Press.

Bickmore, D. (2012). Professional learning experiences and administrator practice: is there a connection? *Professional Development in Education*, 38(1), pp.95-112.

Blaschke, L., Porto, S. and Kurtz, G. (2010). Assessing the added value of Web 2.0 tools for e-learning: The MDE experience. *Proceedings of the European Distance and E-learning Network (EDEN) Research Workshop*, pp.80-98.

Bogdan, R. and Biklen, S. (2003). *Qualitative research for education*. 4th ed. Boston: Pearson/Allyn and Bacon.

Borg, T. (2012). The evolution of a teacher community of practice: identifying facilitating and constraining factors. *Studies in Continuing Education*, 34(3), pp.301-317.

Bowen, D. (1985). Were men meant to mentor women? *Training & Development Journal*.

Bristol, T. (2010). Twitter: Consider the Possibilities for Continuing Nursing Education. *The Journal of Continuing Education in Nursing*, 41(5), pp.199-200.

Brown, R., Vissa, J. and Mossgrove, J. (2012). *The importance of collaboration to new teacher development: Two central features of an induction fellowship. Yearbook*. National Council of Teachers of Mathematics, pp.103-115.

Brundrett, M., Burton, N. and Jones, M. (2008). *Doing Your Education Research Project.* Great Britian: Sage.

Bryer, T. and Chen, B. (2012). Investigating instructional strategies for using social media in formal and informal learning. *The International Review of Research in Open and Distributed Learning*, 13(1), pp.87-104.

Bryer, T. and Zavattaro, S. (2011). Social Media and Public Administration. *Administrative Theory & Praxis*, 33(3), pp.325-340.

Bryman, A. (2008). The End of the Paradigm Wars? *The SAGE Handbook of Social Research Methods*, pp.12-25.

Bubb, S. (2007). *Successful Induction for New Teachers: A Guide for NQTs & Induction Tutors, Coordinators and Mentors: A Guide for NQTS and Induction Tutors, Coordinators and Mentors*. United Kingdom: Paul Chapman Educational Publishing.

Cantrell, D. (1993). *Alternative paradigms in environmental education research: The interpretive paradigm. In: Alternative paradigms in environmental education research. Ed. R. Mrazek*. Troy, Ohio: NAAEE, pp.p.81-104.

Carr, W. and Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research*. London: The Falmer Press.

Carr, W. and Kemmis, S. (1986). *Becoming Critical: Education, Knowledge, and Action Research*. London: Falmer Press.

Cărtărescu, I. (2010). Utility of online communities—ways one can benefit from one's online life. *Journal of Comparative Research in Anthropology & Sociology*, 1(2), pp.79–91.

Carter, K. and Doyle, W. (1996). Personal narrative and life history in learning to teach. *Handbook of research on teacher education*.

Carter, M. and Francis, R. (2001). Mentoring and Beginning Teachers' Workplace Learning. *Asia-Pacific Journal of Teacher Education*, 29(3), pp.249-262.

Chandra, V. and Lloyd, M. (2008). The methodological nettle: ICT and student achievement. *British Journal of Educational Technology*, 39(6), pp.1087-1098.

Chen, B. and Bryer, T. (2012). Investigating Instructional Strategies for Using Social Media in Formal and Informal Learning. *The international Review of Research in Open and Distance Learning*, 3(1), pp.87-104.

Chin, A. and Zhang, D. (2014). *Mobile Social Networking*. New York: Springer.

Ching, Y. and Hsu, Y. (2011). Design-grounded assessment: A framework and a case study of Web 2.0 practices in higher education. *Australasian Journal of Educational Technology*, 27(5), pp.781-797.

Chisholm, L., wa Kivulu, U., Brookes, H., Prinsloo, C., Kgobe, A., Mosia, D., Narsee, H. and Rule, S. (2005). *Educator workload in South Africa*. Cape Town: HSRC Press.

Christensen, L. and Johnson, B. (2008). *Educational Research. Quantitative, Qualitative and Mixed Approaches.*. USA: Sage.

Clift, R., Hebert, L., Cheng, Y., Moore, J. and Clouse, N. (2010). Exploring the potential of internet-based technology for mentoring and induction programs. In: J. Wang, S. Odell and R. Clift, ed., *Past, present, and future research on teacher induction: An anthology for researchers, policy makers, and practitioners*. Lanham, MD: Rowman & Littlefield Education, pp.151-168.

Clutterbuck, D. and Hussain, Z. (2010). *Virtual coach, virtual mentor*. London: Information Age.

Cochrane, T. and Rhodes, D. (2013). iArchi[tech]ture: Developing a mobile social media framework for pedagogical transformation. *Australasian Journal of Educational Technology*, 29(3).

Coleman, V. (2013). Social media as a primary source: a coming of age. *EDUCAUSE Review*, [online] 48(6). Available at: https://er.educause.edu/articles/2013/12/social-media-as-a-primary-source-a-coming-of-age [Accessed 8 Aug. 2017].

Collins, H. and Pinch, T. (1979). The Construction of the Paranormal: Nothing Unscientific is Happening. *The Sociological Review*, 27(1_suppl), pp.237-270.

Costigan, R., Insinga, R., Jason Berman, J., Ilter, S., Kranas, G. and Kureshov, V. (2006). A cross-cultural study of supervisory trust. *International Journal of Manpower*, 27(8), pp.764-787.

Cravens, J. (2001). Online Mentoring: Programs and Suggested Practices as of February 2001. *Journal of Technology in Human Services*, 21(1-2), pp.85-109.

Cresswell, J. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. CA: SAGE Publications Ltd.

Cresswell, J. and Plano Clarke, V. (2007). *Designing and Conducting Mixed Methods Research*. CA: SAGE Publications Inc.

Creswell, J. (2014). *A concise introduction to mixed methods research*. CA: SAGE Publications Ltd.

Cross, C., Seager, J., Wentzel, M., Mafukidze, J., Hoosen, F. and Van Zyl, J. (2009). *Migration management challenges in South Africa: the next ten years*. Pretoria: Human Sciences Research Council.

Crotty, M. (1998). *The foundations of social research*. London: SAGE Publications Ltd.

Crouch, L. and Lewin, K. (2003). Turbulence or orderly change: Teacher supply and demand in South Africa – current status, future needs and the impact of HIV/AIIDS. In: K. Lewin, M. Samuel and Y. Sayed, ed., *Changing patterns of teacher education in South Africa: Policy, practice and prospects*. Johannesburg: Heinemann.

Cutcliffe, J. (2000). Methodological issues in grounded theory. *Journal of Advanced Nursing*, 31(6), pp.1476-1484.

Cutcliffe, J. (2000). Methodological issues in grounded theory. *Journal of Advanced Nursing*, 31(6), pp.1476-1484.

Dabbagh, N. and Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and Higher Education*, 15(1), pp.3-8.

Dabbagh, N. and Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and Higher Education*, 15(1), pp.3-8.

De Clercq, F. and Phiri, R. (2013). The challenges of school-based teacher development initiatives in South Africa and the potential of cluster teaching. *Perspectives in Education*, 31(1), pp.77-86.

De Kadt, D. (2010). Why human capital matters. *Focus: The Journal of the Helen Suzman Foundation*, 59, pp.3-9.

De Vos, A. (1998). *Research at Grass Roots. A primer for the caring professions*. Cape Town: National Book Printers.

De Vos, A., Strydom, H., Fouché, C. and Delport, C. (2011). *Research at grass roots*. Pretoria: Van Schaik Publishers.

Denzin, N. and Lincoln, Y. (2003). *Collecting and interpreting qualitative materials*. Thousand Oaks, Calif.: Sage.

Denzin, N. and Lincoln, Y. (2011). *The SAGE handbook of qualitative research*. CA: Sage Publications Ltd.

Denzin, N. and Lincoln, Y. (2011). *The SAGE handbook of qualitative research*. 4th ed.

DERYAKULU, D. (2007). Analysis of computer teachers' online discussion forum messages about their occupational problems. *Educational Technology & Society*, pp.131-142.

Diffley, S., Kearns, J., Bennett, W. and Kawalek, P. (2011). *Consumer Behaviour in Social Networking Sites: Implications for Marketers*. [online] Research.thea.ie. Available at: https://research.thea.ie/handle/20.500.12065/1060 [Accessed 6 Oct. 2019].

Domizi, D. (2013). Microblogging to Foster Connections And Community in a Weekly Graduate Seminar Course. *TechTrends*, 57(1), pp.43-51.

Donaldson, S., Ensher, E. and Grant-Vallone, E. (2000). Longitudinal Examination of Mentoring Relationships on Organizational Commitment and Citizenship Behavior. *Journal of Career Development*, 26(4), pp.233-249.

Ebner, M., Lienhardt, C., Rohs, M. and Meyer, I. (2010). Microblogs in Higher Education – A chance to facilitate informal and process-oriented learning? *Computers & Education*, 55(1), pp.92-100.

Ebner, M., Lienhardt, C., Rohs, M. and Meyer, I. (2010). Microblogs in higher education – A chance to facilitate informal and process-oriented learning. *Computers & Education*, 55(1), pp.92-100.

Edosomwan, S., Prakasan, S. and Kouame, D. (2011). The history of social media and its impact on business. *The Journal of Applied Management and Entrepreneurship*, 16(3).

Fox, A. and Wilson, E. (2009). 'Support our networking and help us belong!': listening to beginning secondary school science teachers. *Teachers and Teaching*, 15(6), pp.701-718.

Fox, A., Wilson, E. and Deaney, R. (2011). Beginning Teachers' Workplace Experiences: Perceptions of and Use of Support. *Vocations and Learning*, 4(1), pp.1-24.

Garrity, M., Jones, K., VanderZwan, K., de la Rocha, A. and Epstein, I. (2014). Integrative Review of Blogging: Implications for Nursing Education. *Journal of Nursing Education*, 53(7), pp.395-401.

Gavish, B. and Friedman, I. (2010). Novice teachers' experience of teaching: a dynamic aspect of burnout. *Social Psychology of Education*, 13(2), pp.141-167.

Gemeda, F. and Tynjälä, P. (2015). Professional Learning of Teachers in Ethiopia: Challenges and Implications for Reform. *Australian Journal of Teacher Education*, 40(5).

Glasgow, N., McNary, S. and Hicks, C. (2004). *What Successful Mentors Do: 81 Research-Based Strategies for New Teacher Induction, Training, and Support*. Thousand Oaks, CA: SAGE Publications.

Goodyear, V., Casey, A. and Kirk, D. (2014). Tweet me, message me, like me: using social media to facilitate pedagogical change within an emerging community of practice. *Sport, Education and Society*, 19(7), pp.927-943.

Grady, M. and Brock, B. (2006). *Developing a Beginning Teacher Induction Plan: Guide for School Leaders*. Thousand Oaks: Corwin Press.

Grady, M. and Brock, B. (2006). *Developing a Beginning Teacher Induction Plan: Guide for School Leaders*. Thousand Oaks: Corwin Press Inc.

Grassley, J. and Bartoletti, R. (2009). Wikis and Blogs. *Nurse Educator*, 34(5), pp.209-213.

Gray, K., Thompson, C., Sheard, J., Clerehan, R. and Hamilton, M. (2010). Students as Web 2.0 authors: Implications for assessment design and conduct. *Australasian Journal of Educational Technology*, 26(1), pp.105-122.

Green, A. (2014). Teacher induction, identity, and pedagogy: hearing the voices of mature early career teachers from an industry background. *Asia-Pacific Journal of Teacher Education*, 43(1), pp.49-60.

Gregory, I. (2003). *Ethics in research*. London: Continuum.

Hall, G. (1982). Induction: The Missing Link. *Journal of Teacher Education*, 33(3), pp.53-55.

Hammersley, M. (2013). *"Defining qualitative research." In What is Qualitative Research? 1–20*. [online] Available at: http://dx.doi.org/10.5040/9781849666084.ch-001 [Accessed 6 Jul. 2018].

Hanraets, I., Hulsebosch, J. and de Laat, M. (2011). Experiences of pioneers facilitating teacher networks for professional development. *Educational Media International*, 48(2), pp.85-99.

Hargreaves, A. (2010). Presentism, Individualism, and Conservatism: The Legacy of Dan Lortie's Schoolteacher: A Sociological Study. *Curriculum Inquiry*, 40(1), pp.143-154.

Harrison, J., Dymoke, S. and Pell, T. (2006). Mentoring beginning teachers in secondary schools: An analysis of practice. *Teaching and Teacher Education*, 22(8), pp.1055-1067.

Heider, K. (2005). *Teacher Isolation: How Mentoring Programs Can Help*. [online] Cie.asu.edu. Available at: https://cie.asu.edu/ojs/index.php/cieatasu/article/download/1686/725/ [Accessed 7 May 2017].

Henning, E. and Rensburg, W. (2004). *Finding Your Way in Qualitative Research*. Pretoria: van Schaik.

Henning, E., van Rensburg, W. and Smit, B. (2004). *Finding your way in qualitative research*. Pretoria: Van Schaik.

Hennink, M. and Hutter, I. (2011). *Qualitative Research Methods.* London: Sage Publications Ltd.

Hennink, M., Hutter, I. and Bailey, A. (2011). *Qualitative research methods*. Sage Publications Ltd.

Hew, K. and Hara, N. (2007). Empirical study of motivators and barriers of teacher online knowledge sharing. *Educational Technology Research and Development*, 55(6), pp.573-595.

Hewitt, J. (2007). Ethical Components of Researcher—Researched Relationships in Qualitative Interviewing. *Qualitative Health Research*, 17(8), pp.1149-1159.

Holm, S. (2002). Principles of Biomedical Ethics, 5th edn.: Beauchamp T L, Childress J F. Oxford University Press, 2001, pound19.95, pp 454. ISBN 0-19-514332-9. *Journal of Medical Ethics*, 28(5), pp.332-a-332.

Hudson, P. (2004). Specific mentoring: a theory and model for developing primary science teaching practices. *European Journal of Teacher Education*, 27(2), pp.139-146.

Hudson, P. (2004). Toward Identifying Pedagogical Knowledge for Mentoring in Primary Science Teaching. *Journal of Science Education and Technology*, 13(2), pp.215-225.

Hudson, P. (2007). Examining mentors' practices for enhancing preservice teachers' pedagogical development in mathematics and science. *Mentoring & Tutoring: Partnership in Learning*, 15(2), pp.201-217.

Human Sciences Research Council (2008). *Towards understanding student academic performance in South Africa: A pilot study of grade 6 mathematics lessons in Gauteng Province. A report prepared by the Human Sciences Research Council with Stanford University (In partnership with a Consortium of South African Universities And Jet Education Services)*. Cape Town: HSRC Press.

Hurt, N., Moss, G., Bradley, C., Larson, L., Lovelace, M., Prevost, L., Riley, N., Domizi, D. and Camus, M. (2012). The 'Facebook' Effect: College Students' Perceptions of Online Discussions in the Age of Social Networking. *International Journal for the Scholarship of Teaching and Learning*, 6(2), pp.1-24.

Islam, F. (2012). Understanding pre-service teacher education discourses in communities of practice: A reflection from an intervention in rural South Africa. *Perspectives in Education*, 30(1), pp.19-29.

Jackson, C. (2011). Your students love social media ... and so can you. *Teaching Tolerance*, [online] (39), pp.38-41. Available at: from http://www.tolerance.org/magazine/number-39-spring-2011/your-students-love-social-media-and-so-can-you [Accessed 30 May 2016].

Jaquith, A., Mindich, D., Wei, R. and Darling-Hammond, L. (2011). *Teacher professional learning in the United States: Case studies of state policies and strategies*. Palo Alto, CA: Stanford Center for Opportunity Policy in Education and Learning Forward.

Junco, R., Heiberger, G. and Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning*, 27(1), pp.119-132.

Kabilan, M. (2005). Online professional development: A literature analysis. *Journal of Computing in Teacher Education*, 21(2), pp.51-59.

Kabilan, M., Adlina, W. and Embi, M. (2011). Online collaboration of English language teachers for meaningful professional development experiences. *English Teaching: Practice & Critique*, 10(4), pp.94-115.

Kaplan, A. and Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), pp.59-68.

Karnieli-Miller, O., Strier, R. and Pessach, L. (2008). Power Relations in Qualitative Research. *Qualitative Health Research*, 19(2), pp.279-289.

Karnieli-Miller, O., Strier, R. and Pessach, L. (2008). Power Relations in Qualitative Research. *Qualitative Health Research*, 19(2), pp.279-289.

Kelchtermans, G. and Ballet, K. (2002). The micropolitics of teacher induction. A narrative-biographical study on teacher socialisation. *Teaching and Teacher Education*, 18(1), pp.105-120.

Kerkhof, P., Schultz, F. and Utz, S. (2011). How to choose the right weapon. Social media represent both a catalyst for and weapon against brand crises. *Communication Director*, pp.76-79.

Keswani, B. and Chaturvedi, S. (2013). Innovative learning: Facebook vs Linkedin. *Researchers World: Journal of Arts, Science & Commerce*, 6(1), pp.118-121.

Killeavy, M. and Moloney, A. (2010). Reflection in a social space: Can blogging support reflective practice for beginning teachers? *Teaching and Teacher Education*, 26(4), pp.1070-1076.

King, N. (1994). *The qualitative research interview. In: Qualitative methods in organizational research: a practical guide*. Sage, pp.14-36.

Kruger, J. and Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), pp.1121-1134.

Krutka, D. (2014). *Social media as a catalyst for convergence culture: Immersing pre-service social studies teachers in the social media terrain. In W.B. Russell (Ed.), Digital social studies*. Charlotte, NC: Information Age Publishing, pp.pp. 271-302.

Krutka, D., Bergman, D., Flores, R., Mason, K. and Jack, A. (2014). Microblogging about teaching: Nurturing participatory cultures through collaborative online reflection with pre-service teachers. *Teaching and Teacher Education*, 40, pp.83-93.

Kunje, D. and Stuart, J. (1999). Supporting untrained teachers in Malawi. *International Journal of Educational Development*, 19(2), pp.157-166.

Lalonde, C. (2012). How important is Twitter in your Personal Learning Network?. *eLearn*, 2012(9), p.3.

Lawson, H. (1992). Beyond the New Conception of Teacher Induction. *Journal of Teacher Education*, 43(3), pp.163-172.

Lee, M. and McLoughlin, C. (2010). Supporting Peer-to-Peer E-Mentoring of Novice Teachers Using Social Software. *Cases on Online Tutoring, Mentoring, and Educational Services*, pp.84-97.

Lemov, D. (2011). *Teach like a champion*. San Francisco, Calif.: Jossey-Bass.

Lieberman, A. and Pointer Mace, D. (2009). Making Practice Public: Teacher Learning in the 21st Century. *Journal of Teacher Education*, 61(1-2), pp.77-88.

Lim, T. and Abas, Z. (2010). Online In-service Teacher Professional Development in Malaysia: A New Possibility? *Global Learn Asia Pacific*. [online] Available at: http://library.oum.edu.my/repository/409/1/online_tina.pdf [Accessed 10 Aug. 2018].

Lincoln, Y. (2003). *Collecting and interpreting qualitative materials*. Thousand Oaks, Calif.: Sage.

Linder, R., Post, G. and Calabrese, K. (2012). Professional learning communities:Practices for successful implementation. *Delta Kappa Gamma Bulletin*, 78(3), p.13.

Lipke, R. and Brinthaupt, T. (1999). *The Role of Self in Teacher Development*. New York: State University of New York Press.

Liu, C., Liu, K., Chen, W., Lin, C. and Chen, G. (2011). Collaborative storytelling experiences in social media: Influence of peer-assistance mechanisms. *Computers & Education*, 57(2), pp.1544-1556.

Lom, E. and Sullenger, K. (2011). Informal spaces in collaborations: exploring the edges/boundaries of professional development. *Professional Development in Education*, 37(1), pp.55-74.

Loughran, J. John. (2002). "Effective Reflective Practice". *Journal Of Teacher Education* 53 (1): 33-43. doi:10.1177/0022487102053001004.

Luneta, K. (2006). Mentoring as professional development in Mathematics education: a teaching practicum perspective. *Education as Change*, 10(1), pp.17-25.

Mack, N., Woodsong, C., MacQueen, K., Guest, G. and Namey, E. (2005). *Qualitative Research Methods: A Data Collector's Field Guide*. North Carolina: Family Health International.

Mager, G. (2008). *New York State Mentoring Standards: An Overview*. [online] Highered.nysed.gov. Available at: http://www.highered.nysed.gov/tcert/pdf/mentoringstds.pdf [Accessed 7 Oct. 2017].

Mair, C. (2012). Using technology for enhancing reflective writing, metacognition and learning. *Journal of Further and Higher Education*, 36(2), pp.147-167.

MANUEL, J. (2003). 'Such are the Ambitions of Youth': Exploring issues of retention and attrition of early career teachers in New South Wales. *Asia-Pacific Journal of Teacher Education*, 31(2), pp.139-151.

Maphosa, C., Shumba, J. and Shumba, A. (2007). Mentorship for students on teaching practice in Zimbabwe: Are student teachers getting a raw deal? *South African Journal of Higher Education*, 21(2).

Marais, P. (2016). "We can't believe what we see": Overcrowded classrooms through the eyes of student teachers. *South African Journal of Education*, 36(2), pp.1-10.

Martin, E., Conrad, L., Matthias, R. and Iris, M. (2010). Microblogs in higher education - a chance to facilitate informal and process-oriented learning. *Computers & Education*, 55(1), pp.92-100.

Masters, J., De Kramer, R., O'Dwyer, L., Dash, S. and Russell, M. (2010). The Effects of Online Professional Development on Fourth Grade English Language Arts Teachers' Knowledge and Instructional Practices. *Journal of Educational Computing Research*, 43(3), pp.355-375.

Mazibuko, E. (1999). Understanding the experiences of beginning secondary school teachers. *International Review of Education/ Internationale Zeitschrift fr Erziehungswissenschaft/ Revue inter*, 45(5/6), pp.589-602.

McAllister, D. (1995). AFFECT- AND COGNITION-BASED TRUST AS FOUNDATIONS FOR INTERPERSONAL COOPERATION IN ORGANIZATIONS. *Academy of Management Journal*, 38(1), pp.24-59.

McConnell, T., Parker, J., Eberhardt, J., Koehler, M. and Lundeberg, M. (2012). Virtual Professional Learning Communities: Teachers' Perceptions of Virtual Versus Face-to-Face Professional Development. *Journal of Science Education and Technology*, 22(3), pp.267-277.

McKeen, C. and Burke, R. (1989). Mentor Relationships in Organisations: Issues, Strategies and Prospects for Women. *Journal of Management Development*, 8(6), pp.33-42.

McLean, S. (1999). Becoming a teacher: The person in the process. In: R. Lipka and T. Brinthaupt, ed., *The Role of Self in Teacher Development*. New York: State University of New York Press, pp.55-99.

McLoughlin, C. and Lee, M. (2007). Social software and participatory learning: pedagogical choices with technology affordances in the Web 2.0 era. [online] Singapore: Ascilite. Available at: http://www.ascilite.org.au/conferences/singapore07/procs/mcloughlin. pdf [Accessed 8 Jul. 2019].

McLoughlin, C. and Lee, M. (2008). Mapping the digital terrain: new media and social software as catalysts for pedagogical change. [online] Melbourne: Ascilite. Available at: http://www.ascilite.org.au/conferences/melbourne08/procs/mcloughlin.pdf [Accessed 1 Jul. 2018].

McLoughlin, C. and Lee, M. (2010). Personalised and self-regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*, 26(1), pp.28-43.

McLoughlin, C., Brady, J., Lee, M. and Russell, R. (2007). Peer-to-peer: an ementoring approach to developing community, mutual engagement and professional identity for pre-service teachers. In: *Australian Association for research in education*. Fremantle: Australian Association for research in education.

Mesch, G. and Talmud, I. (2006). The Quality of Online and Offline Relationships: The Role of Multiplexity and Duration of Social Relationships. *The Information Society*, 22(3), pp.137-148.

Mills, K. and Chandra, V. (2011). Microblogging as a Literacy Practice for Educational Communities. *Journal of Adolescent & Adult Literacy*, 55, pp.35 - 45.

Minocha, S. (2009). Role of social software tools in education: a literature review. *Education + Training*, 51(5/6), pp.353-369.

Mirzaei, F., Phang, F. and Kashefi, H. (2014). Assessing and Improving Reflective Thinking of Experienced and Inexperienced Teachers. *Procedia - Social and Behavioral Sciences*, 141, pp.633-639.

Mistry, V. (2011). Critical care training: using Twitter as a teaching tool. *British Journal of Nursing*, 20(20), pp.1292-1296.

Morgan, E., Snelson, C. and Elison-Bowers, P. (2010). Image and video disclosure of substance use on social media websites. *Computers in Human Behavior*, 26(6), pp.1405-1411.

Morley, D. (2014). Supporting student nurses in practice with additional online communication tools. *Nurse Education in Practice*, 14(1), pp.69-75.

Morrow, S. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology*, 52(2), pp.250-260.

Mostaghimi, A. and Crotty, B. (2011). Professionalism in the Digital Age. *Annals of Internal Medicine*, 154(8), p.560.

Muijs, D. (2010). *Doing Quantitative Research in Education with SPSS, 2nd Edition*. Sage Publications.

Nash, R. and Nash, R. (2010). *The active workshop: practical strategies for facilitating professional learning*. Thousand Oaks, Calif.: Corwin Press Inc.

Nasser, M. (1987). Mentoring: The key to optimizing your corporate talent. *IPM Journal*, pp.12-15.

Nolan, J. and Hoover, L. (2008). *Teacher Supervision and Evaluation: Theory into Practice*. New York: John Wiley.

Normore, A. and Loughry, K. (2006). Avoiding the Pitfalls of the Rookie Year: How a Mentor Can Help. *Kappa Delta Pi Record*, 43(1), pp.25-29.

Oberski, I., Ford, K., Higgins, S. and Fisher, P. (1999). The Importance of Relationships in Teacher Education. *Journal of Education for Teaching*, 25(2), pp.135-150.

O'Cathain, A., Murphy, E. and Nicholl, J. (2007). Why, and how, mixed methods research is undertaken in health services research in England: a mixed methods study. *BMC Health Services Research*, 7(1), p.85.

O'Cathain, A., Murphy, E. and Nicholl, J. (2010). Three techniques for integrating data in mixed methods studies. *BMJ*, 341(sep17 1), pp.c4587-c4587.

Ochieng' Ong'ondo, C. and Borg, S. (2011). 'We teach plastic lessons to please them': The influence of supervision on the practice of English language student teachers in Kenya. *Language Teaching Research*, 15(4), pp.509-528.

Oliver, P. (2003). *The student's guide to research ethics*. Maidenhead: Open University Press.

Olsen, B. (2010). *Teaching for success: Developing your teacher identity in today's classroom*. Boulder, CO: Paradigm Publishers.

Onwuegbuzie, A. and Leech, N. (2006). Linking research questions to mixed methods data analysis procedures. *The Qualitative Report*, 11, pp.474-498.

Opoku-Asare, N., Agbenatoe, W. and DeGraft-Johnson, K. (2014). Instructional strategies, institutional support and student achievement in general knowledge in art: Implications for visual arts education in Ghana. *Journal of Education and Practice*, 5(21), pp.121-134.

Owen, H. (2015). Making the most of mobility: virtual mentoring and education practitioner professional development. *Research in Learning Technology*, 23.

Pataniczek, D. and Isaacson, N. (1981). The Relationship of Socialization and the Concerns of Beginning Secondary Teachers. *Journal of Teacher Education*, 32(3), pp.14-17.

Pearson Learning Solutions and Babson Survey Research Group (2013). *Social Media for Teaching and Learning*. Boston, MA: Pearson and Babson Survey Research Group.

Pearson PRWeb (2010). *Pearson Social Media in Higher Education Survey*. [online] Available at: http://www.prweb.com/releases/2010/05/prweb3960844.htm [Accessed 5 Sep. 2017].

Pillen, M., Beijaard, D. and Brok, P. (2013). Tensions in beginning teachers' professional identity development, accompanying feelings and coping strategies. *European Journal of Teacher Education*, 36(3), pp.240-260.

Pimmer, C., Brysiewicz, P., Linxen, S., Walters, F., Chipps, J. and Gröhbiel, U. (2014). Informal mobile learning in nurse education and practice in remote areas—A case study from rural South Africa. *Nurse Education Today*, 34(11), pp.1398-1404.

Podsen, I. and Denmark, V. (2006). *Coaching and Mentoring First-Year and Student Teachers*. 2nd ed. United Kingdom: Eye on Education.

Pomphrey, C. and Burley, S. (2011). *Mentoring and coaching in schools: professional learning through collaborative inquiry*. New York: Routledge.

Reeves, T. and Hedberg, J. (2003). *Interactive learning systems evaluation*. Englewood Cliffs, N.J.: Educational Technology.

Richter, D., Kunter, M., Klusmann, U., Lüdtke, O. and Baumert, J. (2011). Professional development across the teaching career: Teachers' uptake of formal and informal learning opportunities. *Teaching and Teacher Education*, 27(1), pp.116-126.

Roland, E., Johnson, C. and Swain, D. (2011). "Blogging" As an Educational Enhancement Tool for Improved Student Performance: A Pilot Study in Undergraduate Nursing Education. *New Review of Information Networking*, 16(2), pp.151-166.

Saldaña, J. (2011). *Fundamentals of qualitative research*. New York: Oxford University Press.

Salleh, H. and Tan, C. (2013). Novice Teachers Learning from Others: Mentoring in Shanghai Schools. *Australian Journal of Teacher Education*, 38(3).

Sandelowski, M. (2019). Qualitative Research. In: M. Lewis-Beck, A. Bryman and T. Liao, ed., *The Sage Encyclopedia of Social Science Research Methods*. Thousand Oaks CA: Sage.

Schlager, M. and Fusco, J. (2003). Teacher Professional Development, Technology, and Communities of Practice: Are We Putting the Cart Before the Horse? *The Information Society*, 19(3), pp.203-220.

Schön, D. (1983). *The reflective practitioner*. [New York]: Basic Books.

Schön, D. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.

Schuck, S. (2003). Getting help from the outside: developing a support network for beginning teachers. *Journal of Educational Enquiry*, 4(1), pp.49-67.

Scott, D. and Usher, R. (2011). *Researching Education: Data Methods and Theory in Educational Inquiry*. 2nd ed. London: Continuum.

Sennett, R. (2012). *Together: The rituals, pleasures and politics of cooperation*. London: Penguin Group.

Senom, F., Razak Zakaria, A. and Sharatol Ahmad Shah, S. (2013). Novice Teachers' Challenges and Survival: Where do Malaysian ESL Teachers Stand? *American Journal of Educational Research*, 1(4), pp.119-125.

Shaw, I. (2003). Ethics in Qualitative Research and Evaluation. *Journal of Social Work*, 3(1), pp.9-29.

Smith, T. and Ingersoll, R. (2004). What Are the Effects of Induction and Mentoring on Beginning Teacher Turnover? *American Educational Research Journal*, 41(3), pp.681-714.

Snape, D. and Spencer, L. (2003). *The foundations of qualitative research. In Qualitative research practice – a guide for social science students and researchers, (ed. J. Ritchie and J. Lewis)*. London: Sage Publications Ltd, pp.pp. 1-23.

Snelson, C. (2016). Qualitative and Mixed Methods Social Media Research. *International Journal of Qualitative Methods*, 15(1), p.160940691562457.

Sockman, B. and Sharma, P. (2008). Struggling toward a transformative model of instruction: It's not so easy! *Teaching and Teacher Education*, 24(4), pp.1070-1082.

South African Council of Educators (2011). *Teacher Migration in South Africa: Advice to the Ministries of Basic and Higher Training*. Pretoria: SACE.

Steyn, G. (2010). Educators' perceptions of continuing professional development for teachers in South Africa: A qualitative study. *Africa Education Review*, 7(1), pp.156-179.

Strader, W. (2009). The mentor-student relationship: From observer to teacher. *National Association for the Education of Young Children*, 64(1), pp.54-57.

Sullivan, C. (2004). *How to Mentor in the Midst of Change, 2nd Edition*. 2nd ed. Alexandria, VA: Association for Supervision and Curriculum Development.

Tashakkori, A. and Teddie, C. (2003). *Handbook of Mixed Methods in Social & Behavioral Research*. Thousand Oaks, CA: SAGE Publications Inc.

Teachers.ab.ca. (2003). *Pages - Mentoring the Beginning Teacher*. [online] Available at: https://www.teachers.ab.ca/News%20Room/ata%20magazine/Volume%2084/Number%203/Articles/Pages/Mentoring%20the%20Beginning%20Teacher.aspx [Accessed 6 Jun. 2016].

Teddlie, C. and Tashakkori, A. (2010). *Sage Handbook of Mixed Methods in Social & Behavioral Research - 2nd Edition*. Los Angeles, CA: SAGE Publications.

Thefreelibrary.com. (2019). *Trustworthiness in qualitative research. - Free Online Library*. [online] Available at: https://www.thefreelibrary.com/Trustworthiness+in+qualitative+research.-a0476729520 [Accessed 26 Oct. 2019].

Tremmel, R. (1993). Zen and the Art of Reflective Practice in Teacher Education. *Harvard Educational Review*, 63(4), pp.434-459.

Trueman, M. and Miles, D. (2011). Twitter in the Classroom. *Nurse Educator*, 36(5), pp.183-186.

Trueschler, J. (1975). Schoolteacher, A Sociological Study. By Dan C. Lortie. Chicago, Ill.: University of Chicago, 1975. *NASSP Bulletin*, 59(394), pp.119-120.

Trust, T. (2012). Professional Learning Networks Designed for Teacher Learning. *Journal of Digital Learning in Teacher Education*, 28(4), pp.133-138.

Tur, G. and Marín, V. (2014). Enhancing learning with the social media: student teachers' perceptions on Twitter in a debate activity. *Journal of New Approaches in Educational Research*, 4(1), pp.46-43.

Twitter (2016). *Twitter*. [online] Twitter.com. Available at: https://about.twitter.com/company [Accessed 30 May 2016].

UNESCO (2011). *Improving the conditions of teachers and teaching in rural schools across the African countries*. Addis Ababa: UNESCO.

Veenman, S. (1984). Perceived Problems of Beginning Teachers. *Review of Educational Research*, 54(2), pp.143-178.

Visser, R., Evering, L. and Barrett, D. (2014). #TwitterforTeachers: The Implications of Twitter as a Self-Directed Professional Development Tool for K–12 Teachers. *Journal of Research on Technology in Education*, 46(4), pp.396-413.

Vyas, A., Landry, M., Schnider, M., Rojas, A. and Wood, S. (2012). Public Health Interventions: Reaching Latino Adolescents via Short Message Service and Social Media. *Journal of Medical Internet Research*, 14(4), p.e99.

Wagenaar, T., Babbie, E. and Babbie, E. (2010). *Guided activities, the practice of social research, Twelfth edition [by] Earl Babbie*. Belmont, CA: Wadsworth Cengage Learning.

Wang, S. and Hsua, H. (2008). Reflections on Using Blogs to Expand In-class Discussion. *TechTrends*, 52(3), pp.81-85.

Watson, S. (2006). Novice Science Teachers: Expectations and Experiences. *Journal of Science Teacher Education*, 17(3), pp.279-290.

Wcedctli.co.za. (2019). *Courses | CTLI*. [online] Available at: https://wcedctli.co.za/courses [Accessed 1 Oct. 2019].

Wedam, E., Asante, J. and Akobour Debrah, I. (2014). Can Girls Attend and Complete School in Ghana; Measuring Parents Educational Status as a Factor of Confidence and Belief in Girls Education. *American Journal of Educational Research*, 2(7), pp.493-502.

Wenger, E. (2000). Communities of Practice and Social Learning Systems. *Organization*, 7(2), pp.225-246.

Western Cape Education Department (2013). *Annual Performance Plan 2013/2014 - 2015/2016*. Cape Town: WCED.

Why teachers should try Twitter. (2010). *Educational Leadership*, 67(5), pp.73-74.

Williamson, T. (2007). *The individual in research. In Long, T. & Johnson, M. (Eds.), Research in the real world*. London: Churchill Livingston, pp.pp. 9–28.

Wilson, E., Kenny, A. and Dickson-Swift, V. (2015). Using Blogs as a Qualitative Health Research Tool. *International Journal of Qualitative Methods*, 14(5), p.160940691561804.

Wles, R. (2013). *What are Qualitative Research Ethics?* London: Bloomsbury Academic, pp.69-80.

Wright, N. (2010). Twittering in teacher education: reflecting on practicum experiences. *Open Learning: The Journal of Open, Distance and e-Learning*, 25(3), pp.259-265.

Writer, S. (2019). *The mobile network with the best coverage in South Africa*. [online] Mybroadband.co.za. Available at: https://mybroadband.co.za/news/cellular/249733-the-mobile-network-with-the-best-coverage-in-south-africa.html [Accessed 13 Jan. 2019].

Yang, S. (2009). Using blogs to enhance critical reflection and community of practice. *Educational Technology & Society*, 12(4), p.11.

Yang, S. (2009). Using Blogs to Enhance Critical Reflection and Community of Practice. *Educational Technology & Society*, 12(2), pp.11-21.

Zandi, P., Thang, S. and Krish, P. (2014). Teacher Professional Development through Blogging: Some Preliminary Findings. *Procedia - Social and Behavioral Sciences*, 118, pp.530-536.

APPENDICES

Appendix A

No	Name						
	Professional Education qualification						
	Which Grade/s are you teaching?						
	Scoring	1	2	3	4	5	6
1	I have established a good rapport with my student as individuals						
2	I use a variety of instructional methods appropriate to the content I teach.						
3	I understand the general procedures (e.g., attendance taking; accessing materials and supplies; filling out forms) used in the school in which I teach.						
4	I identify individual differences among my students and adjust for those differences in my planning and teaching.						
5	I turn to those in the school (management) who can help when I need to resolve problems						
6	I pace my lessons so that students are neither overwhelmed nor bored.						
7	I regularly reflect on my own teaching performance						
8	I use various technologies to help student learn.						
9	I feel that through my efforts, I can enhance the quality of the school and district in which I teach.						
10	I feel comfortable in approaching and working with other teachers, the school administrators, and other staff.						
11	I work productively with support staff and helping students learn.						
12	I teach in such a way that students are engaged and perform as I would like them to.						

13	I differentiate instruction for individual students and maintain high expectations for all students.						
14	I connect the content to prior student learning and to real world contexts.						
15	I feel I am a participant in the profession (through organizations and associations), which enhances my sense-of-self.						
16	I am well organized for carrying out my work efficiently and effectively						
17	I take time to self-assess my teaching						
18	I plan daily, consistently resulting in lessons which turn out the way I intend them to.						
19	I collaborate regularly with my colleagues regarding planning and delivery of instruction.						
20	I use the curriculum guides for my content area(s) that are available in my school.						
21	I can see that teaching is work through which I can express myself.						
22	I assess how my students learn and use that knowledge in planning and teaching.						
23	I use several different approaches to monitor the effectiveness of my teaching.						
24	I regularly discuss student performance with my colleagues						
25	I take responsibility for student learning						
26	I use instructional technologies as a regular part of my teaching.						
27	I have caring relationships with my students.						

28	I feel that through teaching I have developed a sense of who I am						
29	I sequence activities such that students follow along and learn as planned.						
30	I manage classes to make good use of time and resources, to minimize interruptions, and to keep students engaged.						
31	I work in partnership with one or more colleagues to think about my teaching						
32	I establish expectations for students' behavior that they understand and meet						
33	I adjust a lesson in the midst of teaching it if it is appropriate to do so						
34	I have relationships with students that are respectful and friendly						
35	I feel I am part of the district as well as my school.						
36	I feel comfortable in exchanging ideas with the people with whom I work.						
37	I establish class routines that students understand and follow.						
38	I engage in collaborative teaching or co-teaching as needed to support student learning.						
39	I have a good working relationship with my class(es).						
40	I participate in professional development activities to improve my knowledge and skills as a teacher.						
41	I support students as they use technologies in their learning processes						
42	I discipline students in ways that are appropriate and effective.						

Appendix B

Directorate: Research

Audrey.wyngaard@westerncape.gov.za
tel: +27 021 467 9272
Fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20141204-41125
ENQUIRIES: Dr A T Wyngaard

Mr Juan Benjamin
29 Sandpiper Avenue
Grassy Park
7941

Dear Mr Juan Benjamin

RESEARCH PROPOSAL: E-MENTORING AS A PLATFORM FOR THE DEVELOPMENT OF NOVICE TEACHER COMPETENCIES AT A RURAL SCHOOL IN THE WESTERN CAPE

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **27 January 2015 till 30 June 2015**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

    The Director: Research Services
    Western Cape Education Department
    Private Bag X9114
    CAPE TOWN
    8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 05 December 2014

Appendix C

Annexure C

Cape Peninsula University of Technology
Faculty of Education

Consent form for novice teachers

Research Title: E-mentoring as a platform for the development of novice teacher competencies at a rural school in the Western Cape.

I,…….. agree to take part in the above-mentioned study. The researcher has explained the process and steps of the research study to me. I understand that during the baseline questionnaire and the semi-interviews I will be asked to answer several questions regarding my experience as a novice teacher at my school and the kind of assistance I have received. I also understand that I will also be required to participate in a process of posting blog entries on an e-plaform with a view to collaborate with others attached to this study.

I have been informed that participation in this study is voluntary and I can withdraw from the study at any time. I also understand that my involvement will be kept completely private and confidential and will only be used for this study.

Name of Participant:……
Signature of Participant: …….
Date: ……..

This is to certify that I have explained the procedures of this study to the above participant.
Researcher:……
Signature: ……..
Date: ……...

Appendix D

Annexure D

Interview schedule:

Initial interview prior to commencement of the study

The researcher explained the aims of the study and determined whether the identified novice teachers would be willing to participate in the study. All issues related to ethics, study clearance and informed consent were dealt with.

Semi structured questions used at the 1st interview

Q1	How familiar are you with mobile technology?
Q2	How often do you engage in social interaction via your mobile device for professional stimulation?
Q3	How often do you engage in social interaction with your mobile device per day/week?
Q4	How familiar are you with social media apps like WhatsApp?
Q5	Which features do you use most when engaging with social media apps?

Semi-structured questions used in the 2nd interview

Q1	How challenging was it to complete the survey?
Q2	What were the challenges in scoring/rating each question?
Q3	Do you believe the mode represents a fair reflection of your scoring per question?
Q4	How comfortable are you with identifying the area of most need, given the mode indications?
Q5	Do you believe the discussion has helped you understand / inform your own responses?

Semi-structured questions used in the 3rd and 4th interview

Q1	How engaged are you with the videos?
Q2	How did learners react to your usage of the various techniques?
Q3	How are the techniques contributing to the improved management of your classroom?
Q4	What specific challenges do the techniques present? How do you manage this?
Q5	How do the conversation threads on WhatsApp influence your classroom practice?
Q6	To what extent have the videos and conversation threads impacted on your confidence and improved your competence?
Q7	To what extent has the e-platform encouraged collaboration with your peers?