A PRACTICAL GUIDE TO
CLASSROOM RESEARCH

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CLIVE MILLAR

In memory of Donald McIntyre

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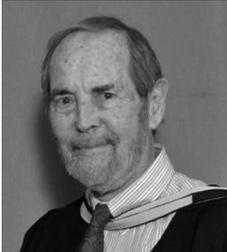
Clive Millar taught English at high schools in Cape Town and in rural Scotland. He became a lecturer at Aberdeen College of Education and at the University of Cape Town, Professor of Education at the University of Fort Hare, and Professor of Adult Education and Director of Extra-mural Studies at the University of Cape Town until his early retirement in 1998. His research on micro-teaching at the University of Stirling was supervised by Donald McIntyre, who became a lifelong friend. He was invited to introduce a course in classroom research at the Centre for Creative Education in Cape Town and has enjoyed doing this for the last ten years. He lives in deep retirement with his wife, Sheila, above the sea in Scarborough, the most south-westerly village in Africa. He is blessed with five grandchildren, all living close by.

Acknowledgements

When the idea for this book arose, I wrote the following letter to the students in my class of 2015:

Dear Research Students of 2015

When I introduced you to the mysteries of qualitative research at the beginning of 2015 I didn't know that you would be the last class I would teach at the Centre for Creative Education. I have, unfortunately, become too weak to tackle the task again this year though I am still able to supervise a few students.

Very recently, to fill an intellectual vacuum, I decided to explore writing a book, or rather a guidebook. This would be on qualitative classroom research, and it would draw on my experience of teaching and supervising research at CCE over the last ten years. I am glad to say that this book is slowly beginning to take shape.

I am writing to you to ask your permission to make use of some of the things you wrote on your research journeys and in your final research reports. They would be used as examples and illustrations in my text, and would hopefully add some vitality to the guidebook. I would acknowledge your contribution, of course, but ensure that any quotes from your work were anonymous or disguised by pseudonyms.

Please let me know if you would wish to help me in this way. Our collective research journey in 2015 was a particularly happy and successful one, and I would like to see it come to life again in this way.

Warm wishes
Prof

I wish to thank these students for giving their permission with such enthusiasm. I will be delighted if, through this guide, their work is able to reach a wider audience.

Foreword

Clive Millar has produced an exciting introductory course in classroom research and a tried and tested method for supervising the production of student research reports. The course and method have both emerged from the authority of his experience of some ten years of working to improve his own support for classroom research in the Centre for Creative Education in Cape Town. The book is published by Critical Publishing and it is the balance between the exercise of the creativity of individuals and being critical in beginning classroom research that provides the uniqueness of this text.

Clive Millar's hope is that you will use this book as an accessible and practical guide to the research process, both from beginning to end; and as a resource to dip into when you are faced with specific problems or queries. The excitement for me, in reading this text, is in both his conception of research – "*as a slowly developing investigation driven by a question that will lead to theoretical answers with practical implications* – that the novice researcher has to imagine and learn," and the pedagogical processes, with a supervisor, that can lead a beginning researcher to produce an accredited research report within four months.

> **Students were required to become writers from the first moment of the research module. The pressure to write was relentless. To begin with, what was written was examined, critiqued and improved in class. Then, after two weeks, all writing was submitted and critiqued by email with a 24 hour turn-around time. Research teacher became research supervisor. Though there were strict deadlines for each draft chapter students could send small sections for comment whenever they wished to. All supervision was by email. There were no meetings. All conversation was both *in* writing and *about* writing.**

If you are a student beginning your classroom research this book gives practical examples of how you can engage, as a group and individually, with a series of real tasks that are achievable within a relatively short time. The crucial advice is focused on your writing. It is vital for research that your systematic enquiry is made public so that it is open to validation, can contribute to the knowledge-base and enhance professionalism in education. The book shows how every small piece of your writing can and should be made public as a stage in the completion of the task of enabling your research report to become a reality.

If you are a supervisor of a beginner researcher the book shows how you can support a researcher to find their researcher voice. The book stresses the importance of forming an answerable question, with practical examples. It demonstrates how data can be gathered

through interviews, observation and conversation and analysed in terms of an answer to the research question.

Beginning researchers and supervisors are shown how research reports can be completed in three chapters:

> **Chapter 1 was a genuine research plan, written before immersion in the research site. Chapter 2 reported on the actual implementation of this research plan. And Chapter 3 reflected on the significance of the data reported on in Chapter 2. Each chapter was enabled by, and built on, the previous one. And each acknowledged and addressed the limitations of the previous one.**

The uniqueness and importance of this text is its evidence-base in demonstrating how a beginning researcher and a supervisor can work together to produce an accredited research report within four months. The book includes the criteria and marking scheme for the accreditation.

In a section on the integration of the introductory research module and school-based research we are provided with the evidence that shows how a two-week research module at the start of the final year flowed directly into school-based research. This module enabled students to write the first chapter of their research reports and submit this in draft form within a week after the module ended.

> **The second chapter was due three weeks later, and the final chapter two weeks after this. Further research classes were scheduled to support this process. This procedure enabled the research course to be relevant (in "real time") to each of the three stages students were going through in their research process – planning and design, data collection and organisation, and analysis and discussion. This form of concentration in time and integration of what had been separate components.**

Another strength of the text is the way it shows how beginning researchers can be encouraged to engage creatively and critically with the ideas of others in the generation of their own research accounts of answering their questions. The focus on the generation of research accounts serves to emphasize the importance of the beginning researchers as knowledge-creators. This had profound implications for a global movement to enhance professionalism in education. Clive Millar has drawn on his own embodied knowledge as a professional educator to produce a book that focuses on the bedrock of enhancing research-based professionalism in education. This is the bedrock of encouraging beginning researcher to engage in classroom research as knowledge creators who can explain their educational influences in their own learning and in the learning others and contribute their research accounts to the knowledge-base of education. I do hope that you enjoy the book as much as I have in reading it and writing this foreword.

Jack Whitehead
Visiting Professor in Education, University of Cumbria

Endorsements

There are many good texts for classroom-based researchers, but few that manage to distil the challenges and component parts of engaging in good research in the classroom with such lucidity. This is a book that is simple without being join-the-dots simplistic, and its parsimony will be attractive to teachers needing to integrate their research into the great workload of their daily practice and who don't have the time or headspace to engage in the rarefied debates in which the field abounds (and from which it benefits). That said, it is a feature of this book that it doesn't deny or ignore the infinite and inevitable messiness of social research. On the contrary, it positively revels in these, and uses real-life examples to illustrate salient elements of the research process. To cap it all, the author's command and love of language imbues this book with an admirable elegance and accessibility. It deserves to become the go-to book for early-career teacher-researchers.

Barry Hymer, Professor of Psychology in Education, University of Cumbria

Introduction

This book is both a guide to qualitative classroom research and an extended case study of how a particular group of college students conducted and successfully completed empirical investigations in several classrooms – because abstract advice needs to be backed up with the study of concrete examples.

The guide provides access to a real research journey by a small group of student researchers. It is a step-by-step account of how qualitative classroom research was carried out and completed over a four-month period. Each stage in the case study is followed by a statement of guidelines applicable to a range of similar investigations into classroom practice.

The focus of the guide is on crafting and writing a research report. I have used the term 'research report' in preference to 'dissertation' or 'thesis' because it is less pretentious, suggests a relatively brief document, and stresses the past-tense nature of the writing. This is a report on work that has been carried out.

The book began with an invitation ten years ago to introduce a research component into the final year of a four-year undergraduate teacher education programme at a small private college. I was given considerable freedom to develop, through trial and error, both an introductory course in classroom research and a method of supervising the production of student research reports. I have drawn on this experience in this guide.

If you are reading this you are probably a college, university or school-based student engaged in the study of education, at an advanced undergraduate or postgraduate level. You may be full-time or part-time, and you may be studying face-to-face or by distance learning, but your programme will probably require a formal research report or dissertation. You could also be a beginning teacher responding to the drive for greater evidence-based teaching in classrooms. Whatever your situation, you are likely to have a particular interest in classroom research – in investigating in some depth and detail what goes on in the real world of a particular classroom.

My hope is that you will use this book as an accessible and practical guide to the research process, from beginning to end; and as a resource to dip into when you are faced with specific problems or queries.

1   Becoming a researcher

How can I tell what I think till I see what I say?

E M Forster (1927, p 101)

BEGINNING WITH IMAGINATION

A research project begins in the imagination – imagining what research is, what a research report looks like and what it means to be a researcher. And students do not easily imagine themselves as researchers. Of all academic tasks, research is the most intimidating. It is often surrounded in mystique and seen as demanding and difficult. Can I do this? Will I succeed in writing a good research report? These are common questions in the first stages of the research process.

A week into their introductory course in research methods (a course that required students to begin writing their research plans from the first morning), I asked one of my classes to give a brief answer (anonymously) to the following question: *What have you learnt about yourself during the past few days?*

Their answers reflect considerable anxiety. Imagining oneself as a researcher is no easy task.

I struggle to move forward (or write) when I am uncertain. I worry about failing the task.

I lack concentration when I get too stressed and overthink or analyse too in depth.

I panic far too easily and worry when there is actually no need for worry because we are all in the same boat. Taking deep breaths helps! There is help if I need it but I hardly ever ask for it.

I have learnt that I am not nearly as willing to make mistakes and put myself (intellectually) out there as I thought I was.

I have learnt that I am quite concerned with appearing to be intelligent. I have felt a lot of pressure but now that I have recognised this I feel more relaxed and am better able to just be me without keeping up appearances.

> *The big fear I have about writing a research report is that I feel very uncertain and that when I am criticised it makes me lose confidence and I feel more uncertain than before. I cannot imagine submitting the final document.*

At the same time, however, positive strategies and attitudes are taking shape – ways of thinking about doing research and being a researcher. Students are talking themselves into the role of researcher; imagining what this may require of them. The process of becoming a researcher has begun. Students are saying to themselves, in very different ways, 'I can do this'.

> *I have learned that I can go beyond my limits and take on something that is totally foreign to me, if I put thought and much effort into it.*
>
> *I have learned that this work requires of me a "push" of intellectual and physical work within a specified time.*
>
> *I have learned that I have a strong sense of perseverance. I have realised I can trust the theory of 'it'll come' and 'sleep on it'.*
>
> *I have learned that I enjoy taking in people's thoughts and ideas. Pieces of a puzzle coming together that may or may not ever be finished.*
>
> *I have discovered that I am deeply passionate about writing and philosophising – it energises and inspires me in ways I never dreamed possible. I realise too – I tend to struggle following an idea or train of thought to its conclusion – am prone to confusion and emotional conflict and anxiety. But that's okay.*
>
> *I need to develop and 'exercise' my own imagination in order to be the teacher/researcher/writer I want to be. That I am more interested (for now) in researching teaching, than actually teaching… or maybe that I am uncomfortable with the often dissonant space between theory and practice.*

These students are taking key steps in imagining themselves as researchers; they are reflecting on their personal experience of beginning to think like researchers and imagining, too, what they might need to do in order to succeed in the task. They are also drawing some comfort from being part of a group of fellow travellers.

DIFFERENT CONCEPTIONS OF RESEARCH

False stereotypes of research

One of the problems faced by novice researchers is that they may have to unlearn intuitive and common-sense understandings of what research is. The first misleading idea is that research is about *collecting information*. Collecting information is part of research but not the central part. The second is that a research report is a kind of *essay*. Students are accustomed to essay and collection modes of writing and might easily assume that research involves simply the collection of information and its presentation in essay form.

What both these stereotypes miss is the key feature of research: that it is a process of systematic inquiry directed by a question that has no simple answer. It is this conception of research – *as a slowly developing investigation driven by a question that will lead to theoretical answers with practical implications* – that the novice researcher has to imagine and learn.

Quantitative and qualitative research traditions

Established approaches to research fall into two major traditions: quantitative and qualitative.

- *Quantitative research* rests on the measurement of variables and the search for relationships among variables using statistical procedures. It is the classic procedure of mainstream science. Its use is pervasive: in opinion polls, in drug trials, in comparing crop yields, in all the physical sciences. It includes large-scale surveys of various kinds as well as controlled experiments. The data generated reveals correlations between variables; and may in some cases clarify cause and effect. Findings are usually generalisable.
- *Qualitative research*, by contrast, is confined largely to the social sciences. It makes no attempt to define and quantify the factors or variables to be examined. Its approach is exploratory: it attempts to understand what is happening in natural situations, drawing on participants' intuitive understandings. Its main methods are observation and interview. The findings of qualitative research are not generalisable to other situations. This does not mean that they cannot provide insight into other situations.

The following comparative table produced by Xavier University Library (2012) puts the distinctions between these two traditions in clear and useful terms.

Table 1.1 Qualitative versus quantitative research: A comparative table (Xavier University Library, 2012).

Criteria	Qualitative research	Quantitative research
Purpose	To understand and interpret social interactions.	To test hypotheses, look at cause and effect, and make predictions.
Group studied	Smaller and not randomly selected.	Larger and randomly selected.
Variables	Study of the whole, not variables.	Specific variables studied.
Type of data collected	Words, images or objects.	Numbers and statistics.
Form of data collected	Qualitative data such as open-ended responses, interviews, participant observations, field notes and reflections.	Quantitative data based on precise measurements using structured and validated data collection instruments.
Type of data analysis	Identify patterns, features and themes.	Identify statistical relationships.
Objectivity and subjectivity	Subjectivity is expected.	Objectivity is critical.
Role of the researcher	Researcher and their biases may be known to participants in the study, and participant characteristics may be known to the researcher.	Researcher and their biases are not known to participants in the study, and participant characteristics are deliberately hidden from the researcher (double blind studies).
Results	Particular or specialised findings that are less generalisable.	Generalisable findings that can be applied to other populations.
Scientific method	Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected.	Confirmatory or top-down: the researcher tests the hypothesis and theory with the data.
View of human behaviour	Dynamic, situational, social and personal.	Regular and predictable.
Most common research objectives	Explore, discover and construct.	Describe, explain and predict.
Focus	Wide-angle lens; examines the breadth and depth of phenomena.	Narrow-angle lens; tests a specific hypotheses.

Table 1.1 (*cont.*)

Criteria	Qualitative research	Quantitative research
Nature of observation	Study behaviour in a natural environment.	Study behaviour under controlled conditions; isolate causal effects.
Nature of reality	Multiple realities; subjective.	Single reality; objective.
Final report	Narrative report with contextual description and direct quotations from research participants.	Statistical report with correlations, comparisons of means and statistical significance of findings.

Xavier University Library acknowledges that content in the above table was taken from the following sources: Johnson, B and Christensen, L (2008) *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. Thousand Oaks, CA: Sage Publications, p 34; Lichtman, M (2006) *Qualitative Research in Education: A User's Guide*. Thousand Oaks, CA: Sage Publications, pp 7–8.

QUALITATIVE CLASSROOM RESEARCH

Why is qualitative research the appropriate approach for classroom research – for exploring social interaction in classrooms? There are several reasons for this.

The nature of classrooms

The first reason is to do with the nature of classrooms. Primary school classrooms, for example, have a lot in common but each is, at the same time, unique. Each is a small but complex social world, requiring constant interpretation and challenging the teacher's understanding. Teachers and children are active creators and negotiators of what goes on in their classrooms. What things mean to them is of primary importance. The key question in qualitative research – 'What is happening here?' – is a question that needs to be asked again and again in the daily life of classrooms.

Furthermore, there are ethical reasons for viewing the classroom as a natural situation to be understood rather than a site for an experiment or the measurement of variables. Children and teachers are actors whose motives and meanings have to be respected, engaged with and understood through language and observation rather than measured within predetermined categories.

The purpose of classroom research

The second reason why qualitative research is an appropriate approach is to do with the purpose and context of classroom research. Its purpose is to deepen understanding of some aspect of learning and teaching; its hope is that such understanding will

inform improved practice. The main beneficiary of such research will be the researcher, whether he or she is the teacher of the class being studied or possibly intends to become a teacher. Classroom research is usually practitioner research. It implies a deepened professionalism for the teacher: a commitment to researching one's own practice.

The teacher as researcher

A key characteristic of what has been seen as a deepened form of professionalism is the capacity and commitment to reflect on one's own practice. The most famous expression of this idea was the term 'reflective practitioner', the focus of Donald Schön's influential book, *The Reflective Practitioner: How Professionals Think In Action* (Schön, 1983). He saw critical self-reflection as a defining characteristic of a practitioner, in any professional field, who is committed to developing his or her craft by learning from experience.

The term 'teacher-researcher' was used by Lawrence Stenhouse in his classic argument that classroom teaching should be seen as research-based practice (Stenhouse, 1975). He saw systematic reflection by teachers as the crucial means of professional development and of creative innovation in classrooms. Much of Donald McIntyre's later work, building on this tradition, was concerned with the systematic, collaborative development of 'professional craft knowledge' by teachers through study and reflection on day-to-day practice. See *Learning Teaching from Teachers* (Hagger and McIntyre, 2006).

Classroom research in teacher education

The idea of developing 'reflective practitioners' – teachers who think about what they do and why they do it – lies behind the decision to introduce research components into teacher education programmes. It is not sufficient to induct student teachers into 'good practice'; they need to learn to critique good practice, to think on their feet in unpredictable situations and to grow professionally through reflection on practice.

The important thing is that a qualitative approach begins with participants' intuitive understandings of the situations in which they find themselves in. It does not displace these common-sense understandings with 'better', more objective or scientific ones. It respects where teachers are and gives them the skills and security to examine, critique and build on their early taken-for-granted assumptions.

FINDING A RESEARCHER VOICE: *'MY RESEARCHER VOICE CAME ALONG SILENTLY'*

Students are often resistant to committing themselves to thought on paper. They prefer to talk than to write. In the research course for student teachers I draw on in writing this book, students were expected to become writers from the first morning.

The pressure to write was relentless. To begin with, what was written was examined, critiqued and improved in class. Then, after two weeks, all writing was submitted to their research supervisor and critiqued by email with a 24-hour turnaround time. There were no meetings. All conversation was in writing and about writing.

After three weeks of work, when their drafts of Chapter 1 of the research report had been submitted, I sent students the following invitation:

Finding your voice as a researcher

Over the past three weeks you have done an amazing thing: you have learned to become a researcher. Okay, some of you were already close, but others were light-years away. Some found it mysteriously easy; others incredibly difficult. But you all, in one way or another, have found, or are finding, your voice as a researcher. And some of you have had to learn a new writing style too: formal, academic English. You have made remarkable progress. And I don't really understand how it all happened.

So a new research question is taking shape in my mind (or rather the very oldest and best qualitative research question is taking shape): What is happening here? What has been happening here? How on earth do we find our voices as researchers? And learn to write in an academic way?

You are the only persons able to answer these questions. Will you try?

The three students quoted below had no previous experience of the conventions of formal academic writing.

My researcher voice came along silently without me even realising this was happening. I did not give the 'researcher voice' much thought as I was (still am) focusing on my writing and writing style. I could only follow and notice my researcher voice after I completed chapter one but not during.

Working through previous fourth year students' research reports gives us a feel for what is expected and the manner in which to write a research report. Reading through multiple students' research reports is a good way to begin finding your own style of writing. Finding a style that you are comfortable with and a style that suits your research is important.

I found that the best solution to transform my informal writing to formal/academic writing was to get an editor or somebody who has a proper grasp on formal writing to help you. Sitting down with my sister-in-law has helped me majorly. She has been patient and guided me in a way that aided me to correct my own mistakes and to write in a more academic style.

In order to find your research voice, you need to research something you are interested in. You will not develop a researcher's voice if you research something that you don't want to. It will result in a boring and dull research report. Researching something that intrigues you hopefully should result in attention-grabbing research. To develop a researcher's voice you need to write with feeling and passion and express your opinions and thoughts. This becomes easy if you research something that fascinates you.

This process has been overwhelming for me; I don't think it was just the level of difficulty but more so the limit of time we've been given. Maybe working under pressure forces one's ability to think quickly and get the 'job' done knowing there is a much needed deadline and the significance of completing our thesis.

Finding our voice certainly comes with experience and actively being involved in the process; reflecting, keeping up, asking questions when unsure during the process etc. It almost happens subliminally because we are, in a way, forced to become a researcher and along the way we start thinking like one and reflecting it into speech and writing.

These insights are both insightful and practical. Certainly, these students are learning to be researchers through writing like researchers. But they are also learning through serious reflection on the process they are going through. The engine for both processes is being faced with a real and immediate task: writing their research plans – the first chapter of their research report – and having three weeks in which to do this.

WRITING YOURSELF INTO THE RESEARCH PROCESS

If you have not written in research mode before, you will need to find your 'researcher voice' – a style of writing that is both appropriate for the research task and authentic for you. For most students, this is probably something that 'comes along silently'. It emerges as a by-product of ongoing work.

In this section, I argue that we 'write ourselves into the research process'. We need to see ourselves as writers and make writing the cutting edge of our task. Such writing is a form of thinking aloud. It is a developing commentary on the research process. It is the earliest draft of the research report. And it needs to be a simple, honest record of ongoing thinking, something like the following:

'I think my research focus will be on some aspect of classroom discussion. I am interested in why some discussions 'work' and are interesting and involving, and others do not. But I don't yet have a clear enough focus.'

'My tentative research question is taking shape. But it remains far too vague. This is my question at present…'

We may write for an interested supervisor, for one or two supportive peers perhaps, but above all for ourselves. '*How can I tell what I think till I see what I say?*', as E M Forster (1927, p 101) put it.

The enemy of research report writing is deferral, of not being quite ready to commit thoughts to paper. The rule is not to wait for perfection, but rather to describe in simple narrative your engagement with the research task, step by step. Slowly, in this way, a draft of the research report is crafted.

WHO SAYS RESEARCH IS AN INTELLECTUAL PROCESS?

It is certainly an intellectual process but it is as much an emotional experience. It draws on all one's confidence, courage, resilience, humour and doggedness. Research, like old age, is not for sissies. It requires stance and style – attitude – and such things are not under neat intellectual management.

This is why the institutional context of the researcher is so important – the availability of good, caring support structures, formally and informally. It is striking how many students, on the completion of their research reports, comment on the stress of the process and give priority to thanking those who have supported them in personal ways on their journey. Family members and fellow students are thanked for 'understanding, patience and moral support'; supervisors for 'encouragement and kind words in times of defeat and angst that always lifted the spirit'. It is emotional rather than intellectual support that is stressed.

SUMMARY OF KEY POINTS

- Start to view yourself as a researcher.

- Research is not just about collecting information.

- Research is systematic inquiry directed by a complex question.

- Research can be qualitative or quantitative.

- Qualitative research lends itself well to the classroom.

- Write yourself into a researcher mindset.

- Research is both intellectual and emotional.

Proposed format for a research report

PROPOSED STRUCTURE OF RESEARCH REPORT

Part 1: Research planning and design

(Write Part 1 mainly in the past tense)

1. **The research theme:** Give a brief introduction to your research theme and explain why you think it worth investigating.
2. **Preliminary reading:** Give an outline of what you have learnt about your research theme through preparatory reading. Explain which ideas you have found most interesting and useful in helping you to define your research question.
3. **The research question**: Define your research question clearly and explain how you arrived at it.
4. **Purposes and expectations:** Clarify the theoretical purposes of your research (what it is you wish to understand), its practical purposes (ways in which your findings might prove useful) and its personal purposes (possible benefits to you individually).
5. **Research site(s):** Describe your proposed research site(s) and subjects. Given your particular research question, what do you see as the advantages as well as the possible limitations of your research site?
6. **Research design:** Describe and justify the qualitative research approach chosen for your investigation; and explain and justify the particular research methods you have chosen to use.
7. **Research ethics:** Identify the ethical issues you see arising in your particular investigation and explain how you intend to deal with them.

Part 2: Research process and summary of research data

Review of the research and data collection process

(In the past tense, probably with brief shifts into present tense where this feels necessary)

Report briefly on how the research was carried out in practice.

Give a clear account of how you implemented your research plan, including problems encountered and improvisations required. The following sub-headings might be useful:

*   how you organised access to your research site;

*   how you carried out the interviewing process, how you used your interview guides and how you recorded and processed your data;

*   how you carried out the observation process, how you used your observation guides and how you recorded and processed your data;

*   how you attempted to ensure the accuracy of your data;

*   how the research question might have changed or developed during the data collection process;

*   ethical issues and how you dealt with these;

*   the strengths and limitations that emerged in your research plan.

Part 3: Summary of research data

(In the past tense, probably with brief shifts into the present tense where this feels necessary)

Present a well-organised summary (including brief quotations where appropriate) of your research data. You will need to consider the most useful way to structure this summary. Your research question and your interview and observation guides will help you to do this.

Part 4: Analysis and conclusion

(In the present tense)

Analysis and discussion: Interpret your data in a systematic, reflective and open-minded way, supporting conclusions with reference to the data. You may wish to draw on additional theoretical reading to assist you with this. Indicate what questions require further investigation, identify possible applications of research findings and reflect briefly on your intellectual journey.

Appendix 2 — Why research in 'real time' matters

INTRODUCTION

This brief paper (which began as an internal discussion document) is an attempt to explore the implications – pedagogical and practical – of applying a 'real time' principle to teaching students how to conduct empirical research and produce a dissertation as part of their undergraduate teacher education programme at the Centre for Creative Education in Cape Town (CCE). A very brief account of the CCE student research programme is necessary to provide the context for this discussion.

THE RESEARCH PROGRAMME AT THE

CENTRE FOR CREATIVE EDUCATION

The main task of the Centre for Creative Education is to qualify teachers to teach in Waldorf and mainstream schools through a Bachelor of Education degree course. As part of this course, students are required to submit a formal dissertation on some aspect of primary school education. Over recent years CCE has developed an integrated research programme that has both raised the quality of research and enabled students to meet tight deadlines for the submission of research reports. The features of this programme are as follows.

- The first quarter of the final year is devoted entirely to research. Final research reports are to be submitted before the start of the second quarter.
- All students are required to explore a common research theme. This theme changes every year.
- Within this theme, students pursue individual research questions.
- Theory and practice are completely integrated: instruction in research methods both guides and accompanies the research process.
- Supervision takes the form of detailed formative assessment of students' work, which is submitted, critiqued and revised through rapid email communication.
- Research reports are submitted chapter by chapter, with tight deadlines. Each chapter builds on the previous one and acknowledges and addresses the possible limitations of the previous one. Cosmetic rewriting is discouraged; explicit critical reflection and change of mind are encouraged.

- Research is 'qualitative' not 'quantitative'. It relies on interpretation of evidence and not on measurement and is appropriate for small-scale exploratory investigations in the real-life situation of the classroom.
- The programme takes students through three stages of work:
    - design (including definition of the research question, a literature review and appropriate methodology);
    - implementation (including immersion in a school or classroom situation for systematic data collection over a two-week period);
    - analysis (interpreting research data in a systematic, reflective and open-minded way).

THE 'REAL TIME' DEBATE

It was the critique of student dissertations by an external examiner that forced me to analyse just what it is that convinces me of the importance of 'real time' in student learning (and possibly in all learning). This principle had so quietly and incrementally crept into our research practice at CCE over the last eight years that it had achieved taken-for-granted status. The value of the examiner's query was that it came as a challenge to the 'obvious'.

The key paragraph in the examiner's report I need to address is the following:

> *Most of the reports pointed to a difficulty that students experienced in defining where – in terms of time – they were standing when writing the report. In many cases, their writing reflected a mixture of three standpoints in time – before, during and after the research. It would be helpful if they could be encouraged to write from a more consistent standpoint of after the research had been completed.*

The examiner's position here is the one she is accustomed to, the one that university staff and students assume to be 'normal' and customary. This is the position I worked from when I began teaching and supervising student research at CCE some eight years ago. At that time the students took an introductory course in research methods, designed a research project that interested them, carried out the research and gathered their data, and then, finally, wrote – with hindsight – their research reports. It was the problems that emerged from this conventional approach that over time led to the 'real time' innovation.

PROBLEMS WITH THE CONVENTIONAL APPROACH

The most obvious problem of this approach was that many students were unable to submit their research reports on time. This caused considerable stress, eroded other aspects of the final-year curriculum, made excessive demands on staff time, caused financial problems, and frequently delayed graduation of even able students, sometimes by years. This problem was a particularly severe one for students with poor formal education.

A further obvious problem was that students were not, in fact, able to apply or transfer what they had learnt in their research course to their actual research practice. The gap – chronologically and conceptually – was too big. They had been exposed to research methods in modular, theoretical form; they did not know what its principles meant in terms of practice. These would have to be rediscovered (with difficulty) within the praxis of their own research project. And this lay in the future.

The third obvious problem was that the range of individual and idiosyncratic research topics that students chose to investigate meant that their topics were framed by common-sense assumptions, were under-theorised and were difficult to supervise.

CURRICULUM STRATEGIES

We discovered that the way forward lay in a common research theme, the concentration of research work within a tight time frame, a rigorous support structure and, most crucial of all, a way of integrating theory and practice. *'Real time' became the key mechanism of integration.* In practical terms these innovations worked in the following ways.

The integration of the introductory research module and school-based research

A two-week research module at the start of the final year flowed directly into school-based research. The task of this module was to enable students to write the first chapter of their research reports and submit this (in draft form) within a week after the module ended. The second chapter was due three weeks later, and the final chapter was due two weeks after this. Further research classes were scheduled to support this process. This procedure enabled the research course to be relevant (in 'real time') to each of the three stages students were going through in their research process – *planning and design*, *data collection and organisation*, and *analysis and discussion*. This form of concentration in time and integration of what had been separate components was the key innovation.

The 'research team' approach

The class became, in fact, a research team, and experienced an apprenticeship in research methods. This apprenticeship involved engagement with a demanding academic text, defining a research question, devising a research plan, and, through all this, grasping what being a researcher entailed. A firm supporting structure was provided by pre-selected texts, sequential tasks and a simple research report format. As work progressed, students developed individual approaches to the common task, introduced new readings and the first person plural became the first person singular.

Research as a process of writing: Communication, critique and revision by email

Students were required to become writers from the first moment of the research module. The pressure to write was relentless. To begin with, what was written was examined, critiqued and improved in class. Then, after two weeks, all writing was submitted and critiqued by email with a 24-hour turnaround time. The research teacher became the research supervisor. Though there were strict deadlines for each draft chapter, students could send small sections for comment whenever they wished to. All supervision was by email. There were no meetings. All conversation was both *in* writing and *about* writing.

The principle of writing each chapter in 'real time' sequence

Research reports were submitted chapter by chapter, and these chapters were regarded as final drafts. Chapter 1 was a genuine research plan, written before immersion in the research site. Chapter 2 reported on the actual implementation of this research plan. And Chapter 3 reflected on the significance of the data reported on in Chapter 2. Each chapter was enabled by, and built on, the previous one. And each acknowledged and addressed the limitations of the previous one. Cosmetic rewriting and 'false coherence' were discouraged; explicit critical reflection and justified change of mind encouraged. So research reports were written from three time perspectives in answer to three questions: what do I intend to do; what I have I discovered; and what does this mean? I do not think students were confused by these different positions (as the examiner suggested). I think they experienced them as three consecutive and logical steps towards task completion.

WHY DOES THE PRINCIPLE OF 'REAL TIME' MATTER?

The 'real time' principle is a pedagogic principle. It matters for motivation, for reflexivity and for task completion. All are interrelated.

Motivation

In motivational terms, 'real time' meant 'real task', not preparation for some future task. Students were engaged as a group and individually with a series of real tasks that were achievable by all within a relatively short time. Every small piece of writing submitted was a stage in the completion of the task. Piece by chronological piece, and day by day, each student could see the text of her actual research report becoming a reality. This sense that 'I am writing my actual research report now' was highly motivating: it generated both a strong sense of ownership of the task and a growing sense of confidence in its completion. *This was not preliminary work*: the final report (barring a careful edit) was taking shape in the present tense.

The 'real time' equals 'real task' principle was crucial, I think, in the degree of personal investment visible in the students' work. The external examiner put it like this:

> *I think the biggest strength of these research projects was the deep personal investment and interest of the students in their research questions; this clearly motivated them and enhanced the quality of the research. This personal investment and motivation furthermore translated into a style of writing that allowed them to express a strong sense of their own 'voice'.*

This sense of the authenticity of the research task and of personal engagement in the research journey seems particularly important at a time when some student research work in education at South African universities has been reported to be 'dummy research', going through the motions of research procedure without ownership of and understanding of the research task.

Reflexivity

The customary way of writing a research report is to revise earlier drafts so that these are consistent with the final draft. A position of hindsight, taken at the end of the entire research process, determines which parts of earlier drafts will be retained, modified or omitted. The aim is to produce a coherent, consistent and smooth account of the research process and findings: a persuasive text. In producing such a final text, error, shift of focus, loss of faith in a research question – indeed, critical reflection on an unfolding intellectual process – may be regarded as interference or irrelevance and omitted or concealed.

The examiner made the following comment about the students' capacity for critical reflection:

> *Almost all also made very thoughtful critical reflections on their research journeys, and on themselves as researchers; this development of a capacity for 'meta-reflection' is particularly valuable to them as researchers*.

In my view, it is the requirement to write in 'real time' that licensed and produced such 'meta-reflection'. Such reflection became the necessary substitute for erasure. Inconsistencies needed to be explained rather than concealed. Coherence lay in explicit justification and explanation: an honest text, aware of (and even enjoying) its uneven process of production.

Task completion

Task completion is the most concrete consequence of writing in 'real time'. With very rare exceptions, students completed and submitted their entire research reports within four months. Before the concentration of research in the first quarter of the final year and

before the 'real time' stipulation, students had needed at least a year, and some several years, to complete and submit their reports. A major cause of this was that the daunting retrospective task of final report writing was continually deferred. The report was never quite good enough, never quite finished and never quite coherent enough. And other priorities inevitably intervened.

IN CONCLUSION

In concluding this brief case study, I would like to express my appreciation to the examiner who questioned my 'real time' pedagogic fundamentalism and for choosing to see examiners' reports as opportunities for reflection and dialogue. It has been a long time since I was last required to explore dearly held pedagogic assumptions, and I have enjoyed the process.

Notes:

1. *My appreciation to Associate Professor Linda Cooper of the University of Cape Town who, as external examiner, sparked the above discussion.*
2. *A full account of the student research programme at the Centre for Creative Education can be found in the following paper:* Millar, C, Melmed, T, Nell, J, Rivera, G and Silverman, A (2015) Imaginative Teaching and Learning in Waldorf Classrooms. *Research on Steiner Education*, 5(1): 94–114.

This paper was first published as Millar, C (2015) Why Research in "Real Time" Matters. *Research on Steiner Education*, 6(2): 157–160. It is reprinted here with the editor's permission.

SUGGESTED FURTHER READING

Atkins, L and Wallace, S (2012) *Qualitat.ive Research in Education*. London: Sage/BERA.

Really clear and readable. Includes useful case studies.

Baumfield, V, Hall, E and Wall, K (2013) *Action Research in Education: Learning Through Practitioner Enquiry*. London: Sage.

Very readable and fully grounded in experience of actual classroom research.

Boyd, P, Hymer, B and Lockney, K (2015) *Learning Teaching: Becoming an Inspirational Teacher*. Northwich, Cheshire: Critical Publishing.

An insightful guide towards becoming an inspirational teacher, advocating a stance of continuous inquiry.

Clough, P and Nutbrown, C (2012) *A Student's Guide to Methodology*. 3rd ed. London: Sage.

An accessible guide to research methodology that includes examples from real research.

Dadds, M and Hart, S (2001) *Doing Practitioner Research Differently*. London: RoutledgeFalmer.

A collection of accounts of practitioner research – some unusual and often emancipatory methodology.

Cochran-Smith, M and Lytle, S L (2009) *Inquiry as Stance: Practitioner Research for the Next Generation*. New York: Teachers College Press.

The first five chapters are especially valuable because they argue for inquiry as stance and for critical inquiry by teachers.

Denscombe, M (2010) *Ground Rules for Social Research: Guidelines for Good Practice*. 2nd ed. Maidenhead: McGraw-Hill/Open University Press.

A thorough basic primer, not exclusively about qualitative research.

Hopkins, D (2008) *A Teacher's Guide to Classroom Research*. Maidenhead: Open University Press.

A systematic and straightforward guide to assist teachers to carry out research in their own classrooms.

Kemmis, S (2006) Participatory Action Research and the Public Sphere. *Educational Action Research*, 14(4): 459–76.

A useful warning of the risk of 'domestication' of teacher research: that it might become merely the evaluation of the techniques of schooling, rather than asking challenging educational questions

McAteer, M (2013) *Action Research in Education: Research Methods in Education*. London: Sage.

A useful guide to action research in the classroom that draws on case study examples.

McNiff, J (2013). *Action Research: Principles and Practice*. 3rd ed. Abingdon, Oxon: Routledge.

A standard text offering a clear explanation of principles and practice. Illustrated by case study material.

Mellor, N (2001) Messy Method: The Unfolding Story. *Educational Action Research*, 9(3): 465–84.

Reassuring when it all feels a bit too messy. Also googleable for a free online read.

O'Leary, Z (2014) *The Essential Guide to Doing Your Research Project*. London: Sage.

Another good basic overview

Whitehead, J and McNiff, J (2006) *Action Research: Living Theory*. London: Sage.

A values-based and radical approach to action research.

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