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Appendix A1

Lay Summary

Introduction to Schools

1. **Name:** Thiru. Vandeyar
2. **Affiliation:** University of Pretoria – Faculty of Education

Focus area: CIE [ACE;BEd(hon);MEd;PHd]
 - Programme Co-coordinator MEd(CIE)Computer Integrated Education

Purpose: Instructional designers/management of E-learning/
 - PGCE
3. **Study/Project:** PHd: How do schools take up government policy on ICT

Focus Question: How does education policy on ICT influence teaching and learning in South African schools?
4. Permission to conduct research – Official Department of Education (copy)
5. Formal letter of introduction to principal (copy)
6. Primary schools that are functional, stable, and using ICT to teach the NCS not just ICT as a stand alone
7. My research study would entail:-
 - Interviewing one teacher that is predominantly involved with teaching the curriculum using ICT
 - Observing as many lessons as possible
 - Interview with the principal
 - Collecting data on: Mission/History/Context/Syllabi & Policies (ICT)
 - Photographs/video/Voice recordings
8. Anonymity and confidentiality

9. Duration: At least one term, until saturated data capture
10. Non obtrusive, abide by school schedule and policies
11. Suggestions of teacher sample?
12. Date for interview with principal?
13. Other concerns:

.....
.....
.....
...

Thank You

Appendix A2

Letter of consent - principal

Faculty of Education
Department of Curriculum Studies
University of Pretoria

Date:



The Principal/Deputy Principal
Cornwall Hill College
Pretoria

Letter of Consent for Principal/Deputy Principal (or Delegated representative)

Dear Sir.

I am a lecturer/student [a graduate student under the direction of Professor Liesel Ebersohn] in the Faculty of Education- Department of Math, Science and Technology of the University of Pretoria.

I am conducting a study to research the **take up (appropriation) of education policy on ICT within schools in South Africa.**

Your participation in this research will involve being interviewed and observed during the conduct of your normal work programme. I will try my utmost to ensure that most interviews do not exceed 45-60 minutes at a time. You will also be involved in ensuring that the essence of your input captured during the interviews is correctly recorded.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty, obligation and it will not affect your situation position within the school. The results of the research study may be published, but your name will not be used. All information that you provide will be kept strictly confidential. No school or person will be identified in my research and participants will be entirely anonymous and referred by pseudonyms.

Please note that the principal will be aware of your identity and thus your participation will not be confidential.

There are no foreseeable risks or discomforts if I agree to participate in this study. Although there may be no direct benefit to you, the possible benefit of your participation is the research findings and conclusions drawn from the study will be made available to you and you may be invited to research forums/seminars in which this study is relevant.

If you have any questions concerning this research study, please call me (012) 420 2372 or [e-mail: thiru.vandeyar@up.ac.za].

Sincerely,
T.Vandeyar

* * * * *

I, _____ of Cornwall Hill Preparatory school give my consent to participate in the above study.

_____ (signature) _____ (date)

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Ethics Committee of the University of Pretoria at 012-4202772 or sonja.coetsee@up.ac.za

Appendix A3

Letter of consent - teacher

Faculty of Education
Department of Curriculum Studies
University of Pretoria

Date:

The Principal
Cornwall Hill College
Pretoria



Letter of Consent for Principal (or Delegated representative)

Dear Sir/Madam.

I am a lecturer/student [a graduate student under the supervision of Professor Liesel Ebersohn] in the Faculty of Education, Department of Curriculum Studies of the University of Pretoria.

I am conducting a study to research the **take up (appropriation) of education policy on ICT within schools in South Africa.**

Your participation in this research will involve being interviewed and observed during the conduct of your normal work programme. Although I will try to be as unobtrusive as possible, I will require your valuable input both before and after the conduct of your lessons. I will try my utmost to ensure that most interviews do not exceed 45-60 minutes at a time. You will also be involved in ensuring that the essence of your input captured during the interviews is correctly recorded.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty, obligation and it will not affect your situation position within the school. The results of the research study may be published, but your name will not be used.

There are no foreseeable risks or discomforts if I agree to participate in this study. Although there may be no direct benefit to you, the possible benefit of your participation is the research findings and conclusions drawn from the study will be made available to you and you may be invited to research forums/seminars in which this study is relevant.

If you have any questions concerning this research study, please call me (012) 420 2372 or [e-mail: thiru.vandeyar@up.ac.za].

Sincerely,
T.Vandeyar

* * * * *

I, _____ of _____ school give my consent to participate in

the above study.

_____ (signature) _____ (date)

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Ethics Committee of the University of Pretoria at 012-4202772 or sonja.coetzee@up.ac.za

Appendix A4

Letter of consent – parent

University of Pretoria - Department of Math, Science and Technology Education

Faculty of Education
Goenkloof Campus
Leyds Street

Pretoria



Dear Parent / Guardian

INFORMATION REGARDING RESEARCH BEING CONDUCTED AT YOUR CHILD'S SCHOOL

This letter is to inform you about the research that will be conducted at your child's school. The research will form part of my Phd degree that specializes in Computer Integrated Education. The purpose of my research project is to investigate *how teachers appropriate (take-up) education policy on ICT to influence their teaching and learning practice.*

In order for me to collect my data I will be interviewing and observing teachers in their classroom practice. I will only interview the teachers by asking them questions before and after the lesson. Lessonobservation will focus on how teachers teach using ICT and this will entail observing their classroom practice and how learners respond to their teaching. The data will be collected as and when I am invited by the teachers to observe their lessons. I have already received permission from the Department of Education and the Principal to conduct the research.

Your child will not be directly involved in the research except that they will be observed in their normal classroom environment. All the necessary arrangements have been made regarding the research. All ethical issues have been considered and precautions have been taken to prevent any unfair or unethical practices. All information will be handled strictly confidential and any photography will not be used where the identity of the child will be revealed. Your child's name will not be used in the research report. Your child will not be at risk during the research. The observations will take place in a safe environment. Please remember the research is voluntary. If your child does not want to take part in



the research, they can withdraw at any time. Their choice to withdraw will not result in any consequences. If you have any concerns about the research, or if you do not want your child to take part in the research, please contact me or the school through Mr L. Smith.

Thanking you in anticipation.

Yours in education

T. Vandeyar

Researcher

(012) 4202372

Principal: _____

✂-----

I, _____ parent/guardian of _____

in grade _____ of Cornwall Hill Preparatory School give permission for my son/ daughter/

guardian to participate in the above research study.

_____ (signature of parent/guardian) _____ (date)

Yours in education

Mr T.Vandeyar

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Ethics Committee of the University of Pretoria at 012-4202772 or sonja.coetzee@up.ac.za

Appendix A5

Letter of assent – learner

University of Pretoria
Faculty of Education
Department of Math, Science and Technology
Groenkloof Campus
Pretoria



LETTER OF INFORMED CONSENT TO A MINOR CHILD

A Phd research project of the University of Pretoria

Project title: The appropriation of education policy on ICT in South African schools

(To be read to children under the age of 18 years.)

Why am I here?

Sometimes when we want to find out something, we ask people to join something called a project. In this project we will want to observe your teachers and you as you participate in your normal classroom activities that is focused on your own development and learning. Before we ask you to be part of this study we want to tell you about it first.

This study will give us a chance to see how we, together with your school and teachers, can help schools, teachers and the government to better understand how computers in used in schools for teaching and learning.

We are asking you to be in this study because your parents/guardians have agreed that you can be part of our study.

What will happen to me?

If you want to be part of this study you will only need to do what is expected of your teachers as you participate in your normal classroom activities. This will be done when your teacher invites me to visit and observe his/her lessons.

If you agree, I would like to take photographs and audiovisual footage of you during some of the classroom activities. People will not be able to see your face or hear your voice if I decide to show the images of you in your classroom. In the reports that I write I will not mention you by name nor will I use a photograph that will reveal who you are.

Will the project hurt?

No one, not even someone in your family or your teachers will be told of how you performed in class or of how you react or respond to your teacher.

Will the study help me?

We hope this study will schools, teachers and the government about the use of ICT in schools.

What if I have any questions?

You can ask any questions you have about the study. If you have questions later that you don't think of now you can phone me or you can ask us next time I come to visit you here at your school.

Do my parents/guardians know about this project?

This study was explained to your parents/guardians and they said you could be part of the study if you want to. You can talk this over with them before you decide if you want to be in the study or not.

Do I have to be in the research study?

You do not have to be in this project. No one will be upset if you don't want to do this. If you don't want to be in the project, you just have to tell me. You can say yes or no and if you change your mind later you don't have to be part of the project anymore. It's up to you.

Writing your name on this page means that you **agree to be in the research study** and that you **know what will happen to you** in this study. If you decide to quit the project all you have to do is tell me or your teacher.

Signature of the learner: _____ Date: _____

Signature of the researcher: _____ Date: _____

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Ethics Committee of the University of Pretoria at 012-4202772 or sonja.coetzee@up.ac.za

Yours in education

Mr T.Vandeyar

Appendix A6
Interview Protocol – teacher

Research Question:

How does education policy on ICT influence teaching and learning inside public schools in South Africa?

A. Background questions	
1	How long have you been teaching?
2	What subject/learning area did you specialize in, in your initial teaching qualification?
3	What learning area are you teaching now?
4	What kind of training/professional development related to ICT have you received?
5	How long have you been teaching?
6	What subject/learning area did you specialize in, in your initial teaching qualification?
7	What learning area are you teaching now?
8	What kind of training/professional development related to ICT have you received?
B. Key Questions	



1	Why do you use ICT in your classroom?
2	What do you believe are the core personal goals for teaching ICT in the classroom?
3	What do you see as some of the opportunities of integrating ICT into your learning area? (Prods) <ul style="list-style-type: none">• For learning?• For teaching?
4	What do you think is/are the most important contribution/s of ICT to education?
5	How long have you been utilizing computers to teach your learning area?
6	How do you go about planning your lessons using ICT in the classroom?
7	How often do you use ICT in teaching this subject/learning area?
8	How much freedom do you have to decide on the content of what you teach in lessons that use ICT in the classroom?
9	Who decides how you teach using ICT in the classroom? (Teaching strategy) <ul style="list-style-type: none">• Do you make this decision?• Subject Committee?/Subject leader?/ HoD?/Subject advisor?
10	Have you used ICT in teaching other subjects? Why? Or do you think that ICT has a place in teaching other subjects? Why?
11	What are some of the challenges in integrating ICT in your lessons?
12	What led you to use ICT in your teaching? (Prods) <ul style="list-style-type: none">• Directive? By whom or what?• Personal interest?
13	Do you collaborate/partner with other teachers in making use of ICT? If so what kinds of collaborations exist?
14	How has using ICT in your classroom changed your approach to/understanding of teaching?
15	What role do you see ICT playing, if any in the professional development of teachers?
16	How and in what ways do you think ICT has influenced learning among your learners?
17	In what way has ICT affected your learners? (prods) <ul style="list-style-type: none">• learners' <i>motivation to learn</i> (if at all)?• Cater for different learning styles?• <i>learner morale</i>? If so, In what way and for whom?



18	How do you ensure that what you teach using ICT is suited to your learners needs? (prods) <ul style="list-style-type: none"> • Content? • Relevance? • The presence or absence of specific learning needs or accommodations?
19	To what extent has the use of ICT in your learning area improved performance/attainmentlevels of your learners?
20	Do you use ICT for administrative purposes? Please elaborate.
21	If there is anything that could be changed, what would you change about the way ICT us being used in schools?

Appendix A7

Interview protocol – principal

Semi-structured questions used for the interviews with principals.

Focus of the interview	Questions to be posed
History and background of the School	<ol style="list-style-type: none"> 1. When was this school established? 2. How long have you been a principal/deputy at this school? 3. When were computers introduced in this school? 4. What are the main uses of ICT at this school?
Vision of Education and Role of ICT	<ol style="list-style-type: none"> 1. What are the key values and aspirations for ICT at your school? 2. What do you think are the key contribution and roles of ICT in education? 3. For what purpose do teachers use ICT in your school? 4. Does the use of ICT affect the roles of teachers and learners and the interaction between them? If so can you describe either the expected roles or the observed impacts.



Implementing policy and institutionalizing the use of ICT in the school	<ol style="list-style-type: none">1. Does your school have an ICT in education policy? Can you please elaborate2. What provincial, national or district policy documents do you refer to for guidance to develop your own school ICT policy? (prod: Can you name some of the policy documents that you can refer to for guidance?)3. How do you ensure your school policy to take effect in classroom practice?<ul style="list-style-type: none">• What policy guides the integration of ICT in teaching and learning?4. How do you think you could change your teacher's behaviour to apply education policy?5. What resources does do you think you will need in order to change the behaviour of teachers towards applying the education policy on ICT?6. Is the use of ICT integrated across the curriculum or is it a standalone subject?7. How does the school/teachers go about designing school-based curriculum to incorporate ICT policy8. Which policy documents do you or your teachers refer to for curriculum planning? (Does it make provision for ICT inclusion in teaching and learning)9. What are the main benefits or satisfaction that has been derived from the use of ICT in the school curriculum?10. What are the biggest challenges in implementing ICT use in education?11. Do you think teachers have the necessary pedagogy to naturally integrate ICT in their teaching practice?12. What key measures have been put in place to support ICT in education use? (Whose motivation?)13. Is there somebody in the teaching staff particularly appointed as a result of ICT implementation?14. Do you think the introduction of ICT in the school resulted in any changes in the relationship amongst teachers, especially with respect to collaborations?15. What opportunities are available for the professional development of teachers with respect to ICT use in the school?16. In your opinion is there any change in the role of being the principal (deputy) as a result of ICT being introduced into the school curriculum?17. To what extent has the district office or provincial government provided assistance or given guidance in respect to the use of ICT in your school?
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Appendix A8

Interview protocol – district and province

Focus of the interview	Questions to be posed
<p>Section 1:</p> <p>General information, Leadership and vision</p>	<p>As you may know, you have been selected to participate in this survey because you are the district E-learning program leader. Throughout the survey, I will be asking you about issues that relate to ICT in education in your province. Many of the questions will ask you about policies within the Gauteng Department of Education or National Policy.</p> <p>Other questions will be specifically directed to your “unit”. This refers to your unit within the National Department of Education and in particular the Gauteng Department of Education (exact division/directorates name)</p> <ol style="list-style-type: none">5. Please describe your role function as District E-learning specialist. (Designation?)<ul style="list-style-type: none">• Prompt: in promoting ICT in Education in schools?6. How long have you been in this post? Can you describe your experience? Career path7. What qualifications do you hold? Prompt: Professional, Academic & relevant to ICT/E-learning/Policy



<p>Section 2:</p> <p>Policy planning and implementation with a systems perspective.</p>	<p>8. Can you describe how this district education department has taken up the national ICT in education policy?</p> <p>9. Does the district have its own ICT in Education policy? How was it developed? What was the source documents used to conceptualise this policy?</p> <p>10. Can you describe how the district ensures that policy (District, Province or National) reaches schools?</p> <ul style="list-style-type: none">• Have there been any actions / initiatives that the district education department has undertaken to inform or communicate national policy intentions? Workshops/training/Subject-advisory or interest groups• What measures has your department taken to ensure that this policy in being implemented at schools? <p>11. Are there any expected outputs from district offices and schools to determine compliance with policy?</p> <p>12. Do you think the ICT in education National policy improves:-</p> <ul style="list-style-type: none">• Teaching ? In what way, can you elaborate• Learning? In what way , can you explain.
<p>Section III:</p> <p>Building capacity and effective practice</p>	<p>I would like to shift focus to more general ICT issues.</p> <p>13. What role do you see ICT in education playing in schools?</p> <ul style="list-style-type: none">• What do you see as the opportunities that ICT in education presents to schools?• What are some of the challenges that the district department experiences with respect to ICT in schools? <p>14. Does your district have learner attainment standards in respect of ICT?</p> <ul style="list-style-type: none">• (If not) are there any such standards being developed? <p>15. How does the province plan to encourage teachers to integrate ICT into the curriculum?</p>
<p>Section IV:</p> <p>Professional development</p>	<p>16. Do you think teachers are implementing the national ICT in education policy at school? Why?</p> <p>17. How do you think you could change teacher's behaviour to apply education policy?</p> <p>18. What resources does do you think you will need in order to change the behaviour of teachers towards applying the education policy on ICT?</p> <p>Both technical and human resources</p> <p>19. From my school visits, I would like you to respond to some of my observations and interview responses:</p> <p>20. Is there anything else that you think is important for me to know about ICT in the province?</p>



Appendix A9

Interview protocol –pilot

Research Question: How does education policy on ICT influence teaching and learning inside public schools in South Africa?

B. Background question

1. How long have you been teaching?
2. What subject/learning area did you specialize in, in your initial teaching qualification?
3. What learning area are you teaching now?
4. What kind of training/professional development received?

Jonathan[supervisor], if I ask **policy** goals, am I not inferring a top-down approach as opposed to a bottom-up (backward mapping) approach?

B. Key Questions

2. Why do you use ICT in your classroom?
3. What do you believe are the core **policy** goals **of whom, what authority**(Jonathan, are you implying DoE, Province or District? when we ask of whom, what authority) for teaching ICT in the classroom? (prods)
 - Personal goals
 - School goals
 - Policy goals
4. What do you see as some of the opportunities of integrating ICT into your learning area? (Prods)
 - For learning?
 - For teaching?
5. What do you think is/are the most important contribution/s of ICT to education?
6. How long have you been utilizing computers to teach your learning area?
7. How do you go about planning your lessons using ICT in the classroom?
8. How often do you use ICT in teaching this subject/learning area?
9. How much freedom do you have to decide on the content of what you teach in lessons that use ICT in the classroom?
10. Who decides how you teach using ICT in the classroom? (Teaching strategy)
 - **Do you make this decision?**
 - **Subject Committee?/Subject leader?/ HoD?/Subject advisor?**
11. Have you used ICT in teaching other subjects? Why **Or do you think that ICT has a place in teaching other subjects? Why?**
12. What are some of the challenges in integrating ICT in your lessons?
13. What led you to use ICT in your teaching? (Prods)
 - Directive? By whom or what?
 - Personal interest?
14. Do you Collaborate/PARTNER with other teachers in making use of ICT? If so, what kinds of collaborations exist?
15. How has using ICT in your classroom changed your approach to/understanding of teaching?
16. What role do you see ICT playing, if any in the professional development of teachers?
17. How and in what ways do you think ICT has influenced learning among your learners?
18. **In what way has ICT affected your learners? (prods)**
 - **learners' *motivation to learn* (if at all)?**

- Cater for different learning styles?
- *learner morale*? If so, In what way and for whom?

19. How do you ensure that what you teach using ICT is suited to your learners needs? (prods):-

- Content?
- Relevance?
- The presence or absence of specific learning needs or accommodations?

20. To what extent has the use of ICT in your learning area improved performance/attainment levels of your learners?

21. Do you use ICT for administrative purposes? **Please elaborate.**

22. If there is anything that could be changed, what would you change about the way ICT us being used in schools?

Appendix B

B1-B11 and B13: See CD

Appendix B12

Document naming protocol

Instrument	Participant	Atlis.tiTM Document naming Protocol
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Interviews	School A - Teacher 1	P1:SchoolA -Teacher 1.txt
	School A - Teacher 2	P2: SchoolA -Teacher 2.txt
	School B - Teacher 1	P3: SchoolB- Teacher1.txt
	School B - Teacher 2	P4: SchoolB-Teacher2.txt
	School C - Teacher 1	P5:SchoolC –Teacher1.txt
	School C - Teacher 2	P6:SchoolC-Teacher2.txt
	School A - Principal	P7:SchoolA-Principal.txt
	School B - Principal	P8:SchoolB-Principal.txt
	School C - Principal	P9:SchoolC-Principal.txt
	District - Official	P10:DistrictOfficer.txt
	Provincial – Official	P11:Province-FocusGroup.txt

Appendix B14

Exemplar of schedule of visits for observations, interviews and other data collection

Number codes in grid indicates time-tabling day for the particular school

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	(04/05/2009)	05/05/2009	06/05/2009	07/05/2009	08/05/2009
Arcadia Primary	(5)	Interview Jelly (6)	Interview Jones (1)	Observe Jelly (2)	Observ Jones (3)
Cornwall Hill					Interview Concet
Jakaranda Primary					
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday



	11/05/2009	12/05/2009	13/05/2009	14/05/2009	15/05/2009
Arcadia Primary	4	5	6	1	2 Observation
Cornwall Hill		Observation	Observation		
Jakaranda Primary				Observation	Interview Principal
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	18/05/2009	19/05/2009	20/05/2009	21/05/2009	22/05/2009
Arcadia Primary	3 Interview Principal	4	5 Observation	6	1
Cornwall Hill		Observation		Observation	
Jakaranda Primary				Observation	Observation
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	25/05/2009	26/05/2009	27/05/2009	28/05/2009	29/05/2009
Arcadia Primary	2	3	4	5	6
Cornwall Hill					
Jakaranda Primary	Interview Principal				
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	01/06/2009	02/06/2009	03/06/2009	04/06/2009	05/06/2009
Arcadia Primary	1	2	3	4	5
Cornwall Hill					
Jakaranda Primary					
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	08/06/2009	09/06/2009	10/06/2009	11/06/2009	12/06/2009
Arcadia Primary	6	1	2	3	4
Cornwall Hill					
Jakaranda Primary					
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	15/06/2009	16/06/2009	17/06/2009	18/06/2009	19/06/2009
Arcadia Primary	5		6	1	2
Cornwall Hill					
Jakaranda Primary					
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	22/06/2009	23/06/2009	24/06/2009	25/06/2009	26/06/2009
Arcadia Primary	3	4	5	6	1
Cornwall Hill		Observation -			
Jakaranda Primary				Observation- Neo	Observation - Peter

Appendix B15

The screenshot displays three overlapping windows from a data analysis software:

- Codes Window:** Lists several codes with their corresponding counts:
 - ICT to improve computer literacy skills {9-0}
 - ICT to improve curriculum delivery {97-0}
 - Importance of a teacher in an ICT environment {2-0}
 - Improved learner participation {67-0}
- Quotations Window:** Shows a list of text excerpts with their source locations:
 - 1:1 because really teaching is a w.. (28:29)
 - 1:2 So things didn't work well and.. (79:81)
 - 1:3 Interviewer; the training that.. (101:103)
 - 1:4 Those were basics for me. The .. (106:107)
 - The additional things were exc.. (109:114)
 - If you wer...
 - Yes, that
 - excited] c
 - Because
 - With us
 - o for us t
 - And if dc
 - So it will
 - well first
 - And to b
 - The opp
- Memos Window:** Lists various memos with their counts:
 - Capacity to change teachers behaviour to implement policy {0/Co} - Super
 - Collaborative learning includes: (a) Learner-learner (b) learner-teacher (c) sam
 - Connectedness includes: (a) teacher-learner (b) teacher-teacher (c) teacher-s
 - Consider learners' exposure to modern technology {0/Co-F} - Super
 - Curriculum delivery includes assessment methods {0/Co-F} - Super
 - Multiple learning styles is the family group for slow and advanced learners. C.



Hermeneutic Unit - Phd

The screenshot displays the PHd_1 software interface. The main window shows a transcript of an interview with line numbers 0125 to 0156. The transcript includes dialogue between an interviewer and a teacher (Teacher 1) discussing the use of ICT in the classroom. A specific segment of the transcript is highlighted in blue, starting at line 0140: "Because the trend in the world now with electronics is actually goes without saying we must use it, or fall behind of the speed of how, the speed of information move around the world. It's a tool, it's a life tool and all our other gadgets at home or in the car is electronic is electrolysed, so you know it is inevitable that we should teach and use electronics in the".

On the right side of the interface, there is a coding scheme or legend. It lists several categories with corresponding brackets indicating their application to the transcript:

- Teacher Innovation (lines 0126-0133)
- Socio-cultural/Life Skill (lines 0140-0144)
- Socio-cultural/Life Skill (lines 0145-0149)
- New emerging pedagogy (lines 0149-0151)
- Teacher Innovation (lines 0151-0152)
- New emerging pedagogy (lines 0152-0154)
- Socio-cultural/Life Skill (lines 0154-0155)
- Teacher Professionalism+Trends (lines 0155-0156)

Appendix C

Journal Reflections C1

Selection of schools situational context

Reflection: 3.1

Context: Description of context - Selection of research sites

Based on my perception and experience of primary schools within educational district in which I taught and the fact that the provincial government has been active in the roll out of computer centres through the Gauteng-On-Line (GOL) project since 2004, I assumed that obtaining information-rich township school, that satisfied the selection criteria as a research site would be fairly easy and uncomplicated. According to my sampling criteria, all I required was at least one township school that was using ICT to teach any of the learning area(s). For my first research site, I sought to identify a public township school within the Tshwane³³ South education district. The Tshwane South district consists of 229 (primary and secondary) schools, of which 175 are public schools and 54 independent schools (DoE, 2009).

Selection of research sites

Reflection: 3.2

Context: Description of context: Selection of sites

The other district office leads took me to schools in Atteridgeville³⁴. I visited a school named 'Seaparankwe' which was in the heart of this suburb. Prior to my visit, I contacted the school telephonically, and requested to speak to the principal. I made some simple enquiries about the manner in which ICT was used in the school. The principal informed me that they use ICT for their teaching and learning. On my visit to the school, I was introduced to the 'ICT' teacher, who invited me into his office. I began to discuss the possibility of conducting research with him and explained the criteria for selection. He informed me that at one time they used ICT to teach, however due to the numerous technical problems with the GOL laboratories teachers often had to shelve their lessons. The constant problem with their dysfunctional computer centre made them to abandon any effort to use ICT in their pedagogical practice. The computer centre in now only used for computer literacy. Dismayed but still determined, I requested this school to refer me to other schools that they may know of, that uses computers to teach the official curriculum.

The school referred me to a neighbouring school in the same suburb. At JJ de Jong primary school, I met a colleague who was an ex-district officer, but was now the deputy principal of this school. We shared some information about our careers and then discussed the research project. In this school, computers were used exclusively for developing computer literacy skills. The 'teacher' that was

³³ Tshwane is the name of a municipal district in the province of Gauteng. The province is divided into seven educational districts, of which Tshwane South is an educational district.

³⁴ Atteridgeville is a predominantly black suburb in the western region of the municipality of Tshwane

employed to teach was not professionally qualified, but rather a student that had computer literacy experience. The computer centre was originally donated by a private company 'IBM' prior to their exit from South Africa during the pre-democracy era. The school desperately sought my assistance in a number of issues that they have to overcome in order to use ICT in their curriculum. I could empathize with their concerns but reluctantly had to exclude this school from being a possible research site.

Selection of research sites

Reflection:3.3

Context: Description of context: Selection of sites

I decided to follow a more progressive approach to identify township schools that satisfied my selection criteria. I enlisted the assistance of the co-ordinator of the University of Pretoria's outreach programme at one of the university's satellite campuses. This unit within the university has close links with schools in its endeavour to assist with ICT curriculum support and accessibility of ICT to schools. However, most of these outreach schools are secondary schools using ICT to teach Computer Assisted Technology (CAT). Further leads from the outreach unit led me to primary schools that use ICT only to teach computer literacy, it is not integrated into the school curricula programme. I became concerned that suitable sites for inclusion in the sample may be few and far between. This time I sought to access the teaching experience of students from the Post Graduate Certificate in Education (PGCE) and Bachelor of Education-Honours (Bed-Hon) programmes, these students in the field as pre-service students and in-service teachers respectively. I used the opportunity to discuss my sampling criteria with these students during my lecture sessions, or requested time to do so from other lecturers. An teacher in the BEd(Hons) programme informed me of his school in the town of Eersterust³⁵, that was using ICT to teach the curriculum. This school as Stake (1995, p. 3) indicates that sometimes selecting a case that adheres to sampling criteria, turns out "to be no 'choice' at all", I was obligated to take this school. I made several visits to the school to meet with the principal of the school. However, each time the principal was away on departmental issues of textbook procurement, unpaid salaries of teachers and the like. However the deputy principal met with me and steered me in the direction of the Head of Department responsible for Information Technology at the school. Thus school A ultimately became my sample representing the township public primary school. I purposefully elaborated on the complexity of identifying a township public school as a research site, to emphasize the fact that many schools though resourced with computers (either through their own means or through government initiatives, or both) were not using ICT in their teaching practice. .

³⁵ Eersterust is a township in the eastern part of the municipality of Tshwane. It is a township that was demarcated for 'coloured' people during the apartheid era.

Selection of research sites

Reflection: 3.4

Context: Description of context: Selection of sites

As a matter of importance I need to clarify that I grouped public schools in ‘Black’, ‘Coloured’ and ‘Indian’ communities as schools designated by government as *previously disadvantaged*. So my focus was to obtain a school from this category as a sample. However, not one of the public primary schools in the Indian township of Laudium³⁶ was using ICT to teach the national curriculum policy. In fact, many of these schools employed people that were not professionally qualified as teachers, to teach ICT as computer literacy. Furthermore, in these schools ICT is viewed as a separate entity and not incorporated into mainstream teaching and learning.

Appendix C

Journal reflection C2

Selection of school A

Reflection: 3.5

Context: Identification of a township school

Research Site A – Township school

First, I resorted to telephonic communication with schools, requesting to speak directly to the principal. I introduced myself and explained the research project, informing them that the research was sanctioned by the Department of Education. The sequence of questions I posed to them was “does your school have computers?”, “do your teachers use the ICT to teach their children?” and “In which learning areas do your teachers use the ICT?”. Once I had a positive feedback on these three questions I would follow-up and request an interview to discuss and produce the relevant documentation of the project more in detail. Almost all township schools that I contacted indicated that they have computers and they use ICT for teaching and learning. However, when I probed to enquire in which learning areas it was used the response was “we use the computers to teach children how to type” or “we use the computers to teach children how to spell.” I then attempted to identify possible sites for the research from my own knowledge of the demographics of schools and through liaising with a senior official (Institution Development School Officer - IDSO) in the education district, who gave me some school leads. Having access to this resource list of possible schools I decided to change my strategy and personally visit these schools. Though personal school visits gave me contextual information, all possible township school research sites did not pan out, through this method.

³⁶ Laudium is a township in the Western region of the municipality of Tshwane. It is a township that was demarcated for ‘indian’ people during the apartheid era.

Appendix C

Journal reflection C3

Selection of research sites

Context: Selection of school B – A former model ‘C’ school

As indicated above my contact with preservice students in the PGCE programme, afforded me an opportunity to access schools that were service through the university-school mentorship programme. During one of my lectures I requested my students to refer me to schools according to their teaching practice experience that satisfied the selection criteria. I was overwhelmed with the response, that there were many schools using ICT to teach the curriculum, I was spoilt for choice. Students readily listed a host of schools where they had personal experience and were impressed with the school’s use of ICT in teaching and learning.

Confident that most of these schools would satisfy the sampling criteria, and being classed as a former ‘C’ schools, I sent out a number of e-mails to schools that were suggested by my students. In the e-mail I formally introduced myself, briefly explained the essence of nature of the research and requested an appointment. From my own experience as a principal, I preferred face-to-face information sessions about any proposed research that was to be conducted at my school. It was my intention to pursue all positive leads, until a school that satisfied all or most of the sampling criteria were identified. While most schools responded positively to my request for an appointment, the need to follow through with all was not necessary. A school situated in Pretoria, within close proximity to the university was the first to invite me to the school. I had a casual meeting and informative meeting with the principal, who was delighted to have his school as a research site for my project. After I gave him my lay summary (Glesne, 2006), formal official documentation and a detail analysis of my expectations from the school, he approved in principal to the research immediately. In my discussion with the principal regarding ethical issues of confidentiality and anonymity, the principal was adamant that his school is trying their best and he does not mind the school to be mentioned by name. The principal immediately introduced me to the deputy principal who was responsible for ICT in teaching and learning. The school satisfied my sampling criteria and was subsequently selected as a research site for the study.

Appendix C

Journal reflection C4

Selection of research sites

Context: Selection of school C – An independent school

I was tempted to pursue an independent school within the suburb that I taught in, as this would be convenient sampling. However, my experience with the pilot study averted my focus from these schools. Furthermore, most of the independent schools in Laudium are structured along religious principles and this would create extraneous issues and complicate the study.

Three possible independent schools were the object of my sampling criteria. I sent out e-mails to the independent schools, two of which are conveniently within close proximity to the university, once again following formal communication protocols. One of the schools, an independent school for girls, replied to my e-mail stating “The Head asked me to reply to you to say that, as an independent school, we are not affected in any way by education policy on ICT to influence teaching.” I followed up with the second independent school, with several telephone calls, and then finally a forced visit. The personal assistant to the principal met with me, I discussed the research study and handed in all relevant substantiating documentation, and practically pleaded for an interview with the principal. She informed me that the school will contact me soon when they have made a decision and that was the last I heard from this independent school.

Context: Selection of research sites

Once again, I became concerned that I would not be able to gain access to a research site necessary for the rationale of selecting schools from diverse socio-cultural contexts. I decided to make use of contacts to help remove barriers to gaining access to a schools site (Lofland and Lofland, 1984; Devers and Frankel, 2000). A colleague, who was a teacher at an independent school, made contact with an teacher at the school where I intended to conduct my research. Although I communicated with this teacher (via e-mail), and established his confidence in participating in the study, ethically I did not meet with him until I established the proper bureaucratic protocol. The third independent school was located approximately 20km out of Pretoria, in a beautiful suburb of Irene. The newly appointed primary school principal responded to my e-mail and afforded me an opportunity to discuss the research study. At this meeting I presented my credentials, letter of introduction and other official documentation to support the lay summary. The meeting was very brief, but he indicated he will have to discuss the possibility of the research study with the relevant school authorities.

Three weeks later, I was given another appointment to present my proposed research study; I wondered what it was about my initial portfolio that was not clear. At the second meeting, I was met by the principal of the secondary school, the deputy principal, the information specialist teacher and a

representative of the School Governing Body. They ushered me into the staff room and since it was immediately at the end of the last teaching contact session, the staff room was filled with teachers. We sat around two sofas and I could sense the enthusiasm as I presented my research project. The occasional question and interesting comments in a somewhat active staffroom, made me feel that I was indeed being listened to. The principal immediately sanctioned the search project, stating that the school embraces research studies and affording opportunity to researchers. I was led off with the information technology teacher, who was incidentally also a Phd student, to be introduced to the teacher that (by consensus of the interview group) would be my unit of analysis at this site. It also happened to be the teacher I had been in communication with. Thus, the third research site was established according to the preset criteria and for maximum variation sampling.

Appendix C

Journal reflection C5

Context: Description of context: Selection of teachers 1-6

Selection of teachers at School A

At the first research site, this was a school in the suburb of Eersterust. As indicated earlier, I did not meet with the principal on the numerous scheduled appointments. Even though the principal granted me access to the school to conduct my research, I was not certain whether this was indeed a viable research site. Most of my initial communication was with the deputy principal. She identified the head of department as the person that would attend to all my research concerns, since he was the most computer literate teacher using ICT to teach some learning areas of the national curriculum. I had a detailed discussion with the head of department about my research. I briefed him on the purpose of my study and how I intended to involve an teacher and the principal. The head of department gave me a brief background of the context of ICT use in the school. He had identified himself as the main participant according to my requirements. During the time I spent with him, he indicated that another teacher was also using ICT to teach one of the curriculum learning areas. This teacher was a ‘technology’ teacher that used the interactive ‘white board’ in his classroom to teach technology, he taught children in grades 6 and 7 technology. The head of department for mathematics and sciences, taught children in grades 5 to 7 natural science, in the GOL computer centre with desktop PC’s.

I subsequently, requested if both of them would be willing to be interviewed and observed in their daily routine of teaching. My observation was that the technology teacher was reluctant to be part of the study, although he did not say this openly, he referred to me as an ‘inspekteur’³⁷ in his casual talks to other teachers in my presence. His utterance gave me an opportunity to allay his concerns about the

³⁷ ‘Inspekteur’ is an Afrikaans word for inspector. An ‘inspector’ in the pre-democratic days of apartheid was a term designated for district officials that came to school to check on Teacher’s performance. It is a term within education social circles as one that associated with being ‘policed.’

object of the research. After a very casual discussion I informed him that I was not here in my capacity to judge or appraise his teaching or request that they present special ‘unnatural lessons’, but merely to describe what is happening as I observe them in their natural milieu. Mr Peters, the technology teacher and Mr Neo the head of department agreed to become participants in the research study. I used the initial visit to establish channels of communication by sharing (telephone, cell phone and e-mail) details with the two teachers. This school scheduled its teaching cycle in-tandem with the days of the week. I also requested information about each of the teacher’s personal teaching roster, so that I could determine the exact scheduled times for future lesson observations. I was still perturbed that I did not have an introductory meeting with the principal, and requested the head of department liaise with me in establishing such a meeting. The channels of communication were open for negotiating the interview schedule with the two teachers and the principal. Thus at this research site, two teachers were identified as participants for the study.

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Context: Description of context: Selection of participants

Selection of teachers at School B

As indicated above the identification of the unit of analysis at the second school progressed much more easily. The deputy principal was immediately identified by the principal as the most suitable candidate. I was introduced to the deputy principal Mr Jelly, who was recently appointed to the school mainly because of his ICT expertise. On my next scheduled visit to the school, I planned the visit for after formal contact teaching time, I knew that he would be more relaxed and open to discussion. I spent approximately 40 minutes with Mr Jelly in a meeting about my planned method for data collection. Our discussion was not very formal as we strayed off into involved discussions about the world of ICT. It was easy to establish rapport with this teacher, simply because we had much common ICT learning (self taught) experiences. The discussion progressed to identifying the date and time for the interview and the scheduled class visits for observations. This school operated on a six-day school cycle, unlike school A, this meant that I had to keep track of school day according to the cycle and the actual date (see appendix A).

During my interview with Mr Jelly, our discussion led to the mentioned of another teacher at the school that was very enthusiastic about using ICT in her teaching. Although she is not assigned to the computer centre, she has become very involved with the use of ICT. She also recently won an award for using ICT in her teaching of mathematics. I was very keen to meet this teacher and he subsequently invited me to observe the ‘Apple-Macintosh’ ICT project that she was involved in. Mr Jelly introduced me to this teacher. This teacher, Ms Jones, had a very spirited and cheerful personality and we developed rapport almost instantaneously as she explained the project that the childrens engaged in at that moment. On further casual discussion with her and noting her enthusiasm in using ICT in her classroom to teach some learning areas, I requested if she would be willing to be a participant my

research study. Ms Jones had no reservations at all and she willingly agreed. Thus, I now had the two teachers that would culminate in my unit of analysis at this site.

I followed through with planning to schedule the principal interview and observing those lessons that she used ICT to teach the national curriculum. Both the deputy principal and Ms Jones had access to e-mail facilities, during and after official school hours. We shared contact details to open and facilitate channels of communication.

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Context: Description of context: Selection of participants

Selection of teachers at School C

At the independent school, I was formally introduced to the head Teacher for ICT in the primary school phase (although I had communicated with him via e-mail), immediately after my appointment with the interview committee. Our introduction was very brief, as he was to report for duty for an extra-curricular event. We were officially introduced by the Information Technology head of the secondary school and we shared cell phone contact details and I was given an appointment to see him the next day after school hours. The next day I arrived at the school 10 minutes earlier than the scheduled time but unlike the public schools, I was not allowed to go to his class or office but was made to wait in the visitor's lounge while the secretary contacted him. Mr Concet arrived a few minutes late and I introduced myself and the research study to him. I also gave him another copy of the lay format information and supporting documentation.

By this time he was well aware of the focus of the research and clinically mapped the way forward, without much prompting from me. Mr Concet taught mainly Afrikaans to grades 5 and 6. At this school grade 7 was lodged in the secondary school division. His major concern was how many lessons do I need to observe, this made me sense that he felt that he should satisfy my lesson observations needs as quick as possible. My response to him was that it is difficult to assess. I also informed him that I would like to understand the contextual issues at play and that the data gleaned from my lesson observations may be saturated after 2 lessons or after 10 lessons. This implied that I could not commit to a fixed number of observations, except that I would like to capture as much lesson observations as possible over at least two consecutive school terms. His question raised uncomfortable thoughts that suggested to that my research should be 'quick and dirty.' Mr Concet suggested we meet an hour before school starts to conduct the interview. We remained in constant communication with each other through cell phone short message services (sms).

On one of my visits for classroom observations at the school I was introduced to another teacher, during the tea break in the staff room. This young mathematics teacher spontaneously invited me to observe a lesson of his. His impulsive decision made me realize that the use of ICT in teaching and learning at this independent school was the norm and not the exception. During and after the lesson

observation, we had an interesting discussion of the use of ICT in teaching and learning. The report with particular teacher was so open and sincere that I requested for him to be a participant in this research study. Mr Humby agreed and subsequently became the second candidate at this independent school. I hasten to add that most teachers at this school have made the transition to using ICT to teach the national curriculum, but my limited time and resources would not afford me the opportunity to interview and observe all teachers at this school. Suffice to say that with the inclusion of Mr Humby, I now had two teachers at each this school as voluntary participants in this research study.

Appendix C

Journal reflection C6

Context: Description of context: Selection of principals 1-3

Selection of Principals at School A, B and C

The main research question sought to identify how teachers appropriate education policy on ICT in their teaching repertoire. As indicated above purposeful sampling was stringently applied in this context to illuminate information rich sites and principal participants (Patton, 1990). Having accomplished the site and teacher participants, I turned my attention to identify the principals at each research site. This process of including the principal as a participant is an essential part of the data gathering according to Elmore's (1980, p. 604) backward mapping approach which states that "having established a relatively precise target [teachers] at the lowest level of the system, the analysis backs up through the structure of implementing agencies."

Typically at all public schools there is only one principal assigned to the school, even if the school is classified as being comprehensive (incorporating grade one to grade twelve). Thus at school A and school B the respective principals were selected by obvious consequent of the selection of the research sites. At school A, the principal was in his late fifties, designated as a 'coloured' according to population statistics. Mr Norton spoke in English but occasionally switched to a bit of Afrikaans whenever he could not find the appropriate English word. His office was constructed of prefabricated asbestos panels, as was most of the school (the building structure format for most schools of disadvantaged schools during the apartheid era). Mr Norton office was small and the paperwork on his desk filled almost every small space, the walls in his office displayed many unframed certificates, awards and photographs. He is resident in the same suburb as the school. His approach was very casual yet firm with his teachers.

At school B, the principal was in his mid-fifties, very neatly attired and very disciplined. His office was isolated from the main school, with his own private garden. Mr John's office was spick and span, with a place for everything and everything in its place. His table was uncluttered with one or two paperwork items and his lap top computer on his right hand side. A small corner with sofas was decorated for creating with a more casual atmosphere. On either side of the board behind his table were the national flag of South Africa and the school flag. In the centre of this display was a large frame that housed the

school blazer. On the wooden coat stand his graduation cloak hung immaculately. John is classified as a ‘white’ male by our race classification.

At the independent school, however, and in this case there was more than one principal even though they exist within the same building. The principal of the primary school being a newly appointed person referred me to interview the previous acting principal, since he felt that the acting principal would be more au fait with the existing school policies. In this case the acting principal was selected as a participant sample. Mr Williams is a ‘white’ male in his late 40’s. He was very officious in his presentation, but extremely casual in his approach. His office desk had been cleared and devoid of any sign of paperwork.

Appendix C

Journal reflection C7

Context: Selection of district and province officials

The policy implementing agencies beyond the school boundaries within the South African school context are the local educational districts and higher up the hierarchy is the provincial educational department. In an attempt to foster thoroughness, the sub-questions in this study are equally important in trying to establish the ability of the hierarchical unit (district and province) within the education system to affect the behaviour of the teacher that is the target of the policy. The selection of a district and province officials as secondary participants was more evident due to the hierarchy that exist within the educational system. Each of the nine provinces has a central education department comprising of various directorates. The province is further sub-divided into education districts (according to geographical-municipal demarcation and boundaries), headed by a district director. Within the districts are various units such as curriculum delivery, learning and teaching support materials, labour, IDSO’s, education learning area specialist and E-learning units. Only one person heads the E-learning unit at both district-level and at provincial-level (director) respectively, these persons will be sought to constitute the unit of analysis beyond the school based research sites.

Appendix C

Journal Reflection – C8

Context: Pilot study reflections

Ref: 3.4

I transcribed the digital interviews from the pilot study, and sent it for comment to my supervisor. The findings from the pilot study made me feel very uncertain for a number of reasons. First, although the teachers responded to my questions very openly and honest, the teachers used the opportunity to use me a ‘sounding board’ for their general grievances about their real experiences and frustrations with regard to ICT use in the school. Issues such as the lack of training, denial by management to use the

computer centre, lack of software and numerous other issues surfaced. I wondered ‘Is this a worthwhile study?’ In discussion with my supervisor a number of issues regarding the transcripts were discussed. A number of possibilities emerged: First the results suggested that teachers may not be aware of policy, second that teachers were aware of policy but were not implementing it. Third, the possibility that policy was not enforced by principals. And, fourth my supervisor suggested that maybe my approach to questioning may not be correct. This was very disturbing, but was evident from the yes/no answers and not probing further.

Appendix C

Journal Reflection – C9

Context: Observational sheet structure

Ref: 3.8

My classroom experiences in all three schools were rewarding and exciting. Teachers were very accommodating and keen to use ICT in the teaching-learning environment. Though difficult initially to be able to capture video, photographs and resort to taking field notes I gradually learned how to become effective at all three. Teachers, often would engage in conversation with me during the lesson (while learners were pre-occupied with work). The pre-designed observational sheets assisted in focussing on particular aspects of the lesson. In my field notes journal I made focussed observations of: Grade, Topic, duration, time and lesson progression; the use of technology; its effectiveness and learner involvement. Technical glitches and backup plans, ICT soft skills and curriculum delivery.

Appendix C

Journal Reflection – C10

Context: Use of digital technology

My experience with technology has made me very comfortable and reliant on ICT as a tool to organise myself. I also understand the risk with working with technology, and in this regard tend to be overcautious in encountering specific problems. With regard to my study, I am a traditionally a ‘technology junky’ and could not imagine doing research on ICT without using technology affordances such as a digital voice recorder: Also, I prefer to keep eye contact with the interviewee to show that I am interested in what s/he says: Thirdly, I do not write fast enough to be able to transcribe and make notes of the participant’s body language as well.

Appendix C

Journal Reflection – C11

Context: School B -Teacher 1: Extract from interview

One of the most challenging aspects of my field-based research was to gain the confidence of teachers that came aboard as participants. In the independent school and the former model C school, gaining entry was facilitated by the principals enthusiasm to be part of this study. However, in previously disadvantaged schools there has always been a history of teachers' disapproval of classroom visits, by management and principals. Evidently teachers in the township school, were wary of my intentions even though they were reassured of ethical issues. One teacher at the township school was very nervous in the initial interview, This is evident as one of my participants indicated "you know Mr Vandeyar, I am not very good at interviews." I gathered that he felt that the purpose of the interview was to determine correct or incorrect responses from him. I informed him that there is no right or wrong answers, but he constantly enquired whether his response was adequate. Gradually, over time I met him before his scheduled lessons, or between lessons and he eventually opened up and spoke freely about his concerns.

Appendix C

Journal Reflection – C12

Ref:3.7

Context: Reflection on recording

During one of my initial visits to a school I lost valuable data in the form of narratives of teachers in their informal discussions with me, my reflection of these spontaneous discussions could not capture the exact words of the participants. In order not to make the same mistake again, I attempted to make effective use of my reflective journal or voice record the information. Immediately on leaving the research site, I would sit in my car, reflect on the teachers comments and would make notes capturing key ideas to recapitulate as formal field notes.

Appendix C

Journal Reflection – C13

Reflection:

Context: Personal reflections as researcher - Autobiographical reflections of personal role in the study

From 1981 to 2006, I initially served as a teacher, mainly teaching children mathematics at the senior secondary phase. From the mid-1980's I developed a passion for using computers to teach and facilitate my administrative duties, by being placed as a computer literacy teacher without any formal training. I travelled the journey in education rising through all the hierarchy ranks at school level. During the mid-ninety's I lectured to in-service students at a college of education on the use of computers for administrative purposes. The last ten years school experience as a principal, I had the joy of teaching the curriculum to children using ICT. At this point I declare my bias in this research study and my behaviour to the participants may reveal implicitly or explicitly my passion for teaching and using ICT in teaching and learning. As a lecturer in computer integrated education, I had particular opinions about what teaching should be like in an ICT enabled environment. I was inquisitive to see how teachers use ICT in practice (Malterud, 2001). After leaving teaching for a period of three years, I assumed that all schools especially within the Tshwane province would be well adapted to the use of ICT, particularly to teach the curriculum.

An important role as a doctoral student researcher was to demonstrate independent research ability. Numerous tasks of data collection and data analysis were hence done as a sole researcher in this study. In this regard I was responsible for numerous activities as a researcher, from the design of all data collection instruments to the process of software coding and the analysis of the data. The period of research was punctuated with support from my supervisors as and when the need arose, particularly when I was concerned whether this was a 'worthwhile' study and to discuss the findings of the pilot study and the questions used in the interview protocol. The lack of collaboration or participation of multiple researchers places this study as idiosyncratic and my bias as central in the analysis and interpretation of the data.

I also remain constantly aware of my contribution to the construction of meaning throughout the research process, and acknowledge that I cannot remain 'outside my research study' while conducting research. Through personal reflexivity I take cognisance of that my own values, experience as a teacher, social identity, interest (in ICT) and belief systems (as a social constructivist) may shape the research. However, as one engages in the research study, I had to consider how the research may have affected and possibly change me (epistemological reflexivity), to reflect on my assumptions (and knowledge) that I construct in the course of the research. It is through an awareness of this reflexivity

that I enter the research arena as a contributor to the construction of meaning throughout the research process.

Finally, I turn to the work of Lincoln and Guba (1985), in which they suggests that a researcher must develop a skill appropriate as an instrument through which data will be collected. Although the data was processed using software tools, it remains the researcher's perceptive skill and prerogative to induce data analysis. I also draw on my personal experiences, my professional experiences and professional literature, to demonstrate those characteristics expected of a researcher in exercising theoretical sensitivity in the qualitative inquiry process. To reduce what Hoepfl (1997) calls 'observer status distortions', I attempted to clear my mind of comparative subjectivity as I moved between the research sites of extreme socio-cultural and socio-economic disparities. I will also ensure that vivid observations do not take precedence over the pallid observations by taking all observations within the context in which they occur (Hardy & Bryman, 2006).

Appendix C

Journal Reflection – C14

Reflection:

Context: Selection of schools – Padisago primary school

I became desperate and now tried to access at least one township school that was using ICT to teach the curriculum. Subsequently, I requested the help of the local district office (Tshwane South District) E-learning facilitator, who I thought will give me more fruitful referrals to schools that satisfied my sampling criteria. In this instance case I was referred to two township schools. One such school was Padisago primary school which is situated in the township of Soshanguve , approximately 40km from Pretoria. The school is thriving amidst the obvious poverty of its surroundings. The deputy principal met with me, and I gave him a copy of my lay summary (see addendum A). I was impressed with the school, from the moment I entered the gate, the school had made a conscious effort to rise above the poverty conditions that was just outside its gates. Through a lengthy discussion with the deputy principal, he agreed in principle for me to conduct my research, however one of their computer centres was being re-arranged and the GOL computer centre not yet functional. The deputy principal, in his enthusiasm to assist me in my research, requested that I prepare the curriculum lessons for ICT and he will get his teachers to deliver the actual lessons which I can then observe. I informed him that it is my intention to observe the way ICT is integration in the curriculum in its natural process and not through my facilitation or influence. He agreed to contact me when the computer centres would be functional, and that was the last I saw or heard of this school.

Appendix D1

Field note: Observational Sheet (Exemplar)

Context: School A- Teacher 1

UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule				File Reference	Video file reference	
Descriptive observation						
Eliminate preconceptions and note detailed descriptions of everything that was taking place						
Participant	Teacher 1	ICT equipment	PCs with internet connectivity	Date		Duration 35min
School	School A		Teacher PC	Grade	6	Phase
Learning area	General Science	Topic	Phases of matter			
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)						
Observations/ Field Notes		Special/ Pedagogic Or Best Practice	Time	Soft skills for curriculum delivery		Policy Implementation: Policy Reference
Students were briefly introduced to lesson objectives. Students were allowed to work in groups due to access limitations. Students had to research		Student occupied teachers' chair and used teachers' computer to demonstrate to class on molecular model of solid Used word to draw	5 (introduction)	Windows; Word		ICT skills
			15-20 Research	Encarta		Pedagogic application
			10 Report back	Internet search		
			5 Student explanation			
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)						
Gauteng Online infrastructure. More than forty students allocated to 25 PC's. Classroom seemed crowded and not designed for effective use of ICT. Learners were crammed together and could not effectively use desk space effectively. A plasma screen is linked to teacher's PC. Teacher exercised good discipline and control.						

Appendix D2

Field note: Observational Sheet (Exemplar)

Context: School A- Teacher 2 UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule				File Reference	Video file reference	
Descriptive observation						
Eliminate preconceptions and note detailed descriptions of everything that was taking place						
Participant	Teacher 2	ICT equipment	Interactive smart board	Date		Duration 35min
School	School A		Teacher PC	Grade	6	Phase
Learning area	General Science	Topic	Motors and machines			
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)						
Observations/ Field Notes		Special/ Pedagogic Or Best Practice	Time	Soft skills for curriculum delivery	Policy Implementation: Policy Reference	
Teacher driven lesson; workings of the motor, discussion of rubric for assessment of project. Teacher displayed format rubric and class developed rubric with teacher. Worksheet for field excursion discussed with learners		Use of simulation: graphic + sound, animations to bring to life workings of a motor . Learners called to smart board to white board	5 (introduction previous work)	Windows; Word	ICT skills	
			15 minutes explanation		Pedagogic application	
			10 learner activity		Recording of assessments	
			5 conclusion			
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)						
Room converted to accommodate use of smartboard. Learners desk arranged perpendicular to board. Many chairs and table were broken or not of consistent type (stools, chairs, padded teacher chairs etc). Sunlight protruding through windows did not optimise classroom for smartboard use.						

Appendix D3

Field note: Observational Sheet (Exemplar)

Context: School B- Teacher 1 UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule						File Reference	Video file reference	
Descriptive observation								
Eliminate preconceptions and note detailed descriptions of everything that was taking place								
Participant	Teacher 1	ICT equipment	student PC's	Date		Duration	40min	
School	School B		Data projector	Grade	5	Phase	Intersen	
Learning area	Life Orientation	Topic	Religion					
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)								
Observations/ Field Notes		Special/ Pedagogic Or Best Practice	Time	Soft skills for curriculum delivery		Policy Implementation: Policy Reference		
Students were introduced to the curriculum-based software and were led (very effectively to the require research work). Students had to select a reading passage (with graphics illustration) related to a particular religion (not of their own). They had to read, summarise and develop a word presentation.			Introduction 5 minutes (teacher display)	Windows		ICT skills		
			5-25 student independent work.	Word		Pedagogic application		
				Access to curriculum resources on network				
			5 conclusion – written work					
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)								
This computer centre is situated below the stage floor. The computer centre was developed by the school, and existing infrastructure was used to accommodate a computer centre. A teacher's computer is situated alongside students' PC's but the teacher's work is projected onto a screen. Each student has his/her own computer and is allowed to personalise the desktop.								

Appendix D4

Field note: Observational Sheet (Exemplar)

Context: School B - Teacher 2

UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule						File Reference	Video file reference	
Descriptive observation								
Eliminate preconceptions and note detailed descriptions of everything that was taking place								
Participant	Teacher 2	ICT equipment	Data projector	Date		Duration	40min	
School	School B		Teacher Laptop	Grade	5	Phase	Intersen	
Learning area	Mathematics	Topic	Fractions – Assessment					
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)								
Observations/ Field Notes		Special/ Pedagogic Or Best Practice		Time		Soft skills for curriculum delivery		Policy Implementation: Policy Reference
Teacher initiated lesson on chalkboard then switched to present lesson from laptop with brief revision of fractions. Learner were issued with test and PowerPoint presentation was designed with sound and music, with a clock. Learners had to complete entire test according to the PowerPoint timed presentation of sound: bomb explosions, clock and music.		Use of Powerpoint animation with music and graphics of popular international singer (EMENEM) to seemingly counting down. Music inserts encouraged learners to almost sing and dance to tune.		5 min (Brief revision of fractions) – chalkboard		Windows		ICT skills
				5-10 min. Teacher switched to powerpoint presentation to explain fractions.		Powerpoint + animations + music		Pedagogic application
				learners involved in 3-D puzzle construction				
				5 conclusion – written work				
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)								
Classroom layout very conventional – All learners faced the chalkboard/screen. Teacher positioned herself in a learners desk in centre of class. Desk arranged in three columns (±10 learners per column). Classroom environment conducive to teaching and learning. Teacher had minimal effort in controlling discipline.								

Appendix D5

Field note: Observational Sheet (Exemplar)

Context: School C - Teacher 1 UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule					File Reference	Video file reference	
Descriptive observation							
Eliminate preconceptions and note detailed descriptions of everything that was taking place							
Participant	Teacher 1	ICT equipment	Interactive smartboard data projector	Date		Duration	40min
School	School C		Teacher Laptop	Grade	7	Phase	Intersen
Learning area	Afrikaans	Topic	Project on the Hospital				
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)							
Observations/ Field Notes		Special/ Pedagogic Or Best Practice	Time	Soft skills for curriculum delivery		Policy Implementation: Policy Reference	
<p>Teacher introduced topic again, revised the task outputs. Discussion about hospital experiences. Teacher created an online survey, using the results to create a spreadsheet, which was use in powerpoint to create a graphs</p> <p>Teacher allowed for students to use their own initiative and students not compelled to use ICT. See Document analysis of learner outputs in respect to this activity</p>		<p>Teacher created his own website with: Reading material (newspaper articles); access to his holiday photographs; project assignment details. Allowed</p>	10 min (Brief revision of project) – chalkboard	Windows; Internet;		ICT skills	
			10-20. Teacher used internet to create an online survey in which students made input via their PC's to complete the survey.	Spreadsheet; PowerPoint;		Pedagogic application	
			10-minutes learner activity			Learners as researchers	
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)							
Lesson was delivered in the library resource centre. Students had access to the internet. Teacher demonstrated at smartboard, whilst students all had their own PC linked to teacher discussion. Realtime survey was done in class environment. Layout conducive to teaching and learning and groupwork.							

Appendix D6

Field note: Observational Sheet (Exemplar)

Context: School C - Teacher 2

UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule						File Reference	Video file reference	
Descriptive observation								
Eliminate preconceptions and note detailed descriptions of everything that was taking place								
Participant	Teacher 2	ICT equipment	Interactive smart board & projector	Date		Duration	40min	
School	School C		Teacher PC	Grade	5	Phase	Intersen	
Learning area	Mathematics	Topic	Multiplication					
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)								
Observations/ Field Notes		Special/ Pedagogic Or Best Practice	Time	Soft skills for curriculum delivery	Policy Implementation: Policy Reference			
Although the planned lesson did not load teacher immediately switched seamlessly to alternative lesson. Learner driven lesson – learners were involved with various activities. Two learners were at the smart board competing with each other and against their own clocks for speed and accuracy. All other learners were given coloured coded 3-D cubes to construct and deconstruct. The classroom was abuzz with activity. Some students were identified for individual drill and practice at the smartboard. Last 5-10 minutes learner completed their written task		Use of game for drill and practice. Learner called to smart board to co-ordinate dimensions of smart board. Learners very adept and comfortable with use of technology.	5 min (planned lesson failed to load from teacher PC)	Windows	ICT skills			
			5-25 min. Teacher switched to use of games in teaching multiplication		Pedagogic application			
			learners involved in 3-D puzzle construction					
			5 conclusion – written work					
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)								
Classroom layout very conventional – All learners faced the chalkboard/smartboard. Desk arranged in three columns (8 learners per column) Classroom environment conducive to teaching and learning. Teacher had minimal effort in controlling discipline, as lesson was learner-centred								

Appendix D7

Field note: Observational Sheet (Exemplar)

Context: School B - Teacher 2

UNSTRUCTURED OBSERVATION SHEETS

Lesson observational schedule				File Reference	Video file reference	
Descriptive observation						
Eliminate preconceptions and note detailed descriptions of everything that was taking place						
Participant	Teacher 2	ICT equipment	Laptops – Learners	Date		Duration 40min
School	School C		Digital Camera	Grade	7	Phase Intersen
Learning area	Apple Project	Topic	Project on the History of South Africa _ integrating Leraning areas			
Focussed observation (pedagogy, policy, learner involvement, ICT skills, time management and specific ICT use in the classroom.)						
Observations/ Field Notes		Special/ Pedagogic OrBest Practice	Time	Soft skills for curriculum delivery	Policy Implementation: Policy Reference	
This was a project based lesson. Learners were developing a movie based on South African history . Learners were grouped into 3-4 Leainers per group		Teacher provided all technical and software skills. Learners had to devised their own themes	This lessons was ongoing for the past 3- weeks	Windows; Internet;	ICT skills	
			Learners had to stay in after school hours and develop their project.	Spreadsheet; PowerPoint;	Digital Photography skils	
			10-minutes learner activity	Apple movie maker	Learners as researchers	
Selective Observation (Classroom layout, discipline, teacher control and classroom management issues.)						
Lesson was delivered in teachers classroom . Learners had access to digital camera and appropriate software. Teacher assisted with software technocal skills when required. All groups had their won lap tops supplied by Appel as a Appel-school project. Layout conducive to teaching and learning and groupwork.						



Appendix D8

Researcher participant diary									
Date	Learning area								
Topic					ICT Tools				
Reference to resource documents in planning									
Objectives in the use of ICT to enhance learning/teaching					Reflections of Lesson	Nature of support required in respect of ICT			
Reference	School:	A		B		C		Teacher	

Appendix D9

Informal Conversational Interviews

Context: (Post interview) School B – Teacher 2 – Assisting other teachers in the use of ICT

Jo: A teacher just asked me now, she doing food in English, so she wants to know, how can she “in show and tell”, she wanted to know what can she use in ICT to show the kids.

Interviewer: I think some of them have just got a gift, I know when it comes to powerpoint at times I have to ask my daughter or to help me out.

Jo: Yes, so I said go in to U-Tube type in “kids making food”, “kids, making salad”, there pops up a video, “now you cut the carrots, ...” [responds with the other teachers voice] – that’s exactly what I want...that’s exactly what I want. I said exactly, is’nt it wonderful to use the internet for learning, otherwise I must go and take a book and photocopy, it it going to improve the quality of their education, if she shows them that video, the quality of speeches she’s going to get, it going to be much higher. Because they gona know exactly what they must do. Now that they got the idea they can make a sandwich, a salad, an ice-cream banana split.

Interviewer: Is it a video that its been shown?

Jo: On U-Tube, she asked me what can I do to show them what they must do. Mostly its American. Kisd explain how to make a sandwich, “now you take your butter...” That’s exactly what I want them to do.

Interviewer: It’s ideal for show and tell

Jo: Another teacher asked for ancient Egypt, it’s a view of pyramids. I never been to Egypt.

Interviewer: To see it from different sides?

Jo: To go into the colosseum, an inside tour of the colosseum, How can we not improve our education? How can you tell them how it works?

Interviewer: Jo, if you have to tell me what’s lacking from the department in terms of supporting this type of teaching? You and Vanie seems to be the anchor in this school.

Jo: and Johan

Interviewer: Certainly this is what you would want?

Jo: Like I said I am frustrated because of resources. [Explains about hardware resources]because I will use it more. Give us training to teachers. Just basic, what is your topic. You type in your topic, and a suggestion they[district] give suggestions, you type in ancient Egypt and they send suggestions back. But resources mostly

Informal Conversational Interviews

Context: School A – Teacher 1 (Pre-lesson discussion)

Interviewer: I see exceptional people like you and John, and other schools that I have been to, they are using ICT to teach the curriculum.

Teacher 1: Yes, Yes. You must actually make it work. It takes time, it takes effort, it takes a lot of planning you know.

Interviewer: That is much of my concern. As much as you are putting in all that effort, on your own. I am trying to understand what more do teachers want. Is this sufficient? Are you happy with the lessons? Do you think there is more support you can get to improve, you talked about your content, to improve your teaching strategy in terms of your ICT skills, John spoke about training as well, you mentioned it as well, workshops?

Teacher1: But Mr Vandeyar, In terms of IQMS, On the School improvement plan (SIP), it is stated there that my need is IT and at this level, so the department knows, know exactly what my needs are.

Interviewer: In terms of ICT?

Teacher1: In terms of ICT itself and bringing in the curriculum you know. But Mr Vandeyar, I attend a lot of meetings [interrupts to call learners into classroom]. I attended a lot of e-learning, but no one talks about how the teacher must use ICT in the curriculum. No one!

Interviewer: Not even at district level? Are these district meetings?

Teacher1: They don't talk about it at all, they just say, "you must make use of ICT, make use of ICT, it stops there"

Interviewer: But you want specifics? Do you think they have the ability to show you how to do that?

Teacher1: No Mr..., I am being honest. I don't think they have the ability. Let me give you a scenario. I did a computer course, and most of the guys that did the course were from the department, and they actually had to help us.

Interviewer: I understand

Teacher1: But what I know and what they know, I am not trying to be funny. There won't be a possibility, they don't talk about these things, nothing.

Interviewer: So they come to these meetings and say you should be using ICT, but there no demonstration, they don't show a particular lesson?

Teacher1: Nothing, Nothing. They don't know how to do it, Mr Vandeyar, really. I actually want to invite the science (CES) Zelná and give a lesson, but I am actually afraid..

Interviewer: Why would that be the case?

Teacher1: Then she's going to use me. OK I will do it, but afterwards it's going to be.. I a lot I need to do I need to learn. Afterwards I will help, but at this moment, I need to develop myself to grow. I am doing things now but I don't know if it is right or wrong, so.

Interviewer: So you need to develop your level of confidence?

Teacher 1: Yes. Yes, yes

Appendix G

Data analysis phases for various data sources

