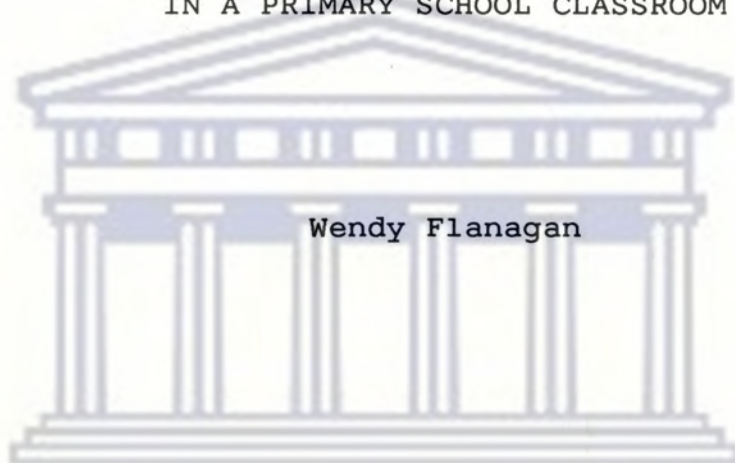TOWARDS A CRITICAL PEDAGOGY:

AN ACTION RESEARCH INVESTIGATION INTO DEMOCRATIC PRACTICES

IN A PRIMARY SCHOOL CLASSROOM

Wendy Flanagan

UNIVERSITY *of the*

WESTERN CAPE

A dissertation submitted to the Faculty of Education,
University of Western Cape,
in fulfilment of the requirements for the degree of
Doctor in Education.

1991

ACKNOWLEDGEMENTS

Simon Wills   *   *

I am most grateful to P.J. Sinclair, the children's class teacher (and my host), for allowing me to teach during her allocated lesson time, and to Ron Taylor, principal of St Joseph's College, for granting permission for me to do so. I hope that this work meets to their satisfaction the trust they had in my integrity.

To the delegates to the Kenton Conference who, over the years, have formed my critical community and taught me so much, my appreciation.

And then the critical community specific to the classroom action and so necessary to its execution, my grateful thanks to Chris Breen, P.J. Sinclair and Melanie Walker. And to those good enough to comment on my attempts to write about the process, Ben Parker, Mastyn Prinsloo, Rob Sieborger and Shirley Walters, as well as other colleagues caught in corridors and staff rooms.

I am especially indebted to Anita Craig and Lyn Slonimsky, and also Adele Gordon, Ian Moll and Ronnie Miller for sharing their understanding of psychology and the process of instruction.

To my supervisor Owen van den Berg, warm thanks and appreciation for taking the challenge with me and supporting and guiding me through such unfamiliar territory. And to Sandy Lazarus who joined as co-supervisor for the final stretch, my thanks for sharing with me her experience and understanding.

Finally, to those people who write about, and engage in, action research, my gratitude for bringing to my attention such a dynamic means for continuing my own professional education.

ABSTRACT

This dissertation is a study of a primary school teacher researching her classroom practice within the broader struggle for a People's Education for People's Power. The specific aim of the project was to investigate how a primary school teacher could go about her work in more democratic ways. The research method used in the study was that of action research, and the empirical basis for argument in the dissertation lies in the use of data created during the process of researching that classroom practice.

A fundamental assumption of the study is that teachers are the central driving force in any meaningful development of a critical pedagogy. Teachers, acting as transformative intellectuals, can work towards socialist transformation, because viewing teachers as intellectuals redefines their work and the political nature of schooling. The study, therefore, takes the problematic relationship between authority and emancipation as central to its concerns and tries to develop a rationale for making an emancipatory view of authority, and thus a rationale for a particular notion of professionalism, a central category in the development of a critical theory of schooling.

In taking the position that teachers are central to learning in the classroom, and are the nexus of the authority/emancipation problematic, critical reflection on the classroom practices was approached both reflexively and dialectically so that uncertainties and contradictions could surface and be explored. The epistemological radicalism inherent in action research made this form of reflection possible.

The study views primary school teachers as important mediators of change. This meant examining the process of instruction more carefully. The task was to understand how mediation generates higher mental functioning. To this end, Vygotsky's notion of a zone of proximal development, as the zone in which mediation can take place, is explored. The problem of how to investigate the substance of the zone of proximal development is met by the use of rationally reconstructed mediational operators. Drawing from the data in the study, three mediational operators are fashioned to study the one-to-many interaction in the process of instruction. These mediational operators serve as explanatory constructs to explicate the interrelation between the teacher's (and other significant others')

instructional process and the learners' existing levels of development.

The preoccupations of this reflective dissertation writing take a multi-disciplinary approach, for to consider critical pedagogy means also to consider the psychological functioning of human beings within society - the mind-in-society dialectic. The study reveals that `democratic practice' is something to be negotiated and contested continually, for the authoritative position of teachers has to be questioned endlessly to locate the contradictions within that position. The experience of this study suggests that action research is a powerful means whereby teachers can reflect both reflexively and dialectically on their practice, that action research is intrinsically educational. A significant realization in the study, therefore, is the ways in which the educators themselves may become educated to take responsibility for their agency in transformation.

Bringing power relations into question is a permanent political task inherent in all social existence, thus a local specific inquiry such as this one can take on a general significance at the level of that regime of truth which is essential to the structure and functioning of our society.

Chapters One to Three provide the social and theoretical context for the study, dealing as they do with the crisis in schooling, the role of the teacher in change and the ways in which a teacher can research her practice for a transformed pedagogy.

Chapters Four to Six consider the teacher-researcher at work in her classroom and indicate how she goes about trying to understand her role as mediator in the instruction process - her process of reflection and action while she was teaching.

Chapters Seven to Nine represent the reflection which took place after the initial investigation of actual day-to-day practice. These chapters arise historically out of the research process and include argument for developing a more critical pedagogical discourse, a deeper understanding of the instruction process (the teaching/learning dynamic), and discussion of the validity of an action research paradigm for emancipatory pedagogical practices.

CONTENTS

SUMMARY OF CONTENTS

Chapter One: Introduction.

Chapter One describes the crisis in schooling in South
Africa and argues the need for a critical pedagogy. The
rationale and basis for an investigation into primary school
classroom practice is explained, and reasons for presenting
the work within an action research paradigm given. The
chapter concludes with an explanation of certain key
concepts used in this written account.

Chapter Two: The teacher as transformative intellectual.

Chapter Two attempts to take seriously the function of
teaching and learning. It explores the role of the teacher
as mediating agent in progressive change. Explaining the
need for a critical position, schools are viewed as places
where forms of democratic empowerment can be developed.
This endeavour is supported by argument for a form of
emancipatory authority. Linking authority with emancipation
acknowledges the intellectual role of the teacher. The
notion of the teacher as transformative intellectual is
presented and developed, and seen as a particular expression
of professionalism. By invoking a notion of dialectical
praxis, it is argued that the teacher's work can be both
transforming and empowering.

Chapter Three: Action research as democratic method.

Chapter Three explores the problematic between emancipation
and authority. A study of action research's desire to
reject positivism leads to argument for a more reflexive and
dialectic approach to social inquiry. Explaining that
action research engenders a reflexive analysis of
professionalism, a series of normative definitions and their
systems of authoritative decision-making are rendered
problematic. The challenge posed by institutionalized
authority systems to the possibility of individual critical
reflection is countered by argument for the teacher
intellectualizing her labour in autonomous ways such that
critique provides for a dialectical self-transcendence. By
identifying the epistemological radicalism of action
research it is argued that action research provides the
resources for teachers to act as transformative
intellectuals.

Chapter Four: The teacher-researcher plans action.

Chapter Four places the problematic of authority and emancipation as the research endeavour. The evolving rhythm of the action research cycles is described and three aspects of classroom practice are identified as amenable to improvement within the general idea of an emancipatory form of authority. The focus of attention becomes authority and mediation. The use of mediational operators as an explanatory framework within the paradigm of action research is suggested as a means for studying the interaction of teachers and pupils.

Chapter Five: Mediational operators identified.

Chapter Five attempts an explication of the zone of proximal development, a construct developed by Vygotsky. It is argued that other-regulation (in schooling) plays a central role in the development of self-regulation. The idea of generative mechanisms is discussed and an understanding of mediation in the process of instruction is developed. Attempts to elaborate further concepts to study the zone of proximal development are discussed, using the work of Wertsch and Feuerstein as examples. The concept of mediational operators, as a means to facilitate the empirical study of the zone of proximal development, is explained. Three mediational operators for this study are fashioned to analyze the nature of one-to-many interactions so that implications for teaching and learning may be suggested.

Chapter Six: The teacher-researcher at work.

Chapter Six locates critical reflection in the use of rationally reconstructed mediational operators. Action research's conception of the theoretic competence of the social actor is made problematic. The transforming of human action into text-in-action is suggested as a way of studying meaning. The mediational operators are used as text-in-action. They form the analysis of the data and constitute an interpretation from the actor's (teacher's) point of view.

Chapter Seven: Pedagogical discourse.

Chapter Seven sets in motion a consideration of the limit conditions within which the teacher as transformative intellectual operates. The chapter focusses on pedagogical discourse, specifically that of child-centred pedagogy. The argument starts with comment on psychometry, and then moves to discussion on child-centredness, and the resultant

production of development as pedagogy. The chapter sets out to show that an emancipatory form of pedagogy will require a discourse which moves beyond notions of individualism and child development psychology, to a notion of psychological beings which holds more promise for social transformation.

Chapter Eight: Teaching and learning.

Chapter Eight focusses on the nature of teaching and learning. Using a reworked notion of authority it argues for a central role for the teacher in children's learning. Critical reflection on my teaching is approached reflexively, and my ignorances problematized. In an attempt to explicate the interdependence of other-regulation and self-regulation, the chapter begins with comment on the social nature of learning. As the focus shifts to self-regulation Vygotsky's notion of inner speech, and Piaget's notion of equilibration are suggested as important contributions to a teacher's understanding of her practice. The chapter closes with concluding remarks about regulation and mediation.

Chapter Nine: Action research and validity.

This final chapter arises historically from the research process and critical reflection on these processes. It sets out to suggest ways in which validity may be conceptualized in accordance with a non-positivistic research strategy such as action research. The chapter returns to the argument for a particular notion of professionalism and proceeds to an argument for a reflexive and dialectical formulation of validity in action research. Validity of the processes of action research, and validity of the descriptive accounts of action research are considered. The chapter concludes with comment on the reading of text and how validity should be viewed in the context of this written attempt of my own action research project.

The materialist doctrine that men and women are
products of circumstances and upbringing, and
that, therefore, changed men and women are the
products of other circumstances and changed
upbringing, forgets that it is people that change
circumstances and the educator her/himself needs
education.

(Marx, Thesis III on Feuerbach, Selected Works.
The original quotation refers only to `men'.)

UNIVERSITY *of the*
WESTERN CAPE

PREFACE

The interesting thing about school lessons is that we all
bring our own histories to them. We don't only bring
maturation or organic development. We bring orientations,
rules of behaviour, recipes for interaction, things that we
have framed and focussed on that are different from others
in the group. All of these things impinge on the
interaction in the classroom. What is generated in the
interaction is contingent on our past histories and the
points at which we establish a meeting place in relation to
the tasks in the classroom. And then it is how the
interaction starts to act back on what each of us already
came with and what each of us could do on our own.
(Slo, in conversation, 1990.)

In my case, part of my history was the over twenty years of
experience in primary school classrooms teaching the whole
range of classes from first year through to seventh year, as
well as two years spent in a university lecturing on primary
education. I came to the project with an urge to undertake
sustained and critical inquiry of my classroom practices and
of how these may lead to social change. The opportunity to
do this on a part-time basis in a school which was linked to
the university through students on teaching practice was
fortunate.

The children's history was one of common experience of a
boys' catholic school. However, the children were of
diverse nationality, diverse socio-economic background, and
diverse categories according to the Population Register in
apartheid South Africa. They brought at least three years
experience of learning in formal schooling to our meeting,
and diverse experiences of teachers in schools. I became
another teacher with whom they were to interact.

CHAPTER ONE

INTRODUCTION

Chapter One describes the crisis in schooling in South
Africa and argues the need for a critical pedagogy.
The rationale and basis for an investigation into
primary school classroom practice is explained, and
reasons for presenting the work within an action
research paradigm given. The chapter concludes with an
explanation of certain key concepts used in this
written account.

A critical pedagogy.

Education in South Africa is a highly contested terrain.
Apartheid policies in schooling (Rose & Tunmer,1975;
Christie & Collins,1982; Kallaway,1984; Unterhalter &
Wolpe,1989) have separated South African children from one
another, and state funding has differentiated markedly
between the education systems for the various classified
racial groupings (see South African Race Relations
Survey,1987). Bantu Education, in particular, (Bantu
Education Act 47 of 1953 - superceded by the Department of
Education and Training Act 90 of 1979) was devised by the
state to produce a black population not only educated to a
level considered adequate for unskilled work, but also to
ensure that blacks would accept their subordination and
inferior education as natural, as fitting for a `racially
inferior' people (Kallaway,1984; Wolpe,1988).

The ideology which attempted to shape what happens in South
African schools is that of the dominant (white) Afrikaner
group, and is couched in the policy document Christian

<u>National Education</u> (CNE) published in 1948. Its introduction states:

> We want no mixing of languages, no mixing of cultures, no mixing of religions, and no mixing of races. The struggle for the Christian and National school still lies before us (in Christie,1985,p160).

A study of the articles in the document reveals a contradiction between the relativist view which sees each group as having its own beliefs about education, and the argument that Afrikaners have the right to decide on the formation of groups and are the trustees of black education (Enslin,1984,p140). This contradiction is, of course, essential to any ideology which believes in the racial superiority of `whites', and indeed in the `cultural' superiority of certain `whites'.

It was within this context (of CNE policy) that Fundamental Pedagogics emerged, the main aim, according to Kallaway (1983,p163), being to

> `depoliticize' the field of educational studies - to find a language and a structure that would allow the appearance that the study of things educational had been taken out of the market place of ideas - of economic pressures, political conflict and ideological contestation.

Fundamental Pedagogics (Viljoen & Pienaar,1971; Coetzee,1975; Luthuli,1982) treated educational theory as a science establishing universally valid (and therefore value free) knowledge about education. The consequence of the practice of this science, according to Enslin (1984,p141), is to legitimate the CNE ideology.

What is important to note in this discussion as far as teachers are concerned, is that colleges of education for the certification of primary school teachers are apparatuses of the state, and that these colleges practise Fundamental

Pedagogics through, amongst other means, prescribed readings and examinations in Fundamental Pedagogics and Didactics. For example, a question in a 1989 Didactics examination paper for students at a college of education reads:

> (a) Briefly outline why Didactics is practised as 1) a theoretical and 2) a practical science.
> (b) Briefly outline eight areas in the field of study of Didactics as science.

This `neutral', `scientific' way in which classroom practice is studied is typical of a Fundamental Pedagogics approach. This controlled form of teacher training, together with the state controlled curriculum in the schools, legitimates the interests and values of the dominant group, while at the same time functioning to marginalize and reject forms of knowledge and experience of subordinate groups. For example, most school texts ignore the history of women, the history of some working class groups, and the religious beliefs and practices of many South Africans, while the history of Blacks is selectively reworked to fit the racist view of their inferiority and subservience (see du Preez,1985,for an extended discussion on South African texts and the ruling ideology).

Opposition to inferior education increased in intensity over the years and began to be translated into organized political action (Wolpe,1988). In June 1976 oppositional struggles erupted in the student uprisings in Soweto. In its rejection of the imposition of Afrikaans as a language of instruction, this uprising constituted a further and continuing form of resistance to apartheid education. Schools have become major battlefields of political and educational struggle. Boycotts and stayaways related to educational provision, language of instruction, student representation in decision making, and broader community struggles, have become a regular feature of school life. In 1985, with increased detentions, the banning of the Congress

of South African Students (COSAS), the killing of students, and the impossibility of writing final examinations in Department of Education and Training (DET) schools, the parents in Soweto decided to act. It was from this action that the Soweto Parents Crisis Committee (SPCC) emerged. In their dealings with DET officials this committee realized that "the struggle for black education was indivisibly a national issue and that they needed to obtain a national mandate from the people" (SPCC,National Consultative Conference,1985,p4). A National Consultative Conference (NCC) on the crisis in education was held in December 1985 and it was out of this context that the call for "People's Education for People's Power" was made. The resolution arising from this conference declared that People's Education is education that:

> * enables the oppressed to understand the evils of the apartheid system and prepares them for participation in a non-racial democratic system;
>
> * eliminates illiteracy, ignorance and the exploitation of one person by another;
>
> * eliminates capitalist norms of competition, individualism and stunted intellectual development, and replaces it with one that encourages collective input and active participation by all, as well as stimulating critical thinking and analysis;
>
> * equips and trains all sectors of our people to participate actively and creatively in the struggle to attain people's power in order to establish a non-racial democratic South Africa;
>
> * allows students, parents, teachers and workers to be mobilized into appropriate organizational structures which enable them to participate actively in the initiation and management of people's education in all its forms;
>
> * enables workers to resist exploitation and oppression at their workplace (NCC,1985,p31).

The thrust for oppositional or counter-hegemonic education
culminated in the formation of the National Education Crisis
Committee (NECC) in 1986. At the first NECC conference
Zwelakhe Sisulu, in his keynote address, defines People's
Education as

> education at the service of the people as a whole,
> education that liberates, education that puts people in
> command of their lives (NECC,1986,p37).

People's Education was not to be confused with `alternative
education' which Molobi (1986,p4) referred to as a
"fashionable concept" supported by capital. Instead the
NECC took as its position that People's Education will be an
education that helps achieve people's power. "People's
Education is therefore decidedly political and partisan with
regard to oppression and exploitation", said Molobi
(1986,p4). In this sense schools are to be transformed from
institutions of oppression into sites of people's power as
part of the strategy for liberation.

The concept of People's Education for People's Power has
provided further opportunities to debate strategies for a
future democratic education system for South Africa. As
Hartshorne (1986,p41) points out:

> The upsurge of People's Education has provided a new
> opportunity to debate the realities, the relevance, the
> quality and style of education in South Africa and to
> negotiate the future of education for all people of
> this country.

In a highly repressive society resistance in schooling has a
particular significance, for there is no longer debate over
whether schools are sites of struggle, they are now
recognized as such. It should be said, however, that the
distinction between `education as a site of struggle' and
`struggle as a site of education' is not always clear (see,
for example, Bloch's argument,1988). The question of
whether politicization of educational discourse means the

detrimental neglect of educational issues remains
(Morphet,1987).

Throughout this period of resistance the role of the teacher
has been hotly debated, and demands for more militancy and
more progressive teaching methods have been made. Rensburg
pointed out in the year of the formation of the NECC (1986)
that it would be teachers and not activists who will be most
important in implementing people's education. At a seminar
on People's Education held to commemorate the tenth
anniversary of the establishment of the Solomon Mahlangu
Freedom College (SOMAFCO,August,1989,p11), the role of
teachers in developing People's Education was seen as
follows:

> * the teacher must have a clear concept of what
> people's education is, its aims, objectives, role and
> its method of presentation - the educator must be
> educated;
>
> * the teacher must be engaged in constant and continual
> research;
>
> * the curriculum must be bent and made relevant to the
> life experiences of students and their needs. Subjects
> ... should be taught in their political context;
>
> * teachers should play an active role in developing
> alternative teaching materials and share them.

So teachers, trained under the present system, need to
explore ways to contribute meaningfully to a developing
discourse on educational practice and policy. While teacher
organization is a crucial and necessary strategy for
liberation (NECC Conference,December 1989), it cannot be the
only means by which to educate teachers into more critical
approaches to their work. The role of the teacher, as
listed above, indicates also the responsibility that
teachers must face in improving their own practice through

research, curriculum material development, and collaborative work. Certainly the past decade in South Africa has been a most significant one in terms of the crisis in schools, and in terms of consideration of what goes on in classrooms - the proliferation of workshops, teacher centres, materials development projects, cultural projects, resource days, and so on are an indication of the demand made by political organizations and teachers alike for more relevant sources and more liberatory methods. The attention given to classroom practices has resulted in a focus on teaching and learning and on what that might mean in a democratic, non-racist, non-sexist education system in South Africa.

It is within this social context that this study finds its place. People's Education for People's Power has had immense rhetorical impact and has been a successful mobilizing strategy (Nkondo,spokesperson for NEUSA, SATV,24.3.90), but consideration about curriculum and curriculum practice is not as clearly defined. Indeed, I can find no People's Education documentation on curriculum or pedagogy which relates specifically to the primary school. One of the intentions of this study is to provide theoretical and practical insight into primary school classroom practice in order for it to be used to further the development of People's Education for People's Power.

The struggle by the people in this country for political power has given rise to the struggle for control in each specific sphere of social life - in the economic, cultural, educational and ideological spheres (Mashamba,1990,p12). People's Education for People's Power carries with it the understanding of ultimate control of the education system. This constitutes the central political dimension of educational struggles:

> The political problem in education is not how to evade the power of the state, nor even how to best use what is available in the state system, nor how to resist state power in education; it is, ultimately, how to take control of the education system (Prinsloo,1987,p22).

This process towards control of the education system will not only arouse the opposition of the state, it will also cause a great deal of conflict over appropriate strategies around the two key areas of content and control. As Prinsloo (1987,p22) points out:

> The major area of conflict is likely to be between those who seek to democratize education within a framework of equality of opportunity and those who seek to construct a form of mass education that contributes to socialist practices.

It is precisely this conflict which leaves the development of a People's Education unclear in its political direction. People's Education is seen as part of the strategy to win state power. However, while this constitutes the revolutionary or transformative essence of People's Education, it also contains much which is acceptable within bourgeois democratic discourse. Levin (1988,p4) argues, therefore, that the concept of a people's education

> in no way necessarily offers a fundamental challenge to capitalist forms of schooling and is compatible with a variety of bourgeois democratic transformations ranging from reform to revolution.

Mashamba (1990,p1) also warns that in exploring the conceptual terrain in People's Education

> we must bear in mind that these concepts are not only used within the sphere of the People's Education discourse, but within the broader context of the non-racial democratic discourse.

It is perhaps for this reason that the adoption of The Freedom Charter by many organizations within the Mass Democratic Movement may be understood. The educational

clause in the Charter which has the overriding statement
that "The doors of learning and of culture shall be opened"
is not one to cause disagreement. Indeed, as Taylor et al
(1989) have argued, it is precisely because the Charter
resonates to popular memory that it has gained the status of
authority that it presently enjoys.

Further, and because of the ease with which the discourse of
People's Education may be co-opted and used by a wide range
of ideologically disparate groups, precisely who the
`people' might be also becomes unclear. It is not
surprising, then, that the state and the NECC, for example,
find consensus over a number of issues such as community
involvement in schools, the revision of content of black
education, a more equitable distribution of resources, and
the achievement of a high level of education (SATV
interview,24.3.90). It is clear that People's Education has
united a wide range of political, social and economic
categories, the most fundamental of which is social classes.
This leaves one with the question,"Is People's Education
really revolutionary?"

The present strategy of a `people's struggle' does not
necessarily provide for the emancipation of the working
class from exploitation. While there is argument to suggest
that the present struggle is the first phase of socialist
transformation, its progressiveness and whether or not it
lays the basis for a transition to socialism will ultimately
depend on "the organizations of our people", for without
organizations and structures "any struggle is doomed to
chaotic and leaderless confusion" (Soudien,1986). This
makes it impossible to specify what a future post-apartheid
education system may be "since the nature of such policies
will only emerge and be determined by the particular

configuration of political forces that emerge from the
present struggle (Kallaway,1987,p49).

The challenge, then, for those concerned with a socialist
alternative to pedagogy, one that includes an anti-
capitalist, anti-racist and anti-sexist stance, at the micro
level is to find ways in which 'people's knowledge' may come
to inform the curriculum, and how critical thinking can be
advanced in the school context (Kallaway,1987). It is
within this challenge, and the context of present struggle,
that I use the term 'critical pedagogy' rather than
'socialist pedagogy' as a metaphor for the argument in this
thesis. My explication is as follows:

In the literature 'critical pedagogy' is used in different
ways. Two examples of the use of 'critical pedagogy', those
of Grundy and Giroux, may suffice to indicate how my own
'definition' differs metaphorically. Grundy (1987,p156)
defines 'critical pedagogy' as one which confronts the real
problems of existence, involves processes of
conscientization, confronts ideological distortion, and
incorporates action as part of knowing.

The disadvantage of her use of the term is that she relies
heavily on Habermas's notion of an ideal speech situation,
as developed in his critical social theory (Habermas,1972).
It is a contention of this thesis that this notion is flawed
for it does not address the question of 'whose is the better
argument?' (see particularly Chapter Three).

Giroux, in his introduction to Freire and Macedo (1987,p20),
says that a critical pedagogy must take seriously

> the articulation of a morality that posits a language
> of public life, emancipatory community, and individual
> and social commitment.

Elsewhere (1983,p240) he uses the term `radical pedagogy' to
have the same intention of all groups "benefitting" in a
process of "enlightenment". The disadvantage of his use of
the term is that it has liberal rather than socialist
implications in that it articulates with the bourgeois
notion of freedom, a freedom which guarantees the political
liberation of all oppressed groups without necessarily
changing the fundamental structures of society in a way that
a socialist pedagogy would demand.

As will be seen in the body of the thesis, I am strongly
influenced by the writings of Giroux, but I try to move from
the reformist nature of his argument to a position which
includes a stronger notion of praxis (see Chapter Two).
`Praxis' is not, in fact, a notion that Giroux develops in
any of his arguments.

I am also influenced by Freire's understanding of pedagogy
(1987,p54), because he suggests that a pedagogy for
liberation is more investigative and less certain of
certainties. He says, "The more `unquiet' a pedagogy, the
more critical it will become". Given that I can find no
documentation about primary education in the literature on
People's Education from a variety of ideological positions,
it would seem to be politically sensible to be less certain
of certainties and to adopt an investigative attitude to the
development of a pedagogy for socialist transformation.

My use of an action research paradigm required that I be
`critical' of my practice, for the empirical basis for my

argument lies in the use of data created during the process
of researching my practice. Within the action research
approach rich data were created using various strategies
(see discussion below and Chapter Three). The understanding
that teachers are central to learning in the classroom, and
are the nexus of the authority/emancipation problematic,
required a reflexive and dialectical approach, one that
allowed for uncertainties to be recognized and examined.
The use of `critical pedagogy' suggests, for me, the open-
ness important to improving one's practice for social
transformation, for I take it to include the anti-
positivistic stance crucial to the action researcher.

Another layer of meaning in my use of the term `critical
pedagogy' arises from my position as a woman. In order to
avoid my theoretical position being seen as `eclectic
opportunism' an extended explanation follows.

Present concern in this country for a pedagogy for
liberation has drawn attention to the contradictions and
possibilities in theories of schooling. Marxist theory such
as that of Althusser (1971) has argued that the reproduction
of the relations of production, which is central to the
maintenance of capitalist social relations, is secured by
"ideological state apparatuses" such as that of the school.
Althusser explains that the way in which dominant meanings
are secured is through language. Language, in the form of
what Althusser calls "ideology in general" is the means by
which individuals are governed by the ideological state
apparatuses in the interests of the ruling class (gender, or
racial group). Subjectivity, according to Althusser, is an
effect of ideology, it is a structural feature of ideology
(1971,p161 -163). In this understanding of subjectivity a
primary school teacher is the subject of ideology, and on

assuming the position of subject in ideology, she assumes
that she is the author of the ideology which constructs her
subjectivity.

Hall (1980) and others have drawn attention to the fact that
while Marx provided an argument for historical materialism,
he provided no theory of the constitution of the individual.
The work of Althusser is unable to reconcile subjectivity
and objectivity, although it should be added that some
humanist marxists continue to attempt this reconciliation
(see, for example, Lacan,1977). It was necessary,
therefore, to look to other theory appropriate to an
understanding of subjectivity, in order better to understand
the constitution of subjectivity of (primary school) (women)
teachers.

Statistics (see, for example, South African Race
Relations,1989; Unterhalter,1990) reveal that most primary
school teachers are women - the historical reasons for this
are examined more carefully in Chapter Seven - and that this
raises, for any pedagogy for liberation, the issue of the
place of women in society. While the structural analysis of
class given by marxism is taken seriously, it does not
articulate well with the location of women. Socialist
feminism has attempted to extend to women the marxist
assumption that human nature is not essential, but socially
produced and changing. Patriarchy, in socialist feminist
terms, is not seen as monolithic, but as forms of oppression
which vary historically. While marxist sociology has not
`solved' this `problem' to date, post-structural theory may
be more useful.

While post-structuralism may not answer all questions, it
has a degree of explanatory power, for it is a way of
conceptualizing the relationship between language, social
institutions and individual consciousness which focusses on
how power is exercised and the possibilities for change. To
this extent the later work of Foucault (1977,1980) has
informed much of the argument in this work (though it should
be noted that Foucault does not see himself as a `post-
structuralist', Kritzman,1988,Chapter Two). Foucault
problematizes the status and role of the human subject, and
the concept of human beings in history and in the `human
sciences'. In his examination of the nature of historical
change Foucault (1977,p27) argues that knowledge does not
"reflect" power relations, it is immanent in them:

> Power produces knowledge ... Power and knowledge
> directly imply one another ... There is no power
> relation without the correlative constitution of a
> field of knowledge, nor any knowledge that does not
> presuppose and constitute at the same time power
> relations.

Foucault shows that each society has its own "regime of
truth", its types of discourse accepted as true. Within
these "discursive practices" knowledge is constituted,
together with the social practices, forms of subjectivity
and power relations which inhere in such knowledges and the
relations between them. Discourses, for Foucault, are more
than ways of thinking and producing meaning, for they
constitute the "nature" of the body, unconscious and
conscious mind, and emotional life of the subjects which
they seek to govern. This should not be taken to mean that
discourses exist in simple "bipolar" relations of power and
powerless, rather that discourses should be seen as
"tactical elements" in power relations. For example,
feminist discourse, in its attempts to subvert dominant
(male) discourses, has provided a space from which the

individual can resist dominant subject positions even and although they lack the social (institutional) power to realize their versions of knowledge. The notion of resistance and possibility implied in this theory gives substance to the argument that teachers can produce an alternative (pedagogical) discourse. The present political climate in South Africa and the crisis in schools suggests that a marginal discourse, such as that of socialist pedagogy, can increase its social power. In other words, the historical specificity argued for by Foucault would seem to be a condition present in this historical moment in South Africa.

In my use of Foucault's theory I try not to assume that `discourse' is sufficient unto itself, that society is nothing but its languages and signifying practices. I take Gledhill's (1980) point that there is a danger of conflating the social structure of reality with its signification, by virtue of the fact that social processes and relations have to be mediated through language, and the evidence that the mediating power of language reflects back on the social process. She makes the point that

> to say that language has a determining effect on
> society is a different matter from saying that society
> is nothing but its languages and signifying practices
> (quoted in Sarup,1984,p156).

My task, as a woman and a primary school teacher, in seeking change in pedagogical practice, requires attention to historical specificity in the production, for women, of subject positions and their place in the overall network of social power relations. To contest and go beyond the regime of truth which continually attempts to define women teachers as `carers' and `maternal nurturers' (Walkerdine,1986) I

need to develop a pedagogy which provides space for
contestation. I would call this a critical pedagogy.

The thesis is a tentative endeavour and so `critical
pedagogy' more appropriately suggests the seeking and
struggle for an emancipatory form of pedagogy which is yet
to be.

Rationale and argument for the study.

> Though teachers in primary schools have considerable
> autonomy, radical change is unlikely to take place
> there. The characteristics of many primary teachers
> are such that the imposition of constraints by the
> state is unnecessary (Sarup,1984,p159).

Sarup presents the public common-sense understanding of
primary school (women?) teachers. These understandings are
supported by theory (both marxist and liberal) which argues
that, because the state controls the training of primary
school teachers, they are trained in an a-historical, a-
theoretical way and are encouraged to view themselves as
`middle-class'. (1) Primary school teachers, it is
popularly held, have assumptions and beliefs which support
bourgeois hegemony (Sarup,1984; Blenkin & Kelly,1981).
Primary school teachers are seldom delegates to education
conferences (see regional representation, for example, of
NECC National Conference, 1989), seldom keynote speakers,
and are seldom if ever asked their opinion on educational
matters. I am a primary school teacher. I believe in the

---

(1)Miss F.Mgomela, in her teleletter to a local newspaper,
complained about the lack of a telephone service where she
lived near Khayelitsha. She said,"We are middle-class
people living here, teachers and professional people. Why
must we wait so long?" (The Cape Times,16.6.90).

importance of schooling and particularly primary education
for social transformation. This thesis is an attempt to
question the undialectical nature of popular beliefs and
common-sense understandings of primary education and the
role of the primary school teacher. It is an attempt to
examine taken-for-granted assumptions about primary
education, those teachers, and the constraints under which
classroom practice proceeds.

A central assumption in this study is that it is impossible
to talk meaningfully about a pedagogy for liberation without
investigating the ways in which we come to know in the
classroom, and that the **teacher** is the central driving force
in this endeavour. There is little research in this country
of educational activities which contribute to change
(Ferron,1984), and even less on what we understand teaching
and learning to mean in the process of change (Miller,1984).
It is in these very areas that primary school teachers can
most usefully engage. They have the `space' as they are not
as affected by public certification and the way in which
this certification influences the practices and
understandings of secondary school teaching and learning.
The `primary' in primary education signifies primary
introduction to the cultural tools of society. In other
words, primary school teachers are often in the role of
significant other in the process of internalization of the
tools of society, particularly the psychological tool of
language (Vygotsky,1978), for they are the carriers of the
social knowledge that is the basis of the schooling process.
At the primary level of internalization, where children are
encountering for the first time a new element in their
social world, they are in a dependent relationship to the
significant other (teacher). A teacher who reflects on this
process and its outcomes can contribute most fruitfully to
our understanding of how people come to know. An intention

of this study, then, is to locate a meaning of teaching and learning such that it contributes to a developing theory of cognition. At the same time this 'new' understanding will seek to contribute to a developing theory and practice of pedagogy, that is, a pedagogy for liberation rather than of oppression and domination by one class, race, or gender.

Influenced by the critical social theory of Habermas (1972) and others who criticize dominant forms of rationality and the positivistic mode of thinking, the thesis tries to adopt an anti-positivistic form of argument (see Chapter Three). An intention of this work is to highlight the dangers of positivism in pedagogical understandings, arguing that positivistic notions of pedagogy hinder forms of practice which lead to emancipation. The concern with an anti-positivistic stance also means that the thesis takes the problematic relationship between authority and emancipation as central to its concerns. This is so because, in seeking forms of emancipatory practice, it becomes necessary to question forms of authority and the ways in which leadership can function such that the subject position of the teacher is also part of the political agenda. This attempt to take seriously criticism of positivistic forms of educational research and their debilitating effect on transformation will, it is hoped, contribute to attempts to develop a pedagogical discourse which contests hegemonic assumptions and the social practices which arise from these assumptions.

In summary, and within an anti-positivistic framework, the thesis focusses on the primary level of education and the role of those teachers. Through this focus it is intended that the thesis contribute both to theory of cognition and to developing a pedagogy for emancipation. In presenting these reflections on my classroom practice for public

scrutiny, I try to give meaning to the role of primary
school teachers, acting as transformative intellectuals, in
a process of socialist transformation.

Presentation of the work within an action research paradigm.
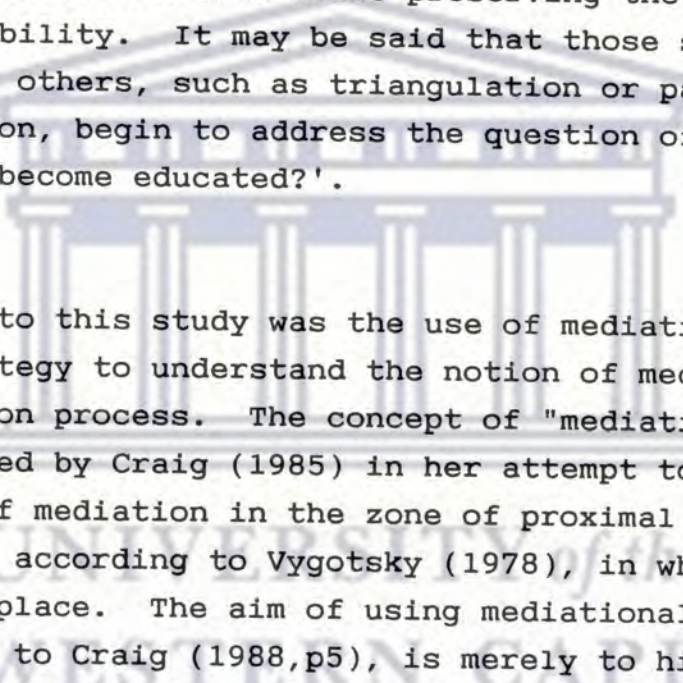
The research approach that was employed from the outset was
that of action research, initially as defined by Carr &
Kemmis (1983) in Becoming Critical:Knowing through action
research.   Carr and Kemmis explain that the research
integrates investigation, education, and action in a cycle
which includes the phases of planning, acting, observing,
and reflecting.   Unlike conventional anthropological
research strategies, action research sets out to actively
engage with, and thus influence, the research subjects
(teacher and pupils).

Action research developed as a form of anti-positivistic
research.   It is an attempt to overcome the separations
found in positivistic research of theory and practice,
knowledge and action, education and work.   Action research
seeks to integrate these, assuming that the separation is a
form of impoverishment.   Action research is a form of social
inquiry eminently suitable for school teachers as it
concerns itself with professionalism - a social role which
specifically aims to bridge the practice/theory divide (see
Chapter Two for discussion on professionalism).   It is no
surprise in reviewing the literature on action research that
much of this research takes place in educational settings,
for the concept `education' is deeply involved with the
theory/practice resolution:

> `Education' refers always to a theoretically conceived
> ideal ... [and] `education' always requires some form
> of interpersonal effectiveness. ... `Education' is thus
> always both theoretical practice and practical theory
> (Winter,1987,pviii).

One can say that, ultimately, action research as a form of
social inquiry aspires to education.

From April 1984 to March 1986 I worked on a voluntary part-
time basis in a local primary school. In 1984 the children
were in standard two (eight to nine year olds), and I ended
my work with them when they were in standard four. As the
school rearranged its classes each year, I taught some of
the children all of the time, and others for one year or
part thereof (see Acknowledgement). All of the research
strategies adopted in the study have been described
elsewhere (Elliott,1984; Rowland,1984a; Walker,1984; Carr &
Kemmis,1986). They included audio-recordings of a variety
of interactions such as lessons, interviews and discussions,
resulting in 27 transcripts; video-recordings (6); field
notes (about 40 instances); still photographs (2 occasions);
questionnaires (2); participant observation (8 occasions);
and triangulation (4 occasions). There were different
advantages to be gained from these strategies. For example,
triangulation is defined as a method for bringing different
kinds of evidence into some relationship with one another so
that they can be compared and contrasted
(Elliott,1984,p101), as when a teacher's account of a
situation is contrasted with that of a pupil's account and
that of a participant observer's account. Within the
dialectic of action research, triangulation allows the
contradictions in understanding to be challenged for
planning further action and reflection.

Using an `outside' observer as a participant, on the other
hand, is a strategy which allows the teacher-researcher to
participate collaboratively with colleagues in a process of
self-reflection. In this way action research attempts to
resolve the double dialectic of thought and action and
individual and society in the notion of a "self-critical
community" committed to the "improvement of education, who
are researchers for education" (Carr & Kemmis,1986,p184).
The reflexivity essential for action research's project
emerges in these "communities" where a critical distance
from action is achieved while preserving the action's
intelligibility. It may be said that those strategies
involving others, such as triangulation or participant
observation, begin to address the question of `How does the
educator become educated?'.

Peculiar to this study was the use of mediational operators
as a strategy to understand the notion of mediation in the
instruction process. The concept of "mediational operators"
was devised by Craig (1985) in her attempt to grasp the
dynamic of mediation in the zone of proximal development,
the zone, according to Vygotsky (1978), in which mediation
can take place. The aim of using mediational operators,
according to Craig (1988,p5), is merely to highlight
important moments in the instructional process which, if
present, "will contribute critically to the learning process
and generate effective adaptation to and mastery of formal
educational demands". Craig (1985) used the concept as a
scientific way in which to analyze the forms of mediation
mothers use in instructing their children. Kok (1986) also
used the concept of mediational operators to analyze how
mothers themselves perceived their interaction with their
children in the process of instruction. In both these cases
the studies were with dyads.

Almost all studies of teaching/learning have been with dyads, I decided to adapt the concept of mediational operators for my purposes to a one-to-many situation believing it to be a useful and novel way in which to try to understand the dynamics of mediation in teaching situations. I saw the understanding of mediation as important to an understanding of cognitive development. Accordingly I "fashioned" three mediational operators (see Chapter Five) to highlight important moments in the instructional process in the classroom, that is, in a one-to-many situation.

Subjective interpretation of the data is acknowledged from the outset. Indeed, my `vested interest' is in the spirit of action research, that is, my interest lies not in the `success' or `failure' of a prized theory or practice, but in understanding better my work as a transformative intellectual. Validity in the case of this study should not be sought in terms of a correspondence between the two entities, account and reality, but rather in the principles of reflexivity and dialectics, two principles which Winter (1987) sees as vital to the project of action research (see under Terminology below for discussion on reflexivity and dialectics). The principles of reflexivity and dialectics are important because action research is predicated on the assumption that a descriptive account cannot be a final product, but is rather a moment in a continuing process of dialectic among writers and readers. The principle of reflexivity operates within the text so that the text must include within itself a critical commentary, one which addresses directly the text's own problematic and how its processes address that problematic. Validity of this written project, then, may be said to lie with "the adequacy of its own explicit recognition of its reflexive and dialectical structure" (Winter,1987,p145). This means that

the thesis should be read as an open text intelligible only in the light of the reflexivity of language and the constitutive dialectic between writer and reader. An important question for judging the research, then, becomes not whether or not the researcher is `neutral', but whether an adequate degree of intellectual integrity has been achieved within the action research paradigm (see also Chapter Nine).

The sequence within which the work is presented is in itself part of the research process, for it constitutes my own search for knowledge, for defining what I mean by a critical pedagogy. Decisions about chronology of events and chronology of learning had to be made (if a chronological form of learning is even possible). The work is presented here in some form of chronological order of events. Chapters Two to Six include the events in the classroom, the process of reflection and action while I was teaching. Chapters Seven to Nine represent reflection which took place after I had stopped investigating my actual day-to-day practice. However, there is at once a contradiction in this in that the whole study is written after the day-to-day events and constitutes a further reflective stage, indeed, the chapters have not been written in numerical sequence, this chapter itself being one of the last. In attempting to separate out `knowledges' in this way I am at once conscious that learning is a continuous process rather than something occurring in discrete stages or phases, so the sequence (as set out in the summary of contents earlier) aims to make the study intelligible to the reader in the context of a teacher mapping out her professional development within the rationale as detailed above. Moreover, in recognizing the difficulties in reporting actual experience in language, this presentation attempts to be a reflexive description

embodying a principled recognition of the problematics of
its own possibility.

Terminology.

In speaking about power, discourse and teachers, van den
Berg (1986,p9) argues that:

> education arises out of a political discourse and is
> profoundly shaped by the dominant political discourse.
> If we attempt to engage in discourse about education,
> and separate that from politics, we make a decision to
> buy into the dominant discourse ... To acquiesce in the
> dominant discourse about the relationship between
> education and politics is to accept terms of discourse
> loaded in favour of established practices.

Van den Berg captures both the spirit and the challenge
presently confronting those wishing to develop a more
radical form of schooling. Its spirit is rooted in an
aversion to all forms of domination, and its challenge
centres around the need to develop a pedagogical discourse
that mediates the possibility for social action and
emancipatory transformation. One of the projects of this
thesis, arising as it does out of a research methodology
that grounds inquiry in human agency, is that it be an
attempt to develop a discourse of critical pedagogy.
However, as language is not neutral, there will inevitably
be contestation over some of the terms used in this thesis.
While the way in which I use these terms will, I hope, be
understood within the context of their usage, and, indeed,
some are explained in some detail within the text, it is
necessary to set out my use of certain key concepts before
proceeding. These are: critical reflection, reflexivity,
dialectic, and empowerment.

Critical reflection.

I have suggested in the above discussion of action research that it is founded upon a challenge to positivism's version of the relation between theory and practice. Action research rests upon a conception of the theoretic competence of the social actor (teacher-researcher), and this is usually presented by action research writers, strongly influenced by Habermasian usages of `critical', as a process of `critical reflection' (Brown et al,1981; Carr & Kemmis,1986; Grundy,1987; McNiff,1987).

The difficulty of this use of `critical reflection' is that it appears to rely on a form of self-reflective inquiry which takes place in the action research cycle of planning, action, observation, reflection. For example, Grundy (1987,p153) writes that:

> The action research project will incorporate the same cycle of planning, acting, observing and reflecting moments, but action and reflection will both operate at two levels. Reflection will produce enlightenment with respect to their own practice and also with respect to the wider social context of that practice. A process of ideology critique will, therefore, be incorporated into the reflective moment. Strategic action will be taken to improve personal practice as well as contextual practices which constrain true improvement.

The question that arises from these sorts of explanations is, `How may the self be envisaged such that its improvement is a process of self-transcendence rather than self-reproduction?' It is necessary to raise this question, for the impression given by Grundy and others is that the possibility for an increase in understanding is silently inscribed in the `space' between observation and reflection, between the teacher-researcher and the classroom practice

itself. It is as though individual consciousness has a
spontaneous capacity for self-transcendence.

Much action research writing tries to overcome this notion
of individualism by invoking the idea of an Other, usually a
facilitator, but the nature of this facilitation vacillates
between `neutral' (Walker,1989) and `theory expert'
(Elliott,1984). In other words, there is the implication
that critical reflection is not dependent on a form of self-
other dialectic, although it is conceded that this may
enhance the process of reflection (McNiff,1987). The
recommendation that teacher-researchers write analytic memos
(Elliott,1984; Rowland,1984b), so that `new ways' of
thinking or perceiving may `emerge', suggests an
articulation of a subjectivity determined by the `facts' of
experience which would seem to deny the possibility of self-
transformative practice.

To overcome this difficulty in the project of action
research, `critical reflection' must include reflection upon
the way in which practices are structured by
institutionalized authority relations. In other words,
`critical reflection' requires a formulation both of
consciousness and of social structure in terms of their
mutually constitutive dialectical contradictions. This is a
move away from the conventional position of critical theory
which removes itself from the institutionalized
relationships which are its object (the Habermasian
position). In my use of the term `critical reflection', and
to avoid a deterministic form of self-reflection, I try to
include a dialectical formulation of institutionalized
processes and of ideological processes, so that I can
maintain the self-other relation and the theory-practice
relation.

The notion of subjectivity which underlies my maintenance of the self-other relation is a notion with which I still grapple. However, I understand subjectivity to be the ways in which we acquire discourses and particular ways of thinking. These ways of thinking constitute our consciousness, and the positions with which we identify structure our sense of ourselves, our subjectivity. Important to note, for the teacher-researcher wishing to transform her practice, is the understanding that, having been inculcated with a particular system of often contradictory meanings and values she finds herself resisting alternatives. Critical reflection would recognize that meanings are socially and historically located in discourses which represent political interests. It would also recognize, therefore, that the site of this battle for power is the subjectivity of the individual. It is with this understanding that areas and strategies for change can be identified and contested.

Reflexivity (but see also Chapter Three).

The way in which I have tried to explain my use of the term `critical reflection' already suggests the further requirement of reflexivity, for critical reflection takes place through language in a process of communication (written or spoken). However, the intelligibility of language relies on the interpretive procedures of the reader or listener, for language is indexical - the meaning of expressions is decided by the reader/listener in the light of his or her understandings of the speaker's/writer's relevancies, the situation in which the expression is used, and the cultural system of which the expression forms an element. Communication, therefore, is not merely the

transmission of a message but a process of making meaning. The interpretive procedures used by communicators, such as assumptions about intelligibility and reciprocity of perspectives, about common knowledge, and the retrospective/prospective sense of clarification through later utterances, are shared by language users (see Appendix in Winter,1987,p155 -157, for extended explanation). In other words what they share is a quality of reflexivity. For example, in writing this text I presuppose the intelligibility of the writing for the reader, and I can only make this presupposition because I interpret its intelligibility for myself by envisaging its intelligibility for the reader. The writing is not seen as a description of an already existing state of awareness, but a means for the self-reflective formation of awareness.

It is in this sense and in order to escape the auspices of positivism that action research requires the epistemological principle of reflexivity. If reflexivity is ignored then `knowledge' is taken to be an `exact' description of an external object-world conveyed through the supposedly transparent medium of language. It is skepticism of this `truth' that action research encourages, and which makes reflexivity a desirable analytical and theoretical enterprise for the project of action research. For social inquiry the recognition of reflexivity is "a basic mode of ordering and presenting communicative adequacy, a claim to grasp the symbolic process by which communication is accomplished" (Winter,1987,p9). Winter uses the analogy of paintings of rooms with mirrors, and poems about language to explain how reflexivity is recognized, how the medium is turned back upon itself (1987,p9).

The power of reflexivity for this project is that it denies forms of determinism or attempts at finality, rather presupposing a relationship between theorist and social actor which must be continuous and unending, "because it is both irremediably particularized and endlessly problematic" (Winter,1987,p10). I understand reflexivity to be a term appropriate for my use, for it requires me to regard the Other and the communicative process as equally real along with the Self. In this sense reflexivity entails a dialectical ontology of consciousness, a dialectic between Self, Other, and Symbol (or Sign).

Dialectic (but see also Chapter Three).

Dialectic is used in order to argue the mutual interdependence of mind and matter, a unity of opposites. The approach of the study is such that a reflection theory of knowledge must encompass the role of human activity and the social dimension of knowledge, and that this is most possible through a dialectical approach. A dialectical approach gives the possibility of uniting theory and practice, which is an aspiration of action research. Dialectics, in an anti-positivistic stance, argues that nothing is merely self-identical and self-contained, and, most usefully, sees contradiction as a necessary condition, an essential conflict within a unity. In this particular case, a dialectical approach means connecting theories of teaching and learning with wider theories of ideology and subjectivity so that the development of understanding is, in principle, possible. Dialectics enables me to

> ground ontologically the competences whereby the
> reflexive procedures which render experience
> intelligible may be submitted to analytical questioning
> by the theoretic subject (Winter,1987,p14).

Moreover, a dialectical formulation of consciousness and theorizing includes a temporal dimension, for in order for theorizing and consciousness to be intelligible both must be situated in the historical moment. This is an essential component of the project of action research, for only if `meaning' is always negotiated within the temporality of experience before it is implied, "can the possibility of `other meanings' conceivably be explored within a process of inquiry" (Winter,1987,p15). The recognition of the temporality of experience, symbolization, and understanding allows a commitment to an unending dialectic of developmental and reflexive understanding.

Dialectics directs attention to the world in motion, to evolution and development as central to thought and nature. Each chain of events has as its consequence a new formation so that each time there are new conditions and circumstances in action. "Every substantive change manifests itself as a change in relation to the whole and itself, thus changing the form of objectivity" (Popkewitz,1984,p64). This notion of change has implications for understanding social transformation. In short, if a critical pedagogy is to work towards the transformation of society, it will need to explore the dialectical basis of classroom phenomena in order to understand them, so that they may be changed.

Empowerment.

A critical pedagogy based on a notion of empowerment must ask the question, `Empowerment for what?'. Without a vision for the future a pedagogy which includes the notion of empowerment is reduced to a method for participation which takes democracy as an end and not as a means. In other words, there would be no moral vision other than the

insistence on people having an equal claim to a place in the
`public arena'.  In this sense, the term `empowerment' is
limited to what Aronowitz describes as "the process of
appreciating and loving oneself" (in Giroux & McLaren,
1986,p229). While this may be a good, empowerment in this
sense is then unable to call into question existing
contradictions between human agency and social forms.

Lazarus (1988,p190), for example, speaks about `empowerment'
as "enabling people to gain control over their own lives".
She relates this to the role of the "facilitator" in
community psychology. While she gives a number of ways in
which the facilitator may assist in "empowering" people,
both in the individual and political sense, she pays scant
attention to problematizing the role of expert (facilitator)
in this process. She does warn against a "paternalistic
relationship", and comments that "the psychologist should
confront her/his own power position, interests, needs and
behaviours, and work through the incongruencies as they
emerge" (1988,p194), but she does not suggest what she means
by this process. Rather does she support a form of
"participatory democracy" (p194) and implies that it is
through this practice that `empowerment' can be recognized.
Again, one cannot argue with the intended good inherent in
the argument but it returns once more to the problematic of
`empowerment for what?' and `by what means?' In other
words, by not stating the political intention of the
facilitator, or problematizing this role to any degree, she
remains open to the Aronowitz criticism of not exploring the
contradictions within that dialectic - the contradictions
between human agency and the material conditions of society.

I understand the term to mean more than that described by
Lazarus. To put it another way, if `empowerment' is to be a

useful term in critical (socialist) pedagogy its meaning
will have to include more than the Habermasian understanding
of a "public sphere" (Habermas,1972; Giddens,1979;
Thompson,1984), it will require accountability from the
teacher for `naming' the political agenda behind her/his
wish to initiate a `critical pedagogy'. By naming her
political agenda the dialectic returns us to the
authority/emancipation problematic, and to the question of
action in the classroom. Ellsworth (1989,p301) recognizes
the dangers in not providing a clear statement of political
agendas when she says:

> However good the reasons for choosing the strategy of
> subverting repressive school structures from within, it
> has necessitated the use of code words such as
> `critical', `social change', `revitalized public
> sphere', and a posture of invisibility. As a result,
> the critical education `movement' has failed to develop
> a clear articulation of the need for its existence, its
> goals, priorities, risks, or potentials.

The point is that much of the literature on critical
pedagogy suggests that teachers and pupils should engage in
the full range of views present in the classroom in a
critically reflective manner. What is implied is that this
`engagement' be engaged in by people as fully rational
subjects. Walkerdine (1985) argues that schools have
participated in producing "self-regulating" individuals by
developing in pupils capacities for engaging in rational
argument. By ignoring the "irrational Other" in schools,
rational deliberation and consideration of all viewpoints
has become a vehicle for regulating conflict and the power
to speak, for transforming "conflict into rational argument
by means of universalized capacities for language and
reason" (Walkerdine,1985,p205). In a racist and sexist
society with racist and sexist institutions such as those in
South Africa, debate over one's personal experience cannot
be made "public" in the sense of including all parties and

affording them equal weight and legitimacy. Nor can such debate be free of conscious and unconscious concealment of interests. Subjecting personal experience of minority groups to rational debate about their validity is inappropriate, for "Words spoken for survival come already validated in a radically different arena of proof and carry no option or luxury of choice" (Ellsworth,1989,p302).

The notion of `empowerment' which I wish to adopt carries with it the understanding that voices of the oppressed are partial and partisan and must be critiqued through the implications they hold for other social movements and their struggles for self-definition. To try to express this in anti-positivistic terms is to say that the notion of empowerment must not rest on a cause/symptom analysis, but rather on a reflexive and dialectical (epistemological and ontological) consideration of authority/emancipation which would couch the question, `empowerment for what?', in historical and political conditions. In this way `empowerment' would not be seen as a capacity to `act effectively' in the reformist way that Giroux argues, but would rather be embedded in a challenge to teachers (and pupils) to `own up' to their own implications in those social formations, and to examine ways in which they were capable of changing their own relations to, and investments in, those formations. This position makes us all accountable and `examinable', and addresses much more profoundly the question of `how does the educator become educated?' It is a sense of `empowerment' at work that is more than simply an academic notion employed by teachers on pupils.

A critical pedagogy which supports the project of possibility must raise questions of how we can work for a

transformed society in which human freedom is the understanding of necessity and the transformation of necessity. Further, a critical pedagogy is not simply about the empowerment of pupils, it also includes the empowerment of teachers as part of the wider project of social and political reconstruction. Empowerment, then, is linked to teaching and learning, to the goal of educating pupils to take risks, and

> to struggle with ongoing relations of power, to
> critically appropriate forms of knowledge that exist
> outside of their immediate experience, and to envisage
> versions of the world which is `not yet' - in order to
> be able to alter the grounds upon which life is lived
> (Simon,1987,p375).

It is in an attempt to draw on this sense that the term `critical pedagogy' is used in the thesis.

Two further terms which need explication - **professionalism** and **praxis** - will be dealt with in some detail in the next chapter in the context of their use.

CHAPTER TWO

THE TEACHER AS TRANSFORMATIVE INTELLECTUAL

Chapter Two attempts to take seriously the function of
teaching and learning. It explores the role of the
teacher as mediating agent in progressive change.
Explaining the need for a critical position, it views
schools as places where forms of democratic empowerment
can be developed. This endeavour is supported by
argument for a form of emancipatory authority. Linking
authority with emancipation acknowledges the
intellectual role of the teacher. The notion of the
teacher as transformative intellectual is conceived and
developed, and seen as a particular form of
professionalism. By invoking a notion of dialectical
praxis, it is argued that the teacher's work can be
both transforming and empowering.

In 1984, when I began this research project, the
liberal/radical debate over schooling was at its height in
this country (see Kenton Conference Proceedings,
1981,1982,1983). Lawrence (1981,p87) describes the
prevailing mood of the 1980 Kenton Conference in this way:

Sophisticated `in-fighting' was clearly evident. One
could clearly see some dissention within the ranks.
Shades of a Kuhnian paradigmatic crisis seemed evident.

At the 1983 Kenton Conference Morphet (1983,p12) stated that
the need

is to build an argument which takes full account of the
sociohistorical situation of education in South Africa
but which works towards a case which can be stated in
terms of the educational processes of teaching and
learning.

Moll responded to this direction in a paper titled "So
what's happened to teaching?" at the 1984 Kenton Conference.
He suggested that Marxist theory, "as the key which has
unlocked the complex socio-historical determinants of

apartheid education" (1984,p228), also provides a rigorous psychological tradition about the nature of learning and cognition. In discussing the role of the teacher, Moll (1984,p227) concluded:

> So the process of mediating knowledge to children starts, for any teacher, outside the classroom; she adopts a critical position with regard to the social location and production of knowledge, and then constructs a materialist teaching practice rooted in the form that knowledge takes in dialogue with the children.

The criticism levelled at Marxist critiques, that they provide no understanding of what effective teaching might be, were met to some extent in this reply of Moll's. It remained, of course, for those committed to social change in this country, to develop a critical (materialist) educational practice, a struggle which is still in process.

The liberal/radical debate was a vital one, as it was important to keep alive the question "So what's happened to teaching?" Theories of reproduction (Althusser,1971; Bowles & Gintis,1976), while being crucially necessary to furthering our understanding about schooling, did not provide hope for contestation and struggle. The emphasis on the political economy of schooling as explained by correspondence theory in the work of Bowles & Gintis, and by state apparatuses in the work of Althusser, exhibits a strong structuralist preoccupation with their concern for "the way in which social systems position or structure human subjects" (Giroux,1983,p78). (1) Their work was highly

---

(1)Althusser (1971) believes that the maintenance of the existing system of production and power arrangements depends on both the use of force and the use of ideology. He sees ideology as the system of ideas and representations which dominate the mind of man (p262), and as a representation of the imaginary relationship of individuals to their real conditions of existence (p264). For Althusser ideology has the function of "constituting" individuals as subjects by a process of interpellation in which the subject recognizes

itself as a subject (p270). He conceives of the social whole of consisting of base and superstructure. The economic base is a unity of the forces of production and the relations of production. The relationship between the superstructure and the base is one of reciprocal action as the superstructure has relative autonomy from the base. Althusser's contribution in his argument is that we have to shift from our conventional way of thinking of a cause as a thing, a distinct identifiable entity, to treating it as a relation. He argues further that no class can hold state power without exercising hegemony over and in state apparatuses. Repressive state apparatus rules by force and is represented by the army, police, courts, and prisons. Ideological state apparatus rules primarily through consent and is represented by schools, the family, the legal structure, and churches. While ideologies serve to mystify the workings of social formations, the existence of ideologies is material, they always express class positions. So Althusser contends that schools are institutions where children are provided with the ideology which suits the role they have to fulfil in a stratified society. In other words, individuals are moulded into subjects that fit the needs of capitalism, and children are taught particular forms of knowledge and content which ensure subjection to the ruling ideology.

Althusser posits a deterministic view of people (Giroux,1981), he excludes human agency (Hall,1980), and does not pay sufficient attention to the problem of domination, so that ideology appears as a functional prerequisite of any society (Thompson,1984). In this way Althusser does not posit schools as sites of struggle nor does his theory allow for the possibility of developing a radical strategy in which oppositional forms of teaching can develop as instances of counter-hegemonic struggle.

Bowles & Gintis (1976) see a correspondence between the work place and schooling. They argue that schools serve two functions in capitalist society. The first is the reproduction of labour necessary for capital accumulation along class and gender lines in the hierarchical social division of labour. The second function is to reproduce those forms of consciousness necessary for the maintenance of "institutions and social relationships which facilitate the translation of labor into profit". They argue that the hierarchical patterns of values, norms and skills that characterize the work force, are mirrored in the social dynamics of the classroom. Schooling under capitalism corresponds to the structure of the economic system specifically in its social relationships - the relationships between administrators and principals, principals and teachers, teachers and pupils, pupils and their work. The

influential but it discouraged consideration of the teacher
as mediating agent in progressive change. Their theories
did not offer us insight into the dialectical relationship
of power and resistance, nor did they provide "a framework
for developing a viable mode of radical pedagogy"
(Giroux,1983,p86).

At the start of my study I had only a superficial
understanding of radical debates and theories, but I did
understand the need for a more critical pedagogy in the
delineated sense of working towards children becoming
communicatively competent. Bowers (1984) explains that
communicative competence involves the ability to
problematize taken-for-granted experience as a necessary
step in becoming culturally literate. Cultural literacy, in
turn, leads to the level of understanding that enables one
to call into question the underlying assumptions that give
social experience its particular characteristics. He
elaborates:

> If a belief or value exists as a reification, it will
> first have to be brought to the level of explicit
> awareness and examined before judgments can be made
> about social worth. This process will enable both the
> student and the teacher to see new relationships
> between the reified belief, its historical origins, and
> its relation to current social problems; and the
> process will lead to a more complex language code for
> conceptualizing and communicating about that area of
> social experience (Bowers,1984,p63).

---

social relationships of education replicate the hierarchical
division of labour.
While the work of Bowles & Gintis has deepened our
understanding of the hidden curriculum, their correspondence
theory overlooks the fact that social structures represent
both the medium and the outcome of reproduction practices
(Giddens,1979). They disregard the issue of resistance in
schooling (Giroux,1983), and do not help us explain how the
state provision of education can be a contested domain
(Kallaway,1987).

What I appreciated by this explanation was that children's
ability to reinterpret the definitions of society that are
reified depended on how absolute a force social determinism
is during children's most vulnerable years of development.
It seemed important that teachers engage in the kind of
dialogue that will involve those in the teaching-learning
process in reflecting upon their life situations and upon
the constructs made available to schematize those
situations. In this way teachers would be working against
mystification and for self-emancipation, it would be a
specific effort to help pupils understand that the social
reality they inhabit is a constructed one. For Maxine
Greene (1978,p69), this kind of pedagogical practice is "the
enactment of what is thought of as democracy".

This study, then, was an attempt to work against a version
of democracy (what Wood,1984, calls protectionist theory)
which is conceived of as the participation of a minority
elite, an apathetic (minority) franchised group, and a
disenfranchised majority , as is the case in South Africa.
It was an attempt to work towards a version of democracy
which encouraged participation in decision-making processes,
which encouraged an education in responsibility
(Pateman,1970). It was a notion of democracy conceived of
as "encompassing the broadest participation of the people
working to develop political efficacy and a sense of
belonging in order to further extend and enhance more
participation" (Wood,1988,p171). (2)

---

(2)`Democracy' is a contested notion, witnessed by the
thriving life it has in both practice and theory - from
Hobbes to Lenin to contemporary writers such as Laclau.
Williams, in his book Keywords (1976,p93-98), shows the
multiple meanings and historical variability of uses of the
term. World history shows that since the discrediting of
fascist doctrines in Nazi Germany, few regimes are willing
to declare themselves undemocratic. On self-description

Rather than viewing the school as simply reproducing
society, I chose to work towards viewing the school as a
centre of democratic experience, and to research how
possible it was to constitute a notion of schooling which
included some democratic practices, some notion of
democratic empowerment. Wood (1988,p176) captures the sense
of democratic empowerment I had by describing how it
involves the following cognitive, personal, and communal
skills and understandings:

> * believing in the individual's right and
> responsibility to participate publicly;

South Africa and Tanzania, Russia and United States of
America, are democracies. `Democracy' is presently
applicable to all kinds of social relations outside the
realm of formal politics; and a study of its usage by
liberation movements in South Africa suggests that its
meaning has become more basic than the precise meaning of
`government by the people'. In practice the word seems to
have both an ideal and a practical definition, the first of
which tends to be substantive and the second formal or
procedural; and it is the substantive definition, or the
underlying principle of democracy that leads to its
extension to other spheres than politics. For example we
now speak of `social democracy', `progressive democratic
organizations', and the Mass Democratic Movement, an
alliance of the disenfranchized and sympathetic others. We
can conclude that precisely because words are neither free-
floating, nor fixed, democracy becomes part of the hegemonic
discourse through a process of negotiation and articulation.
Democracy exists at the ideological level in the form of
elements of a discourse (as a word, `democracy' does not
belong inherently to any single class). `Democracy' is also
a historically negotiated concept. It should be noted that
the liberal and social traditions have developed different
understandings of democracy, the first more concerned with
liberal parliamentary representation, and the second with a
certain levelling-out of social and economic rights, while
for post-colonial Africa, democracy has a national
connotation reflected in one-party democracy. For detailed
discussion on liberal democratic theory see Lively
(1965,1975), Pateman (1970), Mayo (1960), Morrow (1985).
For discussion of socialist and Marxist theories see Hunt
(1980), Mercer (1980), Levin (1983), Gay (1983), Laclau
(1977). See Nursey-Bray (1983) & Austin & Tordoff (1972)
for African democracy.

* having a sense of political efficacy, that is, the knowledge that one's contribution is important;

* coming to value the principles of democratic life - equality, community, and liberty;

* knowing that alternative social arrangements to the status quo exist and are worthwhile; and

* gaining the requisite intellectual skills to participate in public debate.

A teacher who assumes this kind of responsibility in her classroom must also consider forms of <u>authority</u>, for life in schools is part of the authorized educational process in so far as the values underlying the institutional norms of schooling reflect underlying institutional patterns in the broader society (Benne,1986). For this reason it is possible that the notion of authority can be contested and reworked within a discourse of empowerment.

The established view of authority draws a distinction between being **in** authority (socio-political authority) and being **an** authority (epistemic authority). The teacher is in authority by virtue of the legitimation of the teacher's role by society, while the claim to being an authority is by virtue of the knowledge the teacher is purported to have (Neiman,1986). The argument goes that teachers are not only de facto in a position of social control in the classroom, but are de jure in such a position. Teachers are experts in fields of knowledge and educational processes and so have the right to pronounce on matters of truth or of value and of classroom activity. Peters (1967,p96) suggests that:

> the term `authority' is necessary for describing those situations where conformity is brought about without recourse to force, bribes, incentives or propaganda and without a lot of argument and discussion, as in moral situations. We describe such situations by saying that

> an order is obeyed or a decision is accepted simply
> because x made it.

Authority is accepted without coercion, that is,
acknowledgement of the legitimacy of such authority is an
essential feature of this concept of authority. Its chief
source of legitimation, then, is upward, from below, "for
when the legitimation is a purely top-down process it
becomes authoritarianism and virtually indistinguishable
from power" (Haynes,1986,p82).

So we can say that the socio-political authority of the
teacher, depending as it does on `command', is closely
related to power or coercion. The subject matter to be
taught in schools, for example, is `forced' upon teachers
and pupils by the State's official curriculum, with the
accompanying officially recognized certification. Various
coercive measures such as merit awards (teachers) or caning
(pupils) are used to enforce the stated requirements. The
State's use of the SADF in some schools in this country to
ensure that students write their examinations, as was the
case in 1987 and 1988, is an extreme form of socio-political
authority. At this level it may be argued that the current
crisis in schooling could be explained as a loss of
legitimate authority, or what Taylor et al (1989) refer to
as "surplus canonical authority". It is also a recognition
that authority is never infallible, "though it may approach
being absolutely authoritarian in hiding and denying its
fallibility" (Benne,1986,p16). (3)

---

(3)The Human Rights Commission Report by the Human Rights
Commission of South Africa, catalogues and traces South
Africa as a pioneer in repression techniques. Hit squads,
elimination or intimidation of political activists, and the
disruption and crippling of progressive organizations are
some of the listed examples. The Report goes go to say that
"the sheer comprehensiveness of the list of these targets
seems to suggest a government which is at war with its
people, and a population which questions the legitimacy and
authority of its government" (South Newspaper,7.12.1989).

While the teacher needs to exercise socio-political authority in order to discipline and control her class, there should be some reason for this. Schools are viewed as places where children are inducted into certain kinds of knowledge, making epistemic authority in teaching and learning necessary. Teachers function as bearers of epistemic authority for pupils, they are `licensed' as epistemic authorities by our colleges of education, technikons, and universities. The teacher in authority is justified by the fact that she is an epistemic authority in some field (or fields) of human knowledge chosen as worthwhile for transmission to pupils, and socio-political authority is, in this account, justified by reference to epistemic authority. As a result, in schools there is a curriculum designed around forms of knowledge, and educational authority is maintained by "easily measurable and definable standards" (Haynes,1986,p82).

Drawing from the work of Wittgenstein and others, the sociologists of knowledge objected to this traditional view of authority in which certain forms of knowledge were counted as legitimate. Epistemological positions were challenged and the argument made that:

> whenever someone or some group refers to objective, unbiased knowledge, to rational principles, to `purely epistemological factors', it can be assumed that human will, interest, and power are actually in ascendency (Neiman,1986,p71).

Epistemic authority, it was argued, should not rest on the assumption "that meanings are the same for everyone, shared universally" (Sarup,1978,p53), that knowledge is "absolute, that it is fixed and unchanging" (Sarup,1978,p55), but rather that knowledge is socially constructed, that "individual consciousness is socially determined" (Berger &

Luckman,1967,p78). In these sociologists' view of
knowledge, according to Sarup (1978,p57):

> Pupils can contribute as much to learning as teachers.
>
> Teachers' research is as useful as that of
> sociologists.
>
> Actors' categories are more adequate than those of
> scientific observers.
>
> Lay theorizing is as meaningful as professional.

This was a very different epistemological position.
Knowledge in this case, like language, is not independent of
its use and should be understood in its social and
historical context. The desire, the need, to constitute
meanings

> is not satisfied by the authoritative confrontation of
> student with knowledge structures (no matter how
> "teachable" the forms in which the knowledge is
> revealed). It is surely not satisfied when the
> instructional situation is conceived to be, as
> Plochmann has written, one in which the teacher is
> endeavoring "with respect to his subject matter, to
> bring the understanding of the learner in equality with
> his own understanding". Described in that fashion,
> with "learner" conceived generically and the "system"
> to be taught conceived as preexistent and objectively
> real, the instructional situation seems to me to be one
> that alienates because of the way it ignores both
> existential predicament and primordial consciousness
> (Greene,1971,p267).

In place of the "authority of position", then, Hartshorne
(forthcoming), suggests that the teacher should work at the
creation of "an authentic, moral authority", a kind of
authority to be "won by cooperation, agreement and respect".
Hartshorne argues that an authentic, moral authority in the
relations between teachers and learners "can have a
democratic, liberating quality to it". This kind of respect

should be distinguished from the kind of self-respect
generated in hierarchical systems where everyone knows their
place and their self-respect rests on observing the rights
and duties of that place. White (1986,p97) argues that a
democratic conception of self-respect

> is based on a conception of oneself as a moral person
> with certain moral rights, one of which is to be
> treated as an equal, and moral duties, with
> responsibility for one's actions. Authority structures
> in a democratic society, to be morally acceptable, have
> to make it possible for individuals to retain a robust
> sense of self-respect so conceived. ... [authority
> structures] must foster people's self-respect, not
> diminish it.

One can summarize by saying that the traditional
understanding of authority, as explained earlier, is
inextricably linked with persuasive definitions of
authority, freedom and democracy, with any kind of reform in
education therefore being only marginal (Sarup,1978,p67).
And the sociologists of knowledge do not take us very far in
illuminating how domination works against the notion of
authentic community through forms of authority that actively
sustain relations of oppression. It may be argued that both
these views of authority leave us with "incomplete
approaches to developing a dialectical view of authority and
schooling" (Giroux,1986,p26).

By describing these differing views of authority I have
tried to show that the notion of authority can most easily
be understood as a historical construction shaped by various
views or traditions that support their own values and
understandings of education and society. Given these
shifting meanings and associations, it becomes necessary to
attempt to redefine the centrality of `authority' for a
critical pedagogy engaged in the process of social

transformation. It means developing a rationale for making an emancipatory view of authority a central category in the development of a critical theory of schooling. Giroux (1986) attempts to do this and, as his work has both a promising and practical aspect to it, it is worth quoting in some detail.

Central to Giroux's concern is to fashion a view of authority that legitimates schools as democratic, public spheres, and teachers as transformative intellectuals. He gives three reasons for the importance of developing a dialectical view of authority:

* as a form of legitimation authority is inextricably related to a particular vision of what schools should be as part of society. That is, authority makes visible the presuppositions that give meaning to officially sanctioned discourses that legitimate what Foucault (1980,p233) calls "particular material, historical conditions of possibility [along with] their governing systems of order, appropriation, and exclusion".

* the concept of authority raises issues about the ethical and political basis of schooling by highlighting the social and political function that educators serve in elaborating and enforcing a particular view of school authority; and

* authority provides the referent against which to analyze the difference between the legitimating claims for a particular form of authority (the meanings that teachers elaborate in order to justify their view of authority) and the way such a claim is actually expressed in daily classroom life (the effects of their actions at the level of actualized pedagogical practice).

Authority in Giroux's view must be rooted in an understanding of community life in which "the moral quality

of everyday existence is linked to the essence of
democracy", and in this way authority becomes a referent for
the ideal of democracy and its expression "as a set of
educational practices designed to empower students to be
critical and active citizens" (1986,p28). In its
emancipatory form a discourse of authority can be fashioned
in which educators can struggle against the exercise of
authority used by conservatives to link the purpose of
schooling "to a truncated view of patriotism and patriarchy
that functions as a veil for a suffocating chauvinism"
(p29). An emancipatory concept of authority, revealing the
dialectical nature of its interests and possibilities, would
legitimate the practice of students learning and
collectively struggling for the economic, political, and
social preconditions that make individual freedom and social
empowerment possible.

Important in this argument of Giroux's for an emancipatory
concept of authority is the idea that teachers have a vital
role to play in the process of transformation. Teachers are
placed centrally in the task of redefining the notion of
authority in classrooms. His argument allows us to escape
the trap of relativism in knowledge (the danger of the
phenomenologial position, see Sarup,1978), and gives
direction to those teachers who, fearful of being seen as
impositional and coercive, abdicated their role as epistemic
and socio-political authorities to the passive role of
"facilitator" and "resource person" (Youngman,1986,p206).
Giroux's argument acknowledges the authority of the teacher,
but it seeks forms of social relationships in the classroom
which situate this authority in a democratic context that
enables leadership to function in a way that is not a form
of domination. As he explains it, emancipatory authority
means that teachers

are not merely concerned with forms of empowerment that
promote individual achievement and traditional forms of
academic success. Instead they are also concerned in
their teaching with linking empowerment - the ability
to think and act critically - to the concept of social
transformation (Giroux,1986,p30).

What I found of particular significance for my own work is
that Giroux's argument for emancipatory authority implies
that teachers' work can be seen as intellectual labour. This
is so because this concept of authority suggests that
teachers have an authority derived from their expertise
based on a body of knowledge, rules, values, and skills of
organizing educational processes, through which "they
consciously articulate and problematize their relationship
to each other, to students, to subject matter, and to the
wider community" (Giroux,1986,p29). Such a view of
authority challenges the dominant view of teachers as
"technicians" or "public servants", instead it "dignifies
teacher work by viewing it as a form of intellectual
practice" (p29). In this way Giroux speaks about a teacher
as an intellectual, as a transformative intellectual.

While Giroux's argument certainly contributes to a reworked
notion of authority by giving teachers an important role in
transformation, it can be seen as a reformist measure rather
than an emancipatory endeavour, for it relies heavily on a
rationalist view of the world in that it glosses class
struggle and the partisan interests of minority groups. He
ignores the `irrational Other' by default. He also does not
make clear exactly what he means by leadership functioning
in such a way that it does not lead to domination. An
emancipatory form of authority will need to be much clearer
in the ways leadership could function such that the subject
position of the teacher is also part of that political
agenda. The teacher, as mediator in the learning process in

the classroom, can operate a form of authority which `opens'
rather than `closes', for learning does not happen in a
vacuum, it is socially and culturally bound, and it is with
that understanding that teachers can make emancipatory
practices possible.

Before discussing what I conceive `teacher as transformative
intellectual' to mean, it is necessary to discuss the class
position of intellectuals to highlight the possibilities in
the notion.

Intellectuals play key roles in the reproduction of
capitalist social relations (Sharp,1980; Harris,1982).
Intellectuals involve themselves in activities or functions
which are primarily those of elaborating and disseminating
ideas. Teachers are also involved in these activities and
are therefore intellectuals because of their function in the
social formation. As to class location, Poulantzas (1978)
has argued that intellectuals cannot be considered part of
the working class because they are generally unproductive
and do not engage in manual labour. He believes that
intellectuals are part of the petty bourgeoisie and must be
outside the working class. In the light of these arguments,
what is the role of an intellectual in the class struggle?

Sarup (1984) has argued that though intellectuals such as
teachers are (manually) unproductive they, like productive
workers, have little or no control over their labour process
and are completely subordinated to capital or the state.
Wright (in Sarup,1984,p120) argues that intellectuals should
be understood as falling within "a contradictory location
within class relations", that is, a contradictory class
location between the working class and the petty bourgeosie.

The considerable proletarianization of teachers in the latter part of this century (Harris,1982), their loss of control over the curriculum (Apple,1986), and their loss of control over the immediate conditions of work, has meant that teachers in state schools are being drawn towards the working class (Sarup,1984). Within this debate the work of Gramsci (Giroux,1988; Sarup,1978,1984; Sharp,1980; Simon,1982) becomes important in considering the role of teachers (intellectuals) and the possibilities of social change.

Gramsci argued against the mechanistic reductionism of vulgar marxism, for he wanted more autonomy for the influence of ideas, stressing the active role of people in the process of history. He saw the education of the working class as crucial in the process of change. Radical pedagogy for Gramsci was historical, dialectical, and critical. The teacher's role was to emphasize linguistic mastery, and to generate an understanding of mainstream culture:

> What Gramsci stressed was that oppositional criticism
> of both the highest cultural manifestations of the past
> and of the dominant culture of the day are the
> fundamental intellectual tasks (Sarup,1984,p137).

The teacher's commitment to this critical understanding was necessary because what was required was an active commitment to the creation of working class hegemony.

Gramsci, in his <u>Prison Notebooks</u> (1971), was the first to expound the concept of hegemony and explain its political significance. Hegemony, according to Gramsci, involves the successful mobilization and reproduction of the active consent of dominated groups by the ruling class through the exercise of intellectual, moral, and political leadership. Hegemony also refers to the dual use of force and ideology

to reproduce the social relations between the classes.
Ideology is an active force used by dominant classes "to
shape and incorporate the common sense views, needs and
interests of the subordinant groups" (Aronowitz &
Giroux,1985,p88). Hegemony in this account represents more
than the exercise of coercion for it is a process of
"continuous creation and includes the constant structuring
of consciousness as well as a battle for the control of
consciousness" (p88). The function of hegemony is to
reproduce at the ideological level the conditions for
domination. However, this should not be seen as merely a
form of inculcation. The notion of hegemony attempts to
explain how the mechanisms of domination mediate between the
larger society and the school, particularly as they manifest
themselves in the material practices of classroom
interaction, in the ideological practices of teachers, in
the attitudes and behaviour of pupils, and the curriculum
materials themselves. It may be said that hegemony is
constructed, not by the domination of one class or group,
"but with the consent of different groups". It is the
terrain on which ideological struggle takes place
(Sarup,1984,p141).

In short, hegemony is about transforming old traditions and
creating a new "common sense". Or, as Sarup (1984,p142) has
expressed it, "To win power one must begin by an appeal to
common sense". In speaking about the civil domain and
authorization of ideology, Taylor et al (1989,p6) explain
the move from "common sense" to "good sense" in this way:

> While the inclination of the first two principles
> [ideology and strategy] of selection is toward the
> constructivist nature of the canon, the `empirical'
> principle sets up a dialectic tension in opposition to
> this tendency. While strategic and ideological
> considerations allow the vanguard a certain degree of
> free play in speaking for the people, these
> redescriptions must at the same time accord with the

> lived experience of the men and women involved. These
> experiences are sedimented into local folklore, shaped
> by commonsense and a healthy dose of skepticism ...
> although the vanguard provides the authoritative
> account, their right to canonize is dependent on the
> degree to which their interpretation accords with
> popular memory.

Taylor et al use the Freedom Charter as an example of what
they mean by the relationship of "common sense" and "good
sense" and legitimate authorization, explaining that while
the Freedom Charter has given rise to conflicting
interpretations, it has fulfilled a central organizing
tradition for over thirty years of struggle:

> Thus, in balancing the dictates of political strategy
> with the spirit of past struggles, in keeping with the
> vision of a future South Africa co-linear with the
> popular memory of past experiences, the authors of the
> Charter exercised legislative authority which was both
> necessary and legitimate (Taylor et al,1989,p6). (4)

What all of this means to the teacher is that the notion of
hegemony allows for the notion of a counter-hegemony, and
that the relationship between "common sense" and "good
sense", and the interconnection between the two, provides a
"a source of counterhegemonic pedagogy" around which to
structure teacher/pupil relationships (Giroux,1988,p202).
Put another way, the task of the teacher as intellectual is
to develop counterhegemonic struggles by using popular
consciousness as a starting point in any pedagogic
relationship. For Gramsci the teacher not only helps the
pupils to appropriate their own histories, but she also
looks critically at her own relationship with learners. She

---

(4)Taylor et al (1989,p6) explain that apartheid policies
articulated to a different popular memory, fostering a
different ideological spirit. But this redescription
excluded and devalued the descriptions of the majority of
South Africans, "hence exercising surplus canonical
authority".

works at transforming the hegemonic practices sedimented in classroom relations through "concrete social formations that allow critical communication and action" (Giroux,1988,p203).

Gramsci's idea that intellectuals represent a social category rather than a class raises interesting questions as to how teachers might be viewed in terms of their politics and classroom practices. Gramsci's argument gives pedagogical activity an inherently political quality, and teachers the political task of intellectualizing their work. While there is evidence to suggest that primary school teachers generally do not intellectualize their work in any rigorous sense (Sharp & Green,1975; Galton & Simon,1980; Elliott,1984), often as a result of coercionary means by the state, this should not be taken to mean that they are unable to do so. The dominant discourse in educational practice does not include the notion of teachers as intellectuals, for their role is primarily to implement rather than conceptualize pedagogical practice (Apple,1986).

However, in the counterhegemonic struggle the notion of the teacher as transformative intellectual is a powerful one. The concept reminds us of teaching's dialectical meaning, for it carries with it the imperative to judge, critique, and reject those approaches to authority that oppress both teachers and pupils. In this way schooling

> becomes a central terrain where power and politics operate out of a dialectical relationship between individuals and groups, who function within specific historical conditions and structural constraints as well as within the cultural forms and ideologies that are the basis for contradictions and struggles. ... Knowledge and power are inextricably linked in this case to the presupposition that to choose life, so as to make it possible, is to understand the preconditions necessary to struggle for it (Aronowitz & Giroux,1985,p36).

In developing a form of emancipatory authority, teachers, acting as transformative intellectuals, can appropriate buried knowledge - for example, histories of women, blacks, working class groups, ecological disturbances, what Foucault (1980) refers to as "dangerous memory". An emancipatory authority provides a way of questioning knowledge claims that are presented as neutral and universal, a way of challenging both teachers and pupils to understand how they themselves participate implicitly in ideology through their own experiences and needs. With the present crisis in schooling in South Africa, the basis of authority is shaky, for, certainly since the uprisings and school boycotts in 1976, nobody any longer can claim an unambiguous base for assertions of authority in and over schools. This seems to suggest the urgent need for teachers acting as transformative intellectuals to work towards a critical pedagogy, which would necessitate the development of an emancipatory form of authority. Freire (1985,p177) has explained that the more we live critically, the more we internalize a radical and critical practice of pedagogy. The tension that exists between teacher and pupil can be equated with the tension between authority and freedom, or between theory and practice, but the tension is reconcilable, and recognizing the situation as reconcilable, and not antagonistic, "qualifies us as democratic educators, not elitists and authoritarians".

To summarize so far:

It seems that teachers who wish to be a democratic force in the classroom will need to practice the values necessary for a participatory democracy, and when teachers so act, "they will ultimately have to side with the children against the

state, an act demanding civic courage of them as well"
(Wood,1984,p239).

Schools do not work in lockstep manner with the demands of
capitalism as suggested by reproductive theorists.
Certainly the mainstream curriculum (reflecting as it does
the cultural and practical interests of particular social
groups, specifically capitalists, men, `whites') is
hegemonic. This official curriculum is bolstered by its
close connection with teachers' sense of subjectivity. But
it is also undermined to the extent that it comes to be
recognized as a major source of teachers' occupational
problems in mass schooling. To move beyond relativism is to
embark on a counterhegemonic strategy.

The contested nature of the notion of authority implies the
necessity of working towards an emancipatory authority.
Acknowledging the authority of the teacher in a democratic
context places the teacher centrally in the role of teacher,
rather than the more passive role of facilitator, or the
oppressive role of authoritarian. Viewing the teacher as an
intellectual redefines her work and the political nature of
schooling. The teacher as transformative intellectual has
the task of "making the pedagogical more political and the
political more pedagogical" (Aronowitz & Giroux,1985,p36).
She has an active part to play in transforming the hegemonic
practices evident in classrooms. It may be said that the
endeavour concerns the relationship between authority and
emancipation.

Moreover, to avoid the danger of the "professional-as-hero"
trap (the hero who reveals the error of other professionals
and sees her own expertise as axiomatically on the side of
`good', and also `true'), the teacher as transformative
intellectual will need to go beyond rhetorical and

metaphorical formulations. Criteria for the `improvement' of practice will need to be theorized independently of the institutional authority by which practices are routinely evaluated (for example, obedience to instructions which ignore their constitutive contradictions). This implies a particular understanding of professionalism.

The term `professional' is used ambiguously in the literature. The word is used to describe the work (professional work), and it is also used to mean an alliance with other professional bodies. As has already been noted, it is also part of the debate as to the structural location of teachers.

Gadamer (1979) argues that professionalism consists of the understanding and application of the shared traditions of the profession, of the `good' that is enshrined in these traditions. He notes:

> That which has been sanctioned by tradition and custom
> has an authority that is nameless, and our finite
> historical being is marked by the fact that always the
> authority of what has been transmitted .... has power
> over our attitudes and behaviour ... the validity of
> morals, for example, is based on tradition
> (Gadamer,1979,p249).

It would follow from this that such traditions encapsulate `the good' for pupils and teachers - that pupils should do neat work, that individual differences should be catered for, that teachers should care for children and so on. But, as Grundy (1987,p186) points out, we must ask whether the established traditions of a professional do represent a distillation of `the good'; "Whose interests do these traditions really serve?".

Teacher professionalism and the professionalization of
teaching are part of the rhetoric of educational debate
(Sockett,1989,p97). Academic debate over whether teaching
is a profession or not, and debate over how to obtain
professional standing have concerned many educationists (for
example, Hoyle,1982; Stenhouse,1983). These debates,
however, have tended to treat the notion of professionalism
as unproblematic. They have tended to approximate a model
of professionalism which is in effect an ideology
(Popkewitz,1984). While these proposals may serve to defend
teaching against proletarianization, allowing teachers to
distance themselves from the still less prestigious forms of
manual work (Gottleib & Cornbleth,1989,p10), this sense of
professionalism only partially reflects social reality and
serves the interests of certain groups in society. It fails
to take account of the social division of labour, where
class and gender count, and so fails to explore the ethics
of practice in emancipatory ways.

In the context of the teacher as transformative
intellectual, the question of `professionalism' has a more
strategic concern, which is, `how do we insert ourselves
into society? how do we identify politically with the
working class?'. For my purposes, I want to broaden the
understanding of intellectual from the Gramscian sense
whereby the intellectual is daily aligned and empirically
involved in the working class, to include Foucault's
description of "specific intellectuals" (1980). In this
sense the intellectual's radical work of transformation, and
struggle against oppression (and repression), is carried on
at the specific institutional site (the school) where she
finds herself, and on the terms of her own expertise, on the
terms inherent to her functioning as an intellectual.

Professionalism, in my use of the term, means the exercising of forms of intellectual and pedagogical practice which attempt to insert teaching and learning directly into the political sphere by arguing that schooling represents both a struggle for meaning and a struggle over power relations. The point to note is that in this understanding of professionalism, classroom practices are grounded in forms of moral and ethical discourse exhibiting a preferential concern for the struggles of the exploited and oppressed. And, as importantly, this understanding of professionalism unites a theoretical stance with practitioner activity.

Focussing specifically on the contradictions within which professional judgments are carried out, and reflexively elaborating on these judgments, would render problematic a series of normative definitions and their systems of authoritative decision-making, since the client's (pupil's) rationality would be recognized as a constitutive element in the formulation of adequate practice - it places the intersubjective dialectic between self and other, between professional and client, at centre. The recollection that practices are in principle grounded in the intersubjective dialectic between self and other would be a moment in the dialectic between theory and practice, between ideology and theory. In this understanding of professionalism teachers would not view bureaucracy as a monolithic format for authority-as-oppression against which they must do battle (the professional-as-hero stance), but rather recognize the dialectic within the bureaucratic context, searching for opportunities for the devolution of decision-making (a project of action research, see Chapter Three). This version of professionalism includes an examination of the teacher's own role in institutional authority, rather than the more popular version of seeing the struggle for

emancipation of the authority of the individual teacher
against the constraints upon that authority provided by
her/his institutional context. In other words, this version
of professionalism would contest the norm of bureaucracy and
the norm of professionalism, realizing the intimate relation
between the two, constituted by the normative version of
rationality which underlies both (see my own attempts to do
this, particularly in Chapters Seven and Eight).

To articulate to this problematic I want to argue that by
invoking the notion of praxis, by constituting the nature of
a teacher's work as praxis, one can unite a theoretical
stance with practical activity, and overcome the limitations
of what could be seen as `heroic universals'.

The word `praxis' has a history in philosophy which
stretches back to Aristotle. In its classical sense praxis
referred to a distinctive way of life - the "bios praktikos"
- a life devoted to right living through the pursuit of the
common good. It was distinguished from a life devoted to
"theoria" (bios theoretikos) - the contemplative way of life
(Carr,1987,p168). This distinction of the Greeks is not a
distinction between knowledge and action, but rather a way
of articulating two different forms of socially-embedded
human activities. The important distinction for the Greeks
was not between theory and practice, "but between two forms
of human action - praxis and poiesis" (Carr,1987,p169).
`Poiesis" is action the end of which is to bring some
specific product into being, so it is guided by `techne', a
form of technical knowledge. Although praxis is also action
it differs from poiesis. Carr gives four crucial
differences:

> * the end of praxis is not to produce an object but to
> realize some morally worthwhile `good';

* praxis, as a form of `doing action', is not neutral precisely because its end can only be realized through action, and can only exist in the action itself;

* praxis can never be understood as a form of technical expertise designed to achieve some externally related end. Praxis is different from poiesis precisely because discernment of the `good' which constitutes its end is inseparable from a discernment of its mode of expression; and

* the ends of praxis are neither immutable nor fixed. Instead they are constantly revised as the `goods' intrinsic to practice are progressively pursued (Carr,1987,p169).

In this explanation, practical reasoning is not a method to determine how to do something, but a method for deciding what ought to be done. As Carr (1987,p171) points out:

in choosing between alternative means, practitioners must also reflect on the alternative ethical ends which supply them with criteria for their choice. If the alternative means are simply different ways of achieving the same ethical end, then the question is simply an instrumental question about their relative effectiveness. Where, however, alternative means are means to different ethical ends, then the practitioner has to deliberate about these ends as possible alternative means to some further all-embracing end. ...[Deliberation] is a way of resolving those moral dilemmas which occur when different ethically desirable ends entail different, and perhaps incompatible, courses of action.

This argument for deliberation should not be taken to mean that a teacher deliberates in isolation. Far from it, for the teacher as transformative intellectual encourages collective deliberation with her pupils, her colleagues and the wider community. Indeed, as Freire (1980) and others have pointed out, the teacher's practice is informed by her solidarity with oppressed groups in political struggles that

challenge the existing order, and her working collectively
alongside the oppressed.

To stay with Aristotelian philosophy, good deliberation is
entirely dependent on the possession of "phronesis", or
practical wisdom. As Carr (1987,p172) explains:

> Without practical wisdom, deliberation degenerates into
> an intellectual exercise, and a `good practice' becomes
> indistinguishable from instrumental cleverness.

So we can say that a person who lacks phronesis may be
technically accountable, but can never be morally
answerable. For this reason a wise and prudent form of
`judgment' is an essential element in practical wisdom.

What is useful about this description of praxis, poiesis,
and phronesis in terms of my argument is that educational
practice, within this framework, cannot be seen as only a
theory-guided pursuit, nor some activity in opposition to
theory, nor theory-free `know how'. The guidance given by
theory always has to be moderated by the guidance given by
phronesis. Educational practice is not a form of craft-
knowledge or technical expertise, but a form of praxis
guided by criteria which serve to distinguish good
educational practices from those which lead to deterioration
in democratic practice. Within our dominant contemporary
culture, the concept of praxis has been rendered marginal.
As Apple (1982) has pointed out, present educational
practice with its emphasis on prepackaged curriculum
materials and individualized learning systems, requires
virtually no interaction between teachers and pupils, and
erodes the concepts of practical wisdom and deliberation.

Youngman (1987) also relates praxis to action because "a person's interaction with the natural and social environment is a conscious activity" (1987,p55). Using Lenin's argument that praxis is fundamental in the theory of knowledge, Youngman says there are three aspects of the relationship of knowledge and praxis to be taken into account:

* Praxis is the source of knowledge. As people enter into an active relationship with their environment (through social interaction, books, tradition) they obtain perceptions. The initial results of perception are fragmentary but through a transition via generalization of experience, they move to abstraction and theory. These judgments represent a qualitative change in knowledge, a movement from sensation to conceptualization.

* Praxis provides the criterion for measuring the correctness of knowledge, for testing the extent to which ideas correspond to reality. Praxis is the process by which knowledge is deepened and moves from less complete to more complete.

* Praxis is the objective of knowledge. Learning is not a contemplative process but one which provides the basis for new activity. Judgment and theory become the guides to re-entering into the cycle of relating to the external environment. Activity is therefore conscious and purposive (Youngman,1987,p58/59).

What is positive about this explication of praxis by Youngman is that learning may be seen as a dialectical process, a process of perception, abstract thought and active application. Indeed, with all that has been said so far about the notion of praxis, the commonly held view of theory and practice being two separate entities (see, for example, Bernsteinian strong boundaries between `theory subjects' and `method subjects' in faculties of education), has no emancipatory possibility. Theory and practice must be viewed as interdependent, for neither is pre-eminent,

each is continuously being modified and revised by the other. The dialectical nature of praxis articulating to a practical wisdom born out of collective struggle firmly grounds what may be called good educational practice.

Good educational practice is that where the teacher takes the opportunity to grasp the complex but ultimately enabling relationship between the potentially reflexive interactive processes on institutional life on the one hand and classroom practice on the other and, in doing so, gives meaning to the notion of professionalism.

For my own part, seeking to improve my practice in ways suggested above meant also that I study my practice in more rigorous and potentially liberating ways. It meant adopting a research methodology which, through its reflexive processes and its own dialectic between theory and practice, would help me explore to their uttermost limits the discretionary possibilities within which my practices (both institutionally and epistemologically) are constituted. It is to the choice of research method that I turn in the next chapter.

CHAPTER THREE

ACTION RESEARCH AS DEMOCRATIC METHOD

Chapter Three explores the problematic between
emancipation and authority. A study of action
research's desire to reject positivism leads to
argument for a more reflexive and dialectic approach to
social inquiry. Explaining that action research
engenders a reflexive analysis of professionalism, a
series of normative definitions and their systems of
authoritative decision-making are rendered problematic.
The challenge posed by institutionalized authority
systems to the possibility of individual critical
reflection is countered by argument for the teacher
intellectualizing her labour in autonomous ways such
that critique provides for a dialectical self-
transcendence. By identifying the epistemological
radicalism of action research it is argued that action
research provides the resources for teachers to act as
transformative intellectuals.

In a book that I edited together with two colleagues in
1984, I wrote:

> After 25 years in a classroom I found that I was
> becoming despondent over the paucity of useful research
> for my teaching needs. I felt that educational
> research was hopelessly inadequate and I was becoming
> cynical about research findings and their relevance to
> the real teaching situation. ... It was with enormous
> relief that I `discovered' action research (Flanagan et
> al,1984).

In a country such as South Africa with its intense social
ferment and thrust for change it is not surprising that many
educationists find the crisis in schooling disturbing, and
their own roles within education ambivalent. The
despondency mentioned in the above quotation was a common
feeling among teachers committed to change. Perceiving
themselves as puppets of the state, and receivers of
`wisdom' in an institutional hierarchy, they have not

generally aspired to directing the course of events in the classroom themselves. As Hartshorne (1986,p11) points out:

> Pressured and criticized from all sides, often for inadequacies for which they are not to blame, treated often by departments not as professionals but as instruments of policy, it is not surprising that in many areas the morale, confidence and self-image of teachers is at a low ebb.

The absence of any sense of a form of emancipatory authority in the understandings of most teachers is further evidenced in the comment of a Western Cape Teachers' Union member when she asked:

> How is one meant to survive in a system like this? And equally important - how is one meant to provide a meaningful education to the youth of this country? ... We are all just teachers and, sitting back, are bombarded by the questions but feel a measure of helplessness as we struggle to find the answers ... (WECTU Newsletter, February,1988).

While the key to all of these problems, according to many People's Educators, lies in building "progressive teachers' organizations" (Kruss,1988,p30), it would be disastrous to exclude the need for progressive research practices to inform that changed educational system. And it would seem that if teachers are to "struggle to find the answers", they are going to need to reflect upon their educational practice in order to justify it or to transcend it in more liberatory ways. How to do this becomes a matter for social inquiry, for

> [t]he pertinent questions are not solely how and in what direction classroom teaching might be changed, but, equally important, what are the roots of classroom practices as we know them, and what are the forces in school and society that sustain them (Bellack,1981,p62).

Teachers need a way of asking and considering how teaching practices are established and maintained, for these reflections are crucial ingredients in the study of how, and in which directions, they might be changed. The challenge posed by institutional authority to the possibility of critical self-reflection requires a research methodology which embraces this challenge. It seemed to me that action research was a method which would allow for the structuring of the interplay between critique and responsibility, between ideology and practice. Using a methodology such as this could enable a teacher to question how she came to view her practice as she does, so that she could come to recognize her own ignorances in relation to change. For my part, I came to think about action research as a methodology which was ultimately enabling in the process of empowerment.

This is not to suggest that other action researchers have the same end in mind, nor to suggest that all action research is emancipatory. Rather is it argument for saying that the development of action research methodology is an attempt to bring forms of emancipation into play. Some action research, for example, depends heavily on the critical theory of Habermas (1972). The work of Carr & Kemmis (1986) and Grundy (1987) are notable examples of the way in which the knowledge constitutive interests described by Habermas came to be used in action research. Action research was seen to reflect either a "technical interest", a "practical interest", or an "emancipatory interest". Some critics of action research (for example Ebbutt,1985; Gibson,1985; Winter,1987) have pointed out that although writers claim to have engaged in emancipatory forms of action as described by Habermas, they were in fact firmly within a "technical" or "practical" interest, and had not moved our understanding of emancipatory forms of research a great deal. The point is that because many researchers were

dissatisfied with traditional forms of educational research, perceiving that research to be positivistic, they sought other ways in which to make research for education a possibility. Action research as a project continues to be developed for its emancipatory possibilities, as researchers recognize its potential as an anti-positivistic and empowering form of research.

In order to discuss action research methodology in more detail, and because I stress the anti-positivistic stance possible within the methodology, an explication of positivism becomes necessary. The explication of positivism will, I hope, make clearer why I came to view action research as a more appropriate research paradigm for classroom interaction.

<u>Positivism</u> may be defined as "a family of philosophies characterized by an extremely positive evaluation of science and scientific method" (Lincoln & Guba, 1985, p19). It embodies the ideal of value-free science and attempts to "purify" science from subjective interpretation and judgment - researchers/evaluators are independent, free and neutral. An essential feature of positivism is the strict division made between research on the one hand and application of theory and practice on the other.

The methods and purposes of scientific inquiry have been refined by countless researchers who collectively have built a corpus of assumptions and beliefs. For example, data must yield "proof or strong confirmation, in probability terms, of a theory or hypothesis in a research setting"; and, the scientist ultimately aims to "formulate laws to account for the happenings in the world around him (sic), thus giving

him a firm basis for prediction and control (Cohen &
Manion,1980,p15). The assumptions built into this
scientific approach constitute a particular paradigm or
"disciplinary matrix", incorporating elements such as
objectivity, reliability, generalizability and reductionism
(Kuhn,1962,p182). `Truth' within this paradigm tends to be
fixed and singular, reflective of a causal and factual view
of reality.

Lincoln and Guba (1985,p28), after reviewing various
definitions of positivism, conclude that there are five
assumptions which capture the most salient aspects of this
paradigm:
    * an ontological assumption of a single, tangible
reality "out there" - the whole is simply a sum of its
parts;
    * an epistemological assumption about the separation of
the knower from the known;
    * an assumption of the temporal and contextual
independence of observations - what is true at one time and
place may be true at another;

    * an assumption of linear causality; and

    * an axiological assumption of value freedom (Lincoln &
Guba,1985,p28).
Positivism's implicit ambition, then, is to achieve finality
rather than dialectical understanding.

Ardent critics of the growing hegemony of positivism were
the Frankfurt school, in particular Jurgen Habermas.
Habermas (McCarthy,1978, Chapters One & Three), in his
attempt to develop critical social theory, argues that
knowledge-constitutive interests (technical, practical,
emancipatory) form the basis for three different forms of

knowledge and three different forms of discipline, each with its own distinctive methodological approach, object domain, and aims.

Habermas argues that the approach to the empirical-analytic sciences incorporates a technical cognitive interest which is the type of scientific knowledge that logical positivists, logical empiricists, and philosophers of science in the analytic tradition were primarily interested in analyzing. Habermas was not denigrating this form of knowledge, arguing that "the social sciences must resolve the tension between ... analytic and hermeneutic procedures" (1978,p140). Rather he was making the point that empirical-analytic science is only one type of knowledge and is not to be taken as the canonical standard for all forms of knowledge. There is to be "no pretension to universal and exclusive validity" (p140). It is the work of theorists such as Habermas, and their interpretation of `knowledge', that has shown so powerfully the contested nature of `what is knowledge'. These theoretical insights have made possible the epistemological radicalism which action research requires.

I say "epistemological radicalism" because the uncritical acceptance of the dominant positivistic paradigm within educational research has led to the point where measurement and control are seen as the central loci of investigative endeavours (for a revealing list of this kind of research in South Africa see HSRC Research Lists; for further discussion on psychometry see Chapter Seven). The destructive nature of the positivistic approach to social inquiry is that it has fostered a naive faith in the substantiality and ultimacy of `facts'. Polanyi (1958,p268/269), in his

attempt to define personal knowledge, recognized the
pervasiveness of these beliefs when he said:

> Innocently, we had trusted that we could be relieved of
> all personal responsibility for our beliefs by
> objective criteria of validity. ... Critical thought
> trusted this method unconditionally for avoiding error
> and establishing truth.

Carr & Kemmis (1986,p74) point out, too, that the facts to
which the scientific educational theorist appeals are not
some unmistakable and immediately recognized "given", they
are, instead, dependent on the theories within which they
operate. "`Facts' are always facts as interpreted by prior
assumptions and beliefs". And, since human judgment is so
profoundly a part of every human act, Polanyi (1958,p18)
feels that the supposed objectivity of science is actually
"a delusion", a "false ideal". This is one reason why
Kuhn's (1962) analysis of the role of paradigms in
scientific inquiry is so illuminating, for it demonstrates
how scientific communities may be bound together by various
bonds and commitments, which, insofar as they build on
taken-for-granted assumptions, are basically unscientific,
or, to put it another way, the paradigm stipulates a
particular `world view' which incorporates ideological
preferences and normative assumptions.

Learning from Hegelian and Marxist critiques there is a
growing comprehension that knowledge is produced in a social
and historical context in which there is a constant tension
over relations of meaning, one which points to a more
"fundamental conflict over relations of power"
(Giroux,1984,p307). And so a more reflexive form of social
inquiry may be argued for, one in which `uncertainty' is a
defining feature. Further, the work of Weber (1961) in
particular, and Polanyi (1968), has shown that "subjective
meaning" is a highly significant feature in social action.
Lincoln & Guba (1985), in comparing the positivistic

paradigm with what they refer to as "a naturalistic paradigm", capture perhaps the essence of the qualitative nature of this form of social inquiry. They list five axioms of the naturalistic paradigm:

* realities are multiple, constructed and holistic;

* knower and known are interactive, inseparable;

* only time- and context-bound working hypotheses are possible;

* all entities are in a state of mutual simultaneous shaping, so that it is impossible to distinguish cause from effects; and

* inquiry is value-bound (Lincoln & Guba,1985,p37).

As critical theory has begun to articulate the stance that social theory and social action are inextricably intertwined (understanding the world requires trying to change it), it suggests that in education, research and practice should no longer be regarded as the domains of separate intellectual communities, because

> where social affairs are concerned, hierarchies of expertise may always be questioned, since effective understanding is not the privilege of any special or `qualified' status, but the generally and unpredictably distributed outcome of reflective social experience (Winter,1987,pviii).

If the intention is to develop a critical pedagogy in schools, then a search for a research approach which is emancipatory in intent - for all those participating in the research process - becomes an essential step in social transformation. Moreover, it would need to be a research approach which was appropriate to the project of improvement of practice, a research approach which provided the resources for teachers to control the research process and rework the notion of professionalism in more empowering and emancipatory ways. Action research may be viewed as one such possibility.

In order to argue that <u>action research</u> has the fundamental
capacity for structuring the interplay between critique and
responsibility, and theory and practice, allowing for the
development of emancipatory forms of authority, I shall:
* give some definitions of action research;
* discuss the appropriateness of action research for
educational practice;
* problematize the professionalism of teachers - their sense
of autonomy and capacity for self-transcendence; and
* establish the fundamental epistemological and ontological
principles of reflexivity and dialectics.

I have chosen this particular form of argument for I am
concerned in this chapter to formulate the nature of action
research's inherent resources and processes, rather than its
technicalities, implications and evaluation (for the
practice of action research see Chapters Four, Five and Six;
for the implications of action research and evaluation of
action research see Chapter Nine). In my argument, action
research's fundamental capacity for structuring (however
provisionally or non-prescriptively) the crucial interplay
between theory and practice, and critique and
responsibility, constitutes the central problematic of
classroom inquiry.

While there is no one agreed <u>definition</u> of action research,
all attempts at such seem to include the aims of improvement
and involvement, no doubt because action research is an
inherently social form of inquiry. So Carr & Kemmis
(1986,p162) define action research as

> a form of self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out.

Also from Deakin University comes a statement on the political intent of action research in its thrust for relevance, by the stress on collaboration:

> Action research is distinguished by its adherence to a collaborative effort (Brown et al,1982,p4).

The idea of a collaborative relationship influenced by the Habermasian principle of consensus (McCarthy,1978; Grundy,1987) underlies many formulations of what action research is (see, for example, Nixon,1981; Elliott,1984; Hopkins,1986).

Also within the project of action research is the idea that research can be the evaluation of action:

> Action research is the study of a social situation with a view to improving the quality of action within it (Elliott,1984,p89).

This definition by Elliott indicates that one of the concerns of action research is with explicating or testing teachers' implicit theories, linking action research to the interpretive social sciences.

McNiff (1988) stresses the educative value to the teacher in researching her own practice, the possibility of self-transcendence, when she says:

> [Action research] encourages a teacher to be reflective of his (sic) own practice in order to enhance the quality of education for himself and his pupils. It is a form of self-reflective inquiry ... [which] actively involves teachers as participants in their own educational process (McNiff,1988,p1).

Grundy (1987), drawing from Habermas, recognizes the
emancipatory intent of action research when it mediates
between theory and practice, between ideology and action,
through the process of enlightenment :

> Emancipatory action research acknowledges the
> interactive nature of social practice, not regarding a
> specific occupational practice as in any way separate
> from the influences of the ideological practices of the
> society-at-large. It recognizes that liberating
> changes in practice require concomitant changes in
> consciousness, but that there is not a linear or causal
> relationship between enlightenment and action. Rather,
> they are interactively and cyclically related.
> Emancipatory action research is participatory in the
> fullest sense of the term, not merely using
> participation as a means to an end (Grundy,1987,p154).

In this sense of action research it relies on authentic
insights into both theory and practice for it promotes
praxis in the participating practitioners. In other words
action research has as its project the desire to promote a
critical consciousness which exhibits itself in political as
well as practical action to promote change.

Winter (1987) recognizes the epistemological radicalism of
action research when he argues that action research must
endorse an epistemolgy which treats rationality as critical
and dialectical rather than interpretive and descriptive:

> What a reflexive action-research would offer ... is not
> `theory'. ... It would propose, rather, to subject the
> theories of common-sense and of professional expertise
> to a critical analysis of their located-ness within the
> practice whose intelligibility they serve. Action-
> research thus proposes a move `beyond' theories
> (whether mundane or academic) which prescribe and
> justify an interpretive basis <u>for</u> action towards a
> reflexive awareness of the dialectic <u>between</u> such
> theory and action, a dialectic which ... can sustain
> their mutuality while transforming both
> (Winter,1987,p150,original emphasis).

In this sense then, and in its rejection of forms of
positivism, action research would concern itself with
establishing the conditions which would enable teachers to
reflect critically on the **contradictions** between their

educational ideas and beliefs and the institutionalized
practices through which these ideas and beliefs are
expressed.

What is clear from these definitions is that there are a
number of claims made about and for action research, none of
which should easily be dismissed in any serious attempt to
develop the methodology. Seeking one (true) definition is
out of character. The task instead is to highlight the
criteria which are implied in these claims, and place these
within the problematic of authority and emancipation so that
we may better understand more emancipatory forms of
authority.

For example, there is debate and skepticism over the idea of
`emancipation', `empowerment', and `change' (see, for
example, Gibson,1985). And, while Tripp (1984) notes the
existence of some critical and emancipatory teacher-based
action research, a survey of this kind of research reveals
that the vast majority of this work operates from an
ahistorical, apolitical value system, often only adopting
the technical form of the approach (see, for example, the
way in which action research is invariably treated as a
neutral research method in the teachers' reports and case
studies in the collection Action Research in Classrooms and
Schools (1986) edited by Hustler, Cassidy and Cuff). Both
Holly (1984) and Ebbutt (1985) point out how easily action
research is `captured' and domesticated. An example of this
may be seen in the directive from the House of Assembly to
its schools in the Cape Province to instigate `action
research' programmes. Indeed, Carr (1989,p89) points out in
his review of the past decade of action research that action
research may yet become "a twentieth-century re-enactment of
nineteenth-century positivism". This is why I, following on

Winter (1987), wish to argue later in this chapter that the relationship between `action' and `research' has to be grasped **dialectically**; and that action research can only offer a genuine alternative to positivism by acknowledging the importance of **reflexivity** for its own mode of inquiry.

What is substantive, though, in the definitions that I have included, is that the normative position taken by the action researcher may be seen as an alternative to prescriptive practices, for the intention is to "illuminate what exists" and "inform fundamental change" in the light of "values freely chosen" by the social actors (Argyris et al,1985,p5), rather than imposing a set of values and practices on the actors.

What is also clear is the importance of placing the teacher at centre stage of the research endeavour, making action research a most appropriate form of inquiry for educational practice. The work of Stenhouse (1975) is an influence here, for he developed the view of the teacher as researcher, as an "extended professional" investigating her or his own practice. There is a common recognition in the above definitions of the crucial significance of actors' understandings in shaping educational change. Indeed one of the tenets of classroom action research is that the research is controlled by the practitioner, and:

> The basic argument for placing teachers at the heart of the educational research process may be simply stated. Teachers are in charge of classrooms (Stenhouse,1981,p109).

More importantly though, for my purposes, I came to view the radicalism of action research, with its stress on reflexivity, as constituting the nature of a teacher's work

itself, namely the practice of **teaching**. In other words, the relation between authority and emancipation in the research activity is not only the teachers' freedom to reflect and to innovate, but the resource to theorize independently of the institutional authority by which practices are routinely evaluated. Arguably action research with its emphasis on praxis makes it eminently suitable and appropriate for research within an institutional context such as that of the school.

I have noted that all definitions of action research include the aim of improvement. However, if teachers are to exercise truly autonomous judgment, that is, independently of institutional authority (which is one of action research's ambitions) how are criteria for professional practices grounded such that those leading to `improvement' may be distinguished from those leading to `deterioration'? Carr & Kemmis (1986,p9) identify the conditions necessary as those relating to knowledge, control and action, when they say:

> First the attitudes and practices of teachers must become more firmly grounded in educational theory and research. Secondly, the professional autonomy of the teachers must be extended ... Thirdly, the professional responsibilities of the teacher must be extended.

This notion of <u>professionalism</u> implies that teachers must no longer rely on the initiatives of education departments or professional bodies to decide what constitutes `good' professional practice. For example, the forms of in-service training presently offered should be viewed as impositional and prescriptive (see Parker's, 1988/89, review on "Inset in South Africa" where he comments on the emphasis on `reform' rather than on `progressive transformation'). However, Carr & Kemmis do not make it clear how a more "generous view

about the kinds of knowledge that research should provide"
(1986,p10) ensures transformation rather than transition.
It would be dangerous to assume, say, that political
awareness is automatically translated into progressive
classroom practice. Indeed, "there is often a disabling gap
between political and curriculum practices"
(Walker,1989,p7).

While Carr & Kemmis, and others such as Brown et al (1981),
Elliott (1984) and Walker (1989), suggest that teachers'
work can be seen as intellectual labour, they do not
reference it to a notion of emancipatory authority, but
rather to the notion that the improvement of professional
practice is a criterion for research. This means then, that
action research finds itself "simultaneously both supporting
and opposing the cognitive authority of professional
expertise" (Winter,1987,p5).

To explicate this point further, it may be argued that much
classroom action research is seen as the emancipation of the
professional from bureaucratic authority, that this, indeed,
is a sufficient formulation of `improvement' (particularly
in South Africa in the struggle against the state). But, to
paraphrase Winter (1987,p99), the ambiguity of this position
is not explored, which is that the rationality by which
professionalism claims authoritative jurisdiction or
expertise, is the same authority by which, in the name of
bureaucracy, such jurisdiction is circumscribed. In this
way the norm of bureaucracy is contested, leaving the norm
of professionalism as a `given'. The contradictions are
thus left unexamined. (1)

---

(1) Winter (1987,p102ff) in his discussion of rationality,
professionalism, and bureaucracy, goes on to talk about the
appeal of Habermas' work for action researchers, as Habermas
concerns himself with the relationship between emancipation

If action research is to regard the improvement of practice as only a release from the constraints of institutional authority, then it only becomes a means whereby there are improved conditions for the professional over the client, for the teacher over the pupil. This must inevitably be so, for normative usages (of professional practice) attempt to prescribe for action. In other words, if the professional practice itself is not examined reflexively, the action remains `unchanged'; and the norms prescribing the practice, and the contradictions within those norms, remain unchallenged. The `improvement' in practice (the release from institutional constraints) is in danger of being entirely individualistic and lacking in dialectical understanding. In this way the aspiration of emancipatory forms of action research to unite theory and action is undermined. To put it another way, professionalism should entail knowledge of my own ignorance. `Knowledge about my ignorance' is the leverage to assist the exploration of the notion of emancipatory authority. The dialectic, then, is

---

and authority. Habermas combines a communicative possibility (rational discourse) with a political possibility (interaction freed from contingent power relations) in an emancipated society arriving at the notion of an "ideal speech situation". By means of Critical Reason, interaction could be both authoritative and emancipated from any constraint. Habermas' commitment to an intersubjective conception of consciousness and of the constitution of knowledge leads him to the ideal for inquiry, formulated as an ideal for dialogue. Winter argues that it is this ideal which action research wishes to interpret in directly practical terms as the formulation of a feasible mode of interaction between the teacher and the pupils. But it neglects to ask `Whose is the better argument?' In any case Habermas is concerned with emancipatory possibilities at the level of theory, and is dismissive of action research. In other words, Habermas's argument is utopian as the auspices for theorizing which it proposes are illusory: "it provides a theory of language's ideal which cannot enter into relationship with the practice of language, but remains as a disabling irony. (Winter,1987,83).

that I know that I am ignorant, and I gain insight into these ignorances by reflexively examining my practice from a position of that knowing.

In addressing the question, 'Whose interests do these professional practices really serve?', it can be argued that if educational practice is seen as a form of praxis guided by criteria which serve to distinguish good educational practices from those which lead to deterioration in democratic practices, intersubjectivity between reflective subjects would be a problematic. It would be a problematic in which the tension that exists could be seen as reconcilable through an understanding of their constitutive contradictions. In this way critical reflection in the action research cycle of plan, act, observe, reflect, plan, act, observe, reflect, plan, would not be constituted unreflexively "as an intellectual procedure which tacitly removes itself from the institutionalized relationships which are its object" (Winter,1987,p53), but rather, in its rejection of determinism, the self-transcendent subject would locate inquiry in interaction and in a non-determined dialectic between action and interpretation. That is, reflexive action research is

> a form of inquiry located in biographical experience and hence in _time_, but _not_ based on a deterministic chronology in which a naturalized factuality provides a warrant for observation as 'having been accurate' (Winter,1987,p67).

In this way there is the possibility that the Self (the 'knowledge about my own ignorance' Self) may be envisaged such that its 'renewal' is a process of self-transcendence rather than of self-reproduction (Winter,1987,p43). This is precisely the **risk** that the teacher-as-researcher must take in any notion of radical professionalism. I have to risk my own fragility in the belief that everyone can be a theorist,

and any experience can be the occasion for theorizing. The
teacher whose action is characterized by praxis is prepared

> to trespass into areas not traditionally the concern of
> the profession, to seek improvement not only in the
> immediate lot of the individual client, but in the
> material conditions which circumscribe the client's
> (and his/her own) life (Grundy,1987,p189).

This is a process of transformation in which knowledge and
action are dialectically related through the mediation of
critical reflection. It is a reflexive rather than a linear
process.

> The process of professionalization is a pedagogical
> process, not a developmental one. ... If action
> research is engaged in ways that are truly consistent
> with its epistemological foundations, ... it will
> become a process of critical pedagogy which will foster
> the sort of transformation of consciousness which is
> necessary for a process of professionalization
> (Grundy,1987,p191).

This brings the discussion on action research to the
epistemological and ontological principles of reflexivity
and dialectics.

It may be said that social life is reflexive because it has
the capacity to change as our knowledge and thinking change,
thus creating new forms of social life which can, in turn,
be changed or reconstructed. In this way reflexivity is an
analytical requirement of social inquiry, and therefore, a
requirement of action research. Action research must cope
with this reflexivity so that the theory generated in the
inquiry is located in the particular historical
circumstances and social contexts of the inquiry. The
important thing to note about reflexivity and its
epistemological particularity for action research is that a
reflexive approach to research denies the possibility that
theory can achieve a final or legislative authority over

social action. It denies forms of determinism or attempts
at finality. Gouldner (1979) makes a similar point on
finality in his discussion of the culture of critical
discourse (CCD) by arguing that:

> CCD recognizes that `What Is' may be mistaken or
> inadequate and is therefore open to alternatives. CCD
> is also relatively more _reflexive_, ... capable of more
> meta-communication, that is, of talk about talk; it is
> able to make its own speech problematic ... The culture
> of critical speech forbids reliance upon the speaker's
> person, authority or status ... to justify his claims
> (Gouldner,1979,p29,original emphasis).

Winter (1987,p10) concurs when he says that the principle of
reflexivity is of great importance to action research
because "it presupposes a relationship between theorist and
social actor which must be continuous and unending".
Defining a reflexive action as one which "is `bent back' so
that it affects the doer: in doing the action to Another, I
necessarily do it to myself"(p7), Winter argues that the
theorist **requires** an Other, not as an object but, "as a
`collaborator' in that reflexive intersubjectivity where
meaning itself resides" (1987,p10). So one can say that
research requires action, that they are distinct but
mutually required. It is the notion of reflexivity which
creates a conception of research's relation to action which
preserves the authenticity of both. Winter (1987,p23) puts
it this way:

> [Reflexivity] preserves research's capacity for
> achieving a critical distance from action AND preserves
> action's intelligibility, as a creative, rather than a
> causally determined response to interpretive meaning.

Further, if educational events are seen as reflexive -
"changing as the knowledge of participants changes; as both
products and producers of historical and social states of
affairs and interpretations" (Carr & Kemmis,1986,p26) - it

begins to address the question of the teacher researcher who is teaching, but not taught, that is, `How does the educator become educated?' A concrete example may serve to underline this problematic.

Robinson (1989), in a paper setting out her attempt to put People's Education into practice using action research, speaks at length on the student responses to her efforts. Using a descriptive and interpretive approach to her action she concludes:

> Part of the teacher's role is ... to share theories of learning and discussions about curriculum construction with students, so that they are emancipated from dependence upon the teacher's ability to diagnose appropriate learning experiences. ... In this regard, the role of the teacher becomes one of facilitating a process, aimed at developing autonomous and self-critical learners with the insight, skills and confidence to start taking responsibility for their own learning (Robinson,1989,p16/17,original emphasis).

While one cannot argue with the intended `good' of this attempt at progressive teaching, nowhere in the report does she speak of her own self-transcendence (only that she felt "tired" and "inspired"). In other words, the research appears to lack the analytical reflexivity so necessary for the social transformation that is her claimed desire, for reflexivity challenges the theorist along with the practitioner and, as has been stated above, denies the authority of one over the other. The "sharing of learning theories" and "discussions about curriculum construction" should only happen in an interpersonal collaboration which addresses `the division of labour' between action and research (theory) as a problematic. The point is that reflexivity submits both theory and action to commitment and irony, and provides

> a set of metatheoretical auspices under which `change
> agency' and `facilitation' are mutually transformative
> processes for both theorist and practitioner
> (Winter,1987,p81).

However, reflexivity entails a dialectical ontology of
consciousness, a dialectic between Self, Other, and Symbol.
As a form of critique, dialectical thought argues that there
is a link between knowledge, power and domination for it
tries to reveal "the power of human activity and human
knowledge as both a product of and force in the shaping of
human reality (Giroux,1983,p18). It follows that action
research, with its proclaimed interest in change, cannot
simply register the existence of an external object in the
descriptive sense, that is, understanding cannot simply
`break out' by using language as a tool to be skilfully used
as a descriptive ordering of reality, for the basic unit of
reality is not a thing but a relation. This point is
strengthened by Lenin's (1972,p361) understanding of
dialectics:

> Dialectics is general as a method since, ... every
> proposition itself contains the notion of the
> contradiction of the relation between universal and
> individual (quoted in Winter,1987,p13).

While dialectics does not deny the positivistic view that
A=A (A cannot at the same time be not-A), dialectics goes on
to say that nothing is merely self-identical and self-
contained:

> Dialectics regards things in a process of motion and as
> essentially interrelated. It believes all things are
> contradictory. ... A contradiction is not mere
> accidental conflict, but essential conflict; it is
> opposition within a unity (Sarup,1978,p132).

For dialectics, then, contradiction (as opposed to paradox)
is a condition (rather than a symptom) of understanding.

And it is in praxis that dialectical thinking is most
evident. Also it is in this sense that the principle of
dialectics combined with the epistemological principle of
reflexivity gives action research its characteristic
cyclical nature - its always unfinished status, its
inevitable incompleteness.

The absence of these two principles, reflexivity and
dialectics, in much action research results in naive
understandings of educational processes. For example,
Potgieter (1989) reports on her attempt to research her
teaching of geography, and asks the question "How can I
improve my teaching of Std 5 geography in such a way that I
have alert, enthusiastic and interested learners?" At no
stage in her report does she problematize what she means by
"alert, enthusiastic, interested". After a traditional
lesson on The Netherlands the following conversation with
some of her pupils takes place:

Claire   Well I thought it was quite boring because you
           want to be something one day, and you'll never
           need to know about the Netherlands.
Kim   Well I don't actually know what's going on.
Carey-Leigh I find geography boring sometimes. It's just
           the sea, the land, the mountains, the plateaus.
Teacher   Carey-Leigh, given the fact that you have to know
           that, how would you make it less boring?
Carey-Leigh You can't! (Potgieter,1989,p24)

Responding to this conversation Potgieter falls into the
`trap' of confining herself to designing lessons on the
Netherlands which include the Red Light District in
Amsterdam. While it seems that the pupils preferred this
topic to tulips and cheeses, the stance of the teacher-as-
researcher in these instances is an `instrumental' stance of

the `educating Subject upon the child Object'. The undialectical and unreflexive approach to this attempt at improvement in practice had certain implications as far as action research's intentions are concerned. Potgieter recognizes on reflection that taking learners' interests into account meant that "you are going to end up questioning the system" (her Higher Primary Head had warned that the Red Light District was an issue best not raised) (1989,p41), but she is unable to recognize the potential of action research to transform Self and Other and the institutionalized relationships which are its object.

In this way one can conclude that the educator's resource for a reflexively and dialectically conceived educational enterprise is not a realization of her knowledge and of the children's ignorance, but rather of her own ignorance and of the children's understanding. It is the notion of `ignorance' and whose `ignorance' is under scrutiny that is important to grasp in attempts at transformation. In this case it is the teacher's ignorance and the children's understanding that is the resource for the enterprise. Winter (1987,p108) is worth quoting at length on the criteria for improvement of practice:

> ... `the improvement of practice' would be bound up with an explicit grasp of the reflexive grounds for practice. This would not be the ... proposal of a move from `constraint' to `emancipation' but rather the recollection that practices are in principle grounded ... in the intersubjective dialectic between self and other, between professional and client. This recollection would be a moment in the dialectic between theory and practice, action and research, and equally a moment in the dialectic between ideology and theory: in both cases the reflexivity of each moment provides for a dialectical self-transcendence, and thus prevents `critique' becoming merely the assertion of an ideal against practice (original emphasis).

The fundamental capacity that action research has for
structuring the interplay between critique and
responsibility, and between theory and practice, is what
decided me to choose this methodology for my project.
Foucault (1977) points out that the analysis, elaboration
and bringing into question of power relations ia a permanent
political task inherent in all social existence. A local,
specific inquiry can take on a general significance at the
level of that regime of truth which is essential to the
structure and functioning of our society. Action research's
claims to epistemological radicalism seemed to me to be the
most appropriate paradigm for any teacher who wishes to
intellectualize her practice in order to transform it, to
adopt. Just how I attempted to embark on an action research
project is the subject of the next chapter.

CHAPTER FOUR

THE TEACHER-RESEARCHER PLANS ACTION

Chapter Four places the problematic of authority and
emancipation as the research endeavour. The evolving
rhythm of the action research cycles is described and
three aspects of classroom practice are identified as
amenable to improvement within the general idea of an
emancipatory form of authority. The focus of attention
becomes authority and mediation. The use of
mediational operators as an explanatory framework
within the paradigm of action research is suggested as
a means for studying the interaction of teachers and
pupils.

In my research into language and language policies in
primary schools completed in 1980 I wrote

> ... teachers need to criticize their own views and
> approaches and adopt a rationale that is consistent
> with and supportive of practices which encourage the
> language and learning growth of the pupils
> (Flanagan,1980,p36).

Influenced by the sociology of knowledge (for example
Barnes,1976; Esland,1971) I concluded that unless teachers
adopt a more "interpretive" mode of teaching, children's
development would be "stunted". In this way I recommended
that teachers "take deliberate responsibility for helping
children use language to question, to set up hypotheses and
test them", and that children be given the opportunity "to
use language freely and experimentally"
(Flanagan,1980,p230).

Subsequent deliberation on this approach to teaching and
learning came to be described by me as `inquiry-based'.
Morally I supported this approach, as I understood it to be
more democratic and less authoritarian. Believing in the

autonomy of the learner (in the sense of individual choice, and independent learning) I saw the possibility of developing a critical relationship with my pupils in which teacher and pupils alike question each other's ideas, reinterpret them, adapt them, and even reject them. My understanding of what I meant (epistemologically speaking) by an `inquiry-based' approach was close to that of Rowland (1984,p4) when he explains an interpretive mode of teaching as being two-way, for

> [i]t involves not only the child's attempt to interpret and assimilate the knowledge and skills offered by the teacher, but also the teacher's attempt to understand the child's growing understandings of the world.

What then became the motive for this action research project was an attempt to find out exactly what I meant by `inquiry-based' in practice, that is, what does self-controlled learning really look like in a classroom. Together with this intention was the more overt political intent of developing communicative competence in pupils through this approach. As a question then, and succinctly, I asked, `How can I make schooling more meaningful so as to make it more critical?'

As a modus operandi, or what Ebbutt(1985) refers to as "maxims", I was guided by the formal scheme of Kemmis & McTaggart's as represented in The action research planner (1982,p18f). In this scheme the basic cycle of activities is `Identifying a General Idea', `Reconnaissance', `General Planning', `Developing the First Action Step', `Implementing the First Action Step', `Evaluation", `Revising the General Plan'. From this basic cycle the researchers then "spiral" into `Developing the Second Action Step', `Implementation', `Evaluation', `Revising General Plan', `Developing the Third Action Step', `Implementation', `Evaluation' and so on.

The reconnaissance began on 17 April 1984 when the children and I decided to consider critical reading and reading behaviours. In a field note on that day I wrote, "These children are accustomed to transmission-type teaching where the teacher has given the main ideas". On 24 April 1984 I wrote in my notes:

> I am going to have to design more lessons which encourage general inquiry. In other words I must create an inquiry-based atmosphere more firmly before I become specific in my research.

In a reflective note on 13 May 1984 I wrote:

> This cycle of lessons [on `critical reading'] can be seen as the Reconnaissance, as it has been a time in which I have come to grips with what is already happening and am now more able to define my field of action.

In revising the general plan of critical thinking I came to ask:

> Why are these children reluctant to let the imagination work? Can a child develop critical thinking without the use of the imagination? ... The curriculum and curriculum materials have potential for involving children as actively concerned inquirers, that is, imaginative activity (25.5.84).

I did not develop my understanding of what I meant by "imagination" other than being influenced by Maxine Greene's article "Curriculum and Consciousness" (1971) in which she speaks of imagination. So the series of four action steps taken subsequently to "excite the imagination", while being thoroughly enjoyed by the pupils, were not challenging my own understanding of teaching. In audio-taped group interviews with the children on whether these lessons had, in fact, excited the imagination, Rolf commented:

> I think it is also because when I used to read funny grown up books, because my Mom ... she's got a lot of

> those big ones that are quite interesting but I was
> used to the ones with the pictures in, the nice
> coloured pictures. So I only used to read a few pages
> and then I said, `Oh no, I'd rather go and read one of
> my other books'. And then when you came along then we
> had all those things but I also used to see pictures in
> my head, but now I see them more ... You get more
> imagination in your head (19.6.84).

This sort of reflection by the pupils and me resulted in the
understanding that imagination was necessary in learning and
in problem-solving as it could lead to divergent thinking or
original thought. In this rather taken-for-granted way the
action steps that followed became steps involving
mathematics investigation. Cycle One, then, had been a
reconnaissance cycle about `critical reading'; Cycle Two had
been a cycle involving `imagination' using stories,
storying, and imagined situations such as `Would I rather
share my bed with a hippopotamus, a crocodile, a bear or a
monster?'; and Cycle Three became mathematics investigation.
The shift (or spiral) to mathematics investigation was a
crucial one in this research process and so requires
explication.

The rhythm of the action research cycle of plan, act,
observe, reflect, plan, act, observe, reflect (see Kemmis &
McTaggart,1982) accompanied by the monitoring techniques of
field notes, interviews, questionnaires, audio-taped
lessons, analytic memos and still photographs (all of which
had been used thus far) were a dynamic means of getting me
to question my practice in much more reflexive and dialectic
ways. What I am trying to suggest is that had I not used a
methodology which encourages flexibility in planning and
action, which tolerates changes in plan and focus, I might
not as easily have located myself in a teaching situation

which was to challenge my understanding and my fragility in quite significant ways.

To explicate the significance of the shifts in the action research cycles is to say that they encourage teachers to account for their own professionalism - to question much more closely their practices and the intended goods, rather than simply to question bureaucratic authority. The methodology as it were drives the teacher to examine the norms which establish professional practice. In my own case I had begun this study with a fairly good grounding in the theory and practice of reading, and while centering the research process on critical reading I allowed myself to focus on the children's development, rather than on my own - I was operating on well established assumptions of mine and seemed unable to examine these in an attempt to improve my practice. To put it another way, I was confident in my ability to teach critical reading and saw the `problem' lying with the children's ignorance rather than my own. The move to mathematics investigation as a curriculum choice was an important one as I had virtually no experience of this approach to the teaching of mathematics. In other words I lacked the confidence born out of experience, and was more easily able to recognize that improvement of my practice was necessary and possible. The shift allowed me to become aware and critical of my own practice, and so the process of my education was also enhanced. This finally became the `risk' that I saw as so important to the project of action research, for it kept me at the centre of the inquiry. Whitehead points out that:

> Unless we keep the living `I' in our educational discussions, action research loses touch with reality and becomes an academic exercise (in McNiff,1988,p37).

For the first time my notes begin to reflect the central problematic of critique and responsibility, of authority and emancipation in explicit ways:

> I feel as though I am not in control. This raises the question of whether in inquiry-based learning I should be in control. That is, if it is up to the children to negotiate the learning situation then who is in control? ... Maybe I'm reluctant to release the reins ... I have an interesting problem with this class as they resist my authoritarian approach in what has been negotiated as a democratic situation ... But oh my reluctance to relinquish control! This irritation of mine I can recognize, but I'm reluctant to perceive my role differently from my traditional understanding of it (20.8.84).

And suddenly, too, I felt the need for collegial support, and for the contribution of a participant observer. I could no longer operate as a `know all' and needed a critical community to encourage a more reflexive approach to my work.

While monitoring techniques continued in a variety of ways, the method of triangulation became a significant force in my understandings of the research process. This is because triangulation brings different kinds of evidence into some relationship with each other so that they can be compared and contrasted. I do not mean to imply that a listing of a multiplicity of interpretations generates a basis for choice between them, but rather that differences may be examined in terms of contradiction. An example from an early attempt at triangulation (between a participant observer's account, the pupils' account, and my account) might illustrate the point. Melanie, acting as my first triangulator, is interviewing me directly after a lesson that she has observed. Discussion centred on negotiation.

Melanie   But what I found interesting was that there are things that you don't negotiate. And I'd be interested to know why. Because it seems to imply that, yes the children must control their own learning, and by and large that was happening, ... but rules aren't negotiated. For example, it was a rule that those at the tables must whisper. [Wendy was with a group in front working on the mat and using the chalkboard.] Now that was presented to them as a rule, it was never discussed or negotiated in any way. The role of scribe [played by Wendy in the lesson] was not negotiated although it seemed to me that there were actually points in that investigation where the role possibly should have been negotiated. So I would like your comment on that ... whether it's impractical to negotiate them, whether it's because you actually feel somewhere that they won't be able to control their behaviour and actually act irrationally and so on.

Wendy   Ja, I'm conscious of that. I think part of it is my own impatience. That to go through a process of negotiation as to who whispers and who doesn't is ... um ... I'm impatient to do because I suppose I want to be manager at that stage, in that from a practical point of view I needed to be able to hear. Because I thought that I would remain as scribe, I did not anticipate that physical joining ... quite honestly I did not expect that kind of interest ... I had a fairly negative anticipation of the set up on the mat, and was quite overcome by the interest, which, as you say, was shown by the whole physical kind of move to the chalkboard. So that initial 'I will

be scribe', was um ... I should have negotiated, or, let's put it this way, I could have negotiated it, but my reason for being scribe was so that I would not participate in the learning situation, that I would be seen only as scribe, and that this sort of one brain operating on the mat as it were would be in control. And I wanted them to be in control of what happened on the chalkboard, so therefore I thought if I took the role of scribe, that meant I could opt out of the learning situation, and merely do as I was told. But in a sense it didn't work out. But perhaps ... I don't know about it being negotiated, I don't think that's quite the right word, as opposed to being explained. Um ... but certainly there should have been agreement of it, if not negotiation.

Melanie   I certainly picked up the feeling about two thirds of the way through what you were doing that the children felt ready and, in fact, wanted to take over that role. And I'm wondering if we're looking at the children taking control of their learning, whether in fact that shouldn't have been the point in this whole happening here that you withdrew completely ... and you became the spectator and simply observed what was going on. For it seemed to me that for as long as you were there, albeit in a relatively neutral role of scribe, which you did very well, you were still the focus of the learning.

Wendy   Yes. Of course my objective was to get them to understand what we're on about with maths investigation. Therefore I perhaps felt that I needed to be there as a facilitator, as well as a scribe. And certainly that was necessary

initially, and to get the whole kind of pattern going with questions on the board. But I think you're right, that there could've ... there was a point when I could've in fact pulled out and sat at the table and let them take over (9.10.84).

Triangulation requires a multiplicity of perspectives. The above is the teacher's account. Below is the pupils' account when Melanie pursued this line of questioning with the children when she subsequently interviewed them:

Melanie   ... But I noticed Mrs Flanagan made the rules in the classroom. So she said to you that those children who were working at the tables had to whisper. And I noticed that when she was working with the group at the front, remember she said that she was going to be the scribe, the person who wrote everything on the board, and at one point in that lesson, it seems as if you people actually wanted to take over the job as scribe.

Rolf   Ja.

Melanie   And she said that no you couldn't do this because that's her job. Now how do you feel about Mrs Flanagan making those kinds of rules in the classroom?

Yannick   Well I feel that it is very good, because, you know, you can't do every single thing in your life. So, you've got to share.

Melanie   So you think that it is better that she makes those rules.

Werner   You learn better.

Melanie   Why do you think you learn better?

Werner   Because if you make your own things up sometimes,
            you don't know ... like make things up she's done
            before, and it's not nice to do things that she'd
            done.

Melanie   So you think that Mrs Flanagan makes the rules
            about who should talk and talking quietly, and
            those kinds of rules, that you learn better in the
            classroom. Are there other people here who feel
            the same way? Can you put up your hands if you
            agree with that. Rolf, you didn't have your hand
            up, how do you feel? Do you feel that you don't
            learn better when Mrs Flanagan makes those rules?

Rolf   Not really but she should first see what other
            people like ... you see, because ... sometimes the
            other people want to do that, and if it goes
            alright then let it go that way. But if it
            doesn't go right then change to the other rules.
            Because you know, I felt like writing on the
            chalkboard.

* * * * *

Melanie   ... Was there any point in that lesson where you
            felt Mrs Flanagan could, in fact, have withdrawn
            completely, stopped being the scribe, and simply
            stood on the side and the learning would have
            continued? Was there any point at which you felt
            that that could've happened, or do you feel that
            it was important that she was always with you,
            that she remained with you and carried on writing?

Rolf   No well, I think she could've stood on the side
            for a bit and seen what's going on, because, I
            mean, Yannick, Byron and I, we were putting new
            things on the board and seeing how it went up.
            And I dunno if it went a bit out of hand, then
            she'll have to come back in, but I think it would
            have gone for quite a while (12.10.84).

The understandings (and misunderstandings?) of socio-
political authority and epistemic authority are evident in
these attempts to come to grips with `inquiry-based' and
self-controlled learning. In the interviews Melanie seems
interested in pursuing the socio-political authority of the
teacher and what this means in a more democratic classroom.
She is exploring instances of possible authoritarianism and
in this way is raising questions about understandings of
democratic practice. The pupils seem not to place the same
importance on initial `negotiating rules' as she does, but
rather to be saying `keep flexible' but, importantly for my
developing understanding, also to be saying that the teacher
is essential - both Yannick and Rolf state this, they see a
positive and active function for the teacher. However, at
that stage I appear to be in a state of confusion over all
forms of authority and my responsibility as a primary school
teacher - when do I teach? do I teach? am I being
authoritarian? what is negotiation?. Contradictions in the
accounts begin to surface. Hence the relevance of the
dialectic - where are contradictions located? Winter
(1987,p135) extends the need for this understanding of the
dialectic when he says:

It is such an emphasis that action-research requires, since action-research by its very nature is constituted in a dialectic between action and theory, and thus does not wish its inquiry to provide a conclusive prescription for action, but rather to allow action to open out developmentally on the basis of such provisional enlightenment as has been achieved by its inquiry, and on the basis of that achievement always to invite and require further phases of action-research itself.

The cycles of action crystallized finally into my identifying three specific aspects of my practice which I decided were amenable to improvement, and they became the "further phases" in my attempt to develop an emancipatory form of authority. The three aspects (perhaps focusses is a better description) were:

(1) a more serious attempt at negotiating the curriculum;

(2) a more rigorous development of collaborative learning; and

(3) a more reflexive form of critical reflection on teaching and learning.

McNiff (1988,p45) argues that, "Other problems may be explored as and when they arise without the researcher losing sight of the main focus of the enquiry". She goes on to argue for such "spin-off spirals", stating that "generative action research enables a teacher-researcher to address many different problems at one time", and that the "facility of switching focus" enhances "personal and professional education". But this argument seems to ignore the reflexivity so fundamental to action research. The "spin offs" could perhaps better be viewed as the contradictions within the problematic, so that the aim of improvement of practice can be better questioned. For

It is such an emphasis that action-research requires,
since action-research by its very nature is constituted
in a dialectic between action and theory, and thus does
not wish its inquiry to provide a conclusive
prescription for action, but rather to allow action to
open out developmentally on the basis of such
provisional enlightenment as has been achieved by its
inquiry, and on the basis of that achievement always to
invite and require further phases of action-research
itself.

The cycles of action crystallized finally into my
identifying three specific aspects of my practice which I
decided were amenable to improvement, and they became the
"further phases" in my attempt to develop an emancipatory
form of authority. The three aspects (perhaps focusses is a
better description) were:

(1) a more serious attempt at negotiating the
curriculum;

(2) a more rigorous development of collaborative
learning; and

(3) a more reflexive form of critical reflection on
teaching and learning.

McNiff (1988,p45) argues that, "Other problems may be
explored as and when they arise without the researcher
losing sight of the main focus of the enquiry". She goes on
to argue for such "spin-off spirals", stating that
"generative action research enables a teacher-researcher to
address many different problems at one time", and that the
"facility of switching focus" enhances "personal and
professional education". But this argument seems to ignore
the reflexivity so fundamental to action research. The
"spin offs" could perhaps better be viewed as the
contradictions within the problematic, so that the aim of
improvement of practice can be better questioned. For

example, improvement for what? What are the criteria for improvement of practice? So that while I identified three aspects of my practice for improvement I tried to view these as in a dialectical relationship one with the other; that while these three aspects operated separately to some extent in the classroom in the temporal sense, in that they were three separate lessons as such, I came to think about them in a cyclical rather than linear manner. (I use the term `lesson' because each aspect - negotiating the curriculum, collaborative learning, and critical reflection on teaching and learning - was a lesson in the sense that I was, of course, involved in a process of instruction in each.) The three aspects were cyclical in that the one aspect (lesson) was heavily dependent on the other aspects (lessons), and influenced the process of each. Negotiating what was to happen in formal task work was dependent upon the collaborative style of learning encouraged by the choices which were dependent on the critical reflection on teaching and learning which took place and which influenced the form and style of further negotiation, and so on.

Further, by attempting to concentrate on all three aspects simultaneously there was the possibility of developing social relationships in the classroom which would situate authority in a democratic context that could enable leadership to function in a way that was not a form of domination. To put it another way, it was an attempt at an education in responsibility. Perhaps this is what Dewey (1938,p207) meant when he wrote in his book <u>Experience and Education</u>:

> There is, I think, no point in the philosophy of
> progressive education which is sounder than its
> emphasis upon the importance of the participation of
> the learner in the formation of the purposes which
> direct his (sic) activities in the learning process,
> just as there is no defect in traditional education
> greater than its failure to secure the active co-
> operation of the pupil in construction of the purposes
> involved in his studying. But the meaning of purposes
> and ends is not self-evident and self-explanatory. (1)

The attempt to situate improvement in practice in a
democratic context was not, of course, an ahistorical
decision. During the 1980s the political economy of
schooling, made very evident in the Human Sciences Research
Council investigation into educational reform, 1981,
(popularly referred to as the De Lange Report) resulted in
the state expanding educational provision without addressing
the educational and political aspirations of the majority of
the youth in this country (see Buckland, van den Berg &
Walker,1981; and Buckland,1984, for criticism of the
technicist approach adopted by the state and the
recriminatory response of progressive educators). The
deepening crisis in schooling gave rise to much debate in
staff rooms and other places where teachers and educators
meet, over teaching styles, schooling, and democracy. It is
not surprising, then, that this study took the form that it
did.

---

(1) I try to explain what I mean by negotiating the
curriculum, collaborative learning, and reflexive critical
reflection on teaching and learning - the three aspects
identified for improvement - in Chapter Six in particular,
where actual instances are drawn from the study. This
chapter is an attempt, rather, to document the ways in which
I perceived action research's concern with policy
transformation so that the practice of policy transformation
in classrooms becomes a question of praxis.

During the presentation of some of the early work of this study at Kenton Conference 1984, Moll, one of the delegates, remarks in the subsequent discussion:

> I think, even though the point you made, that action research isn't necessarily or even logically linked to a particular theory of learning, I think in the **context** that you're developing it, what you're actually saying is that learning and teaching are centrally about conversation. And that's a radical opposition to mainstream South African education. And I think that what you're doing is really about that kind of challenge (Flanagan & Walker,1984,p65,original emphasis).

It is, then, perhaps fair to say that the criterion for this research project was the notion of `improvement of practice' being understood as a particular notion of professionalism and what that may mean in the context of formal schooling in the struggle for an education system grounded in democratic principles. In other words, once the three aspects of classroom practice were identified for research, the norms of professionalism became part of the problematic, and the criteria for `improvement of practice' became more clearly defined. The question,`Whose interests do these traditional professional practices really serve?' was `up front' and the challenge to identify the constitutive contradictions in teacher/pupil intersubjectivity was more reflexively situated. There was the possibility, then, for self-transcendence rather than of self-reproduction, the kind of self-reproduction that I sensed in the early cycles of the study involving `critical reading'.

The "messiness" of social inquiry referred to by Ebbutt (1985) now became more evident. `Data' was diligently collected and recorded, colleagues were harrassed to comment on the issue of `democratic practice', books were read and theories studied, and the tension between authoritarianism and laissez-faire approaches to the classroom became an emotional and intellectual nightmare. A criticism made of

my work by one of the other conference delegates captures
some of the dilemma:

> You know, what I see going on in this video is a form
> of practical democracy, or communicative competence,
> under a reasonably benign dictatorship ... How could
> you lead them less to lead themselves?

I answer:

> That's what I'm trying to find out. That's why it's
> authentic research for me as a teacher. I just don't
> know, and I'm hoping to learn (Flanagan &
> Walker,1984,p59f).

The responsibility of the teacher became a central concern.
The radicalism of action research with its stress on
reflexivity placed the practice of teaching as central to
the endeavour, and gave rise to the questions, `What counts
as progressive instruction?' and `What role does the teacher
play in the mediation of learning?'

The psychology of teaching and learning became my absorption
as I tried to understand the social nature of learning and
what that might mean in the process of instruction. (2)
Embedded as I was in individualistic notions of learning, I
realized that I needed to understand much more clearly why,
in fact, learning was a social activity. I came to the view
that if a teacher wanted to act as a transformative
intellectual, she would need to know how to mediate in such
a way that the learning was liberatory and empowering for
learners. This would entail a process of inquiry into

---

(2) Theoretical discussion on the social nature of learning
is left for Chapter Eight. This decision is based on the
way in which I have chosen to document my professional
development. My immersion in that literature only seriously
took place after the day-to-day classroom events were
complete. In other words it was one of the dilemmas I had
in choosing where to include which knowledges (see Chapter
One for discussion on this dilemma).

cognitive theory to ask questions like - what is learning?; what does it look like?; how do we learn?; how do we produce knowledge?; what is the role of the significant other (teacher) in learning?; and so on.

On a practical note, this "progressive focussing" (Hamilton et al,1972,p15) at least relieved me of being overwhelmed by too much data, for the inquiry was able to proceed on specific issues. While some forms of data became irrelevant, the focussing on mediation highlighted the importance of particular data for explanation and explication, so that the dialectic of theory and practice could be mutually informing. The focus highlighted the necessity of finding ways in which to `handle' the data such that moments within the process of instruction could be isolated and identified as moments of mediation.

The approach that I took needed to ensure the possibility of a reflexive approach to the inquiry, and it also needed to be an approach which could help me identify moments of mediation and to begin to say why they were such. While there are a number of methods used by investigators for analyzing classroom interaction (see, for example, Flanders,1970; Barnes,1976; Bennett,1976; Mehan,1979; the ORACLE Project in primary schools,1980) I needed not only a micro approach which would give me a careful description of what takes place in the process of mediation, but a strategy that could examine the `living process' as it were, how that process is constituted. Conventional research does not usually preserve or present the materials upon which an analysis was conducted - the researcher moves from the raw data to coded data to summarized findings, a process of abstraction. For my purposes I needed a strategy which would allow for alternative interpretations of the data, a

strategy that would produce a text-in-action as it were, and
so I decided to use the concept of `mediational operators'.
I felt that mediational operators could be the means whereby
I (and other participants and interested parties) could
better come to know what mediation is in the context of
praxis. This knowing could inform educational practice with
the judgment arising from practical wisdom.

Argument for Vygotsky's notion of the zone of proximal
development as making possible powerful forms of mediation,
and the identification of mediational operators within this
context, form the content of the next chapter. This chapter
has attempted to document a slice of classroom life using
personal history as the framework. It has tried to plot the
sequence of the inquiry, and account for the moves and
shifts so typical of the action research process.

CHAPTER FIVE

MEDIATIONAL OPERATORS IDENTIFIED.

Chapter Five attempts an explication of the zone of
proximal development, a construct developed by
Vygotsky. It is argued that other-regulation (in
schooling) plays a central role in the development of
self-regulation. The idea of generative mechanisms is
discussed and an understanding of mediation in the
process of instruction is developed. Attempts to
elaborate further concepts to study the zone of
proximal development are discussed, using the work of
Wertsch and Feuerstein as examples. The concept of
mediational operators, as a means to facilitate the
empirical study of the zone of proximal development, is
explained. Three mediational operators for this study
are fashioned to analyze the nature of one-to-many
interactions so that implications for teaching and
learning may be suggested.

Psychologists interested in mechanisms of growth and change
have traditionally been concerned with self-regulating
processes, because a great deal of learning seems to take
place in the absence of external agents. The earlier work
of Bruner (1973), and the work of Piaget (1976) are notable
examples of this concern with self-regulation. Important as
the processes of self-regulation may be, the main concern of
this study is the role of the teacher in learning, and how
this may relate to, or generate self-regulation. `What is
the role of significant others such as teachers and peers in
regulation?', became a necessary question to ask in my
attempt to understand the process of instruction in the
classroom. This led to the further question, `What forms of
mediation would generate development?'

Much of the work conducted on <u>other-regulation</u> has been
within a Vygotskian framework, for example, Wertsch (1985a,
1985b), Craig (1985), and Bruner (1986). This is
understandable as Vygotsky (1962,1978) set himself the task
of freeing psychology from "vulgar behaviourism", and of the
idea that subjective understanding of mental phenomena are
exclusively internal subjective states. Vygotsky
interpreted speech as an instrument for the planning and
carrying out of action (1978,p26). He is regarded as a
founder of psychological theory based on the concept of
activity (Davydov & Radzikhovskii,1985). Vygotsky produced
all his basic work between 1926 and 1934. His task was to
replace the subjective-empirical psychology which had
dominated Russian psychology up to the Revolution, with a
new marxist and materialist psychology. Important to this
study was Vygotsky's idea of the mediation of elementary
(natural) mental functions by "psychological tools" which
could be applied to the analysis of the higher mental
functions. This idea led to an integrated, historical
approach to mental functions. In this way Vygotsky was able
to propose the sociocultural determination of the human
mind, the idea of mind-in-society (one of his collections,
1978, has the title <u>Mind in Society</u>). As Moll (1984,p51)
has pointed out, Vygotsky's conception of the nature and
origin of a child's cognitive structures owes much to
dialectical materialism, "the mastery of socially determined
experience changes not only the contents of psychological
life, but at one and the same time creates new forms of
psychological structure". In brief, the essentially new
constructs in psychology that Vygotsky offered were the
socio-historical nature of mind, the notion that the sign is
a psychological tool, and that mental action is tool
mediated action. It is only really in the 1970s that his
work became available to western scholars, translations
beginning to appear in the late 1950s with the ready help of
Vygotsky's students Luria and Leont'ev, and others.

The functional aspect of Vygotsky's psychology (the social construction of knowledge) opens up with an examination of a significant other or mediator, for he conceives "the parameters of mind in any child to be defined first and foremost by the process of interaction between the child and an adult" (Moll,1989,p718). A review of some psychological investigations shows that they have located their concern in one-to-one, or dyadic, interactions such as mother/child (for example,Craig,1985). Unlike Piaget, who seemed to me to concern himself only with the child and his (sic) independent development (1), Vygotsky seemed to place importance on the way in which mind developed within a specific social relation and that a significant other could play the role of mediator in children's mental development. My own particular interest in the work of Vygotsky arose from the realization that Vygotsky (1962,1978) placed great significance on the role of schooling, for teaching is, or can be, a systematic form of mediation. An explanation of how Vygotsky understood the social nature of learning, together with the importance of language as a mediating tool within this process, follows (Chapter Eight extends this argument).

In his theory of internalization, Vygotsky (1978,p57) argues that all psychological processes are initially social,

---

(1) As this chapter documents my concern with developing the importance of other-regulation and the identification of mediational operators within that process, Piaget's contribution to our understanding of cognitive development is largely ignored. In Chapters Seven and Eight I comment on his work in more detail and criticize my reluctance to take his work more seriously. In my own struggle to understand the teaching/learning dynamic I have had to recognize the important contribution he has made to the theory of cognition.

shared between people, particularly between adult and child,
or more capable peer and child:

> Every function in the child's cultural development
> appears twice: first, on the social level, and later,
> on the individual level; first, between people
> (interpsychological), and then inside the child
> (intrapsychological) ... All the higher functions
> originate as actual relations between human individuals
> (1978,p57,original emphasis).

So intrapsychological functioning or higher mental processes
can be understood only in terms of its interpsychological
origins. Vygotsky called the "dynamic region of
sensitivity" (Wertsch,1985a) in which the transition from
inter- to intrapsychological functioning can be made, the
zone of proximal development.

Vygotsky describes the zone of proximal development as the
distance between a child's "actual developmental level as
determined by independent problem solving" and the higher
level of "potential development as determined through
problem solving under adult guidance or in collaboration
with more capable peers" (1978,p86). It is the zone which
defines those functions which have not yet matured, the
"buds" rather than the "fruits" of development, so that:

> The actual developmental level characterizes mental
> development retrospectively, while the zone of proximal
> development characterizes mental development
> prospectively (1978,p86/87,emphasis added).

Vygotsky refers to the "buds" and "fruits" of development,
so emphasizing the need to uncover the reasons for, or
causes of, development. The "buds of development" denote
those "functions" which generate development, and in this
explanation he refers specifically to the relation of
teaching to learning and development (1978,p87). In terms
of this theory it becomes necessary to discover that which
generates psychological development and has the ability to

explain performance that will **become** manifest - to identify the "functions" or <u>generative mechanisms</u> that characterize prospective development.

Various attempts have been made to identify generative mechanisms. According to Miller (1984) attempts to identify generative mechanisms cut across content domains so that Freud's defence mechanisms and Piaget's schemes are examples of generative mechanisms proposed to explain some aspect of prospective development. It could be argued that another example is the programmes that form the basis of computer models of human cognition.

Generative mechanisms may be seen as either intrinsic or extrinsic. Intrinsic generative mechanisms refers to those functions and/or structures which are definitive in terms of the essence of something or someone (Craig,1985,p58). Within the Piagetian tradition it is intrinsic mechanisms which are emphasized. Piaget's notion of equilibration as a central process for the development of knowledge, is the dynamic force that acts to produce "successive states of equilibrium within the cognitive system" (Craig,1985,p59). It is an understanding of equilibration which generates intelligent behaviour, and it is the successive states of equilibration which lead to logico-mathematical thought. In this sense Piaget's theory of equilibration may be interpreted in terms of intrinsic generative mechanisms (see Chapter Eight for further discussion of Piaget's work).

Extrinsic generative mechanisms, on the other hand, always function in terms of a relationship between two or more things. Craig (1985,p58) clarifies this understanding by explaining that if two individuals could be said each to

have certain intrinsic generative mechanisms the relationship between these two individuals may create extrinsic generative mechanisms for one or both individuals. Extrinsic generative mechanisms may be seen as the unique socio-historical constraints which allow certain `solutions' at certain times and not others, and also by certain people and not others.

According to Vygotsky, the origins of self-regulatory activities lie in culturally prescribed patterns, and the task is to identify those mechanisms which, through other-regulation, will generate future performance.   This means that the importance of the zone of proximal development is that it requires an identification of mechanisms that will generate future performance.   Vygotsky makes it quite clear that "what a child can do with assistance today she will be able to do by herself tomorrow" (1978,p87).   Rather than describing "fossils", we should be providing explanation for higher mental functions.   As Vygotsky states, our task is to "lay bare the essence rather than the perceived characteristics of psychological phenomena" (1978,p63).

What is implicit in Vygotsky's notion of development is the need to explain how children are capable of mastering something fundamentally new, that is, how they proceed from the familiar to the unfamiliar.   Vygotsky (1978,p3) states that

> child development is a complex dialectical process characterized by ... qualitative transformation of one form into another, ... and adaptive processes which overcome impediments that the child encounters.

For Vygotsky the zone of proximal development makes possible a distinction between imitation and learning, for "a person can imitate only that which is within her developmental

level" (1978,p88). Creating a zone of proximal development through the process of instruction is crucial to a child's development, for "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (p88).

In terms of Vygotsky's concept of the zone of proximal development it becomes important to discover the processes involved in discovering what they, the children, do not know. It may be said that the essence of the zone of proximal development is the process of instruction, so it becomes essential to expose the mechanisms within the process of instruction that produce change. Vygotsky develops the concept of mediation to explain the mechanisms.

Vygotsky defined development in terms of the emergence or transformation of forms of mediation. Vygotsky uses the concept of (tool and sign) mediation to explain the development of higher mental functions. Tool and sign mediation are mutually linked by the mediating function which characterizes each of them. However, there is a difference in the way signs and tools orient human behaviour. For Vygotsky the tool's function is externally oriented, it serves "as the conductor of human influence on the object of activity" (1978,p55). The sign, on the other hand, is a means of internal activity aimed at mastering oneself, "it changes nothing in the object of a psychological operation" for it is internally oriented (p55). In this way it can be said that the mutual link lies in the mastering of nature (tool mediated action) and the mastering of behaviour (sign mediated action). Vygotsky explained that higher psychological functioning refers to the combination of tool and sign in psychological activity (p55). Vygotsky argued that society, through concepts,

ideas, and theories, provides the material, the tools and
signs, to help children reflect upon their own knowing.
This illustrates the crucial significance for Vygotsky's
theory of significant others, or teachers, who transmit the
social world to the child:

> The child's greater or lesser ability to transfer from
> what he can do on his own to what he can do with help
> proves to be the most sensitive symptom that
> characterizes the dynamics of the child's development
> and success. This wholly coincides with his zone of
> next development (Sutton,1980,in Moll,1984,p54).

This sense that Vygotskian psychology depends on a notion of
the ontology of social relations for its explanation of
children's development is further illustrated in his work on
the introduction of scientific concepts to children which
highlights the essential role of mediation (and language) in
learning.

Vygotsky (1962) distinguishes between scientific concepts
and spontaneous concepts. The cardinal difference between
these types of concept, he argues, is the presence or
absence of language as a tool. In the case of spontaneous
concepts, the child's attention "is always centred on the
object to which the concept refers, never to the act of
thought itself" (1962,p92), whereas, and in contrast, in
scientific concepts the relationship to an object "is
mediated from the start by some other concept" (p93). He
explains:

> The new higher concepts in turn transform the meaning
> of the lower. The adolescent who has mastered
> algebraic concepts has gained a vantage point from
> which he sees arithmetical concepts in a broader
> perspective (1962,p115).

For Vygotsky the school's emphasis on using language to talk
about language is an important force in the emergence of

scientific concepts. The point is that the acquiring of scientific concepts has great significance for the development of higher mental processes because these concepts by their very nature involve conscious realization and thus voluntary control (or self-regulation).

What is revolutionary about this particular conception of competence is the idea that children's development depends not upon them reinventing the wheel, but upon their capacity to integrate their needs and strategies and interpretations with those significant others around them. This capacity depends largely upon their using the signs and tools of their culture to express the powers of mind (mind-in-society), and in the case of schooling, specifically the tool of language to express abstract thought.

The idea that the development of language itself produces a **qualitative** change in the development of representation and thought is important, particularly to the argument I'm trying to make in this study. It must be understood that Vygotsky was concerned with the **social** activity or **communicative** aspect of speech, with its regulatory function. He viewed the use of language, or, more generally, the use of signs, as central to the transition from inter- to intrapsychological functioning, from other- to self-regulation:

> A sign is always originally a means used for social purposes, a means of influencing others, and only later becomes a means of influencing oneself (quoted in Wertsch,1987,p198).

Vygotsky was able to work on the assumption that human communication is possible because of representation (language as a psychological tool), that is, the demands of

communication **cause** emergent linguistic representation. Thus, unlike Piaget, who focussed on language as representation, Vygotsky argued for an approach to language that combines its representational **and** communicative powers (Wertsch,1987). In this argument the unique role of language enables the child to operate on the basis of a highly developed form of mediated psychological functioning, so that with language, mental activity can be carried out in a way that is maximally independent of the concrete situation or context. In Vygotsky's view language starts as dialogue, then becomes monologue before children eventually develop "inner speech" by internalizing these outer-directed cognitive controls. Children then become capable of actively modifying the environment that influences them by virtue of this "inner speech" and adapt their behaviour to these modified influences (see Chapter Eight for extended discussion of "inner speech"). Luria (1979), who continued Vygotsky's work on the influence of historico-cultural factors on the development of higher mental functions, summarizes the point of contact between the individual and society when he says:

> Under the influence of adult speech, the child distinguishes and fixes on behavioural goals; he (sic) rethinks relationships between things; he thinks up new forms of child-adult relations; he re-evaluates the behaviour of others and then his own; he develops new emotional responses and affective categories which through language become generalized emotions and character traits. This entire process, which is closely related to the incorporation of language into the child's mental life, results in a radical reorganization of the thinking that provides for the reflection of reality and the very processes of human activity (quoted in Craig,1985,p80).

To summarize thus far:

Placing particular importance on the social nature of learning, Vygotsky developed the construct of a zone of

proximal development. The substantive concern of the zone of proximal development is the interdependence of the process of children's learning, and the socially provided resources for that learning. Of central importance to my own needs is Vygotsky's focus on the process of mediation within the zone of proximal development. The notion of mediation, and the tools, specifically language, which generate higher mental functioning, become crucial to explicating the interrelation between the teacher's instructional processes and the learners' existing level of development.

The challenge of the zone of proximal development is to try to identify the substance of that future performance. Wertsch (1985a) and Feuerstein (1980) have both elaborated further concepts for researching the zone of proximal development. Wertsch's constructs and their way of developing an understanding of what constitutes a mediated interaction, and, to some extent, Feuerstein's concern with cognitive modifiability and how mediation operates, make useful contributions to identifying the explanatory constructs in this study.

Wertsch (1985a) has attempted to give an account of the mechanics of the zone of proximal development by using three related constructs which he terms "situation definition", "intersubjectivity" and "semiotic mediation". An explanation of each follows.

The notion of "situation definition" is defined as the "way in which objects and events in a situation are represented or defined" (p159). The notion allows for the fact that people may differ in their representations of the same set

of objects and events. When a teacher and learners are operating in the zone of proximal development, each will have their own way of representing objects and events. This means that while in one sense the teacher and learners are in the same situation because the same objects and events are perceptually available to both, in another sense they are not in the same situation "because they do not define these objects and events in the same way" (p159).

This apparent difficulty in effective communication is overcome by Wertsch by invoking the notion of "intersubjectivity" which he says exists when "interlocutors share some aspect of their situation definitions" (Wertsch,1985a,p159). This overlap may exist at several levels. He draws from the work of Rommetveit who emphasizes that any situation, event, or object has many possible interpretations and that "speech serves to impose a particular interpretation and create a temporarily shared social reality" (p160). What anybody "sees" going on in a situation is a private affair but Rommetveit argues that:

> it can be talked about and hence - at least under certain conditions and in some sense - become a temporarily shared social reality. The solitary observer may thus try to transform his (sic) "private" outlook on the situation into a social reality simply by telling some other person about it. Once the other person accepts the invitation to listen and engage in a dialogue, he leaves behind whatever his preoccupations might have been the moment silence was transformed into speech. From that moment on the two of them are jointly committed to a temporarily shared social world, established and continually modified by acts of communication (in Wertsch,1985a,p160).

Because an adult and children operating in the zone of proximal development often bring divergent situation definitions to a task, maintaining intersubjectivity can be difficult. The challenge to the teacher is to find ways in

which to communicate such that children "can participate at
least in a minimal way in interpsychological functioning"
and eventually come to define the task in a new way (p161).

The third construct which Wertsch proposes is "semiotic
mediation". This is the concrete mechanism that allows for
the recognition of an intersubjective situation definition,
which is very often established through the use of language.
He explains that semiotic mechanisms

> create and transform various aspects of
> intersubjectivity in a communicative setting where the
> interlocutors do not share the same situation
> definition (1985a,p167).

According to Wertsch, for semiotic mediation to serve as an
impetus for change, the significant other's directives
should be geared towards what the learner needs to
understand in order to negotiate an intersubjective
situation definition, rather than what the learner already
knows. The mechanism must be a "semiotic challenge" to the
learner (p182) for these communicative mechanisms "provide
the key to the origins and transition of intrapsychological
functioning", and have potential for encouraging the learner
to "view situations in a culturally more appropriate way"
(p183). In this way semiotic mediation becomes the
mechanism that allows for intersubjectivity, much as
instruction, for Vygotsky, creates a zone of proximal
development.

Apart from Wertsch's account of the mechanics of the zone of
proximal development, many of Vygotsky's theoretical ideas
and core concepts, specifically mediation, can be found in
the work of **Feuerstein** (1980). Feuerstein's main concern is
with cognitive modifiability. In his framework mediated
learning provides the theoretical interpretation of social
experience "which anchors the concept of cognitive

modifiability in cultural and political terms"
(Morphet,1985,p34). Feuerstein makes use of what he calls
Mediated Learning Experience, which he contrasts with
learning that takes place by direct exposure. Mediated
Learning Experience serves to facilitate the transmission of
meaning; mediated learning is the way in which the
environment is transformed for a child by a significant
other:

> This mediating agent, guided by his (sic) intentions,
> culture and emotional investment, selects and organizes
> the world of stimuli for the child. The mediator
> selects stimuli that are most appropriate and then
> frames, filters and schedules them: he determines the
> appearance or disappearance of certain stimuli and
> ignores others. Through this process of mediation the
> child's cognitive structure is affected
> (Feuerstein,1980,p116).

So for Feuerstein the more Mediated Learning Experience a
child has, the greater the cognitive capacity and
modifiability.

The tool he uses for this cognitive modifiability is
Instrumental Enrichment, the goal of which is "the
acquisition of prerequisites of thinking" (1980,p119).
While he does not specify what he means exactly by
"prerequisites of thinking", he does focus on the
development and internalization of content-free regulations.
He describes the materials of his Instrumental Enrichment
Programme as follows:

> The program is intended to be content-free. The term
> `content-free' is intended to convey that the contents
> of any particular exercise are merely a vehicle, or
> instrument, ... to enhance the cognitive modifiability
> of the individual (1980,p274).

It can be argued, therefore, that Feuerstein's Instrumental
Enrichment Program can be seen as a mediational tool which
regulates the child's activity. The child, through mediated
activity, internalizes these outer-directed content-free

regulatory functions, which then become the "prerequisites for thinking".

The contributions of Wertsch and Feuerstein alert us to the fact that, if the zone of proximal development prepares the learner for future performances, then what is acquired cannot be specific content only - it must be something more general that will make the learner competent to meet future problems. Viewed in this light, Wertsch's mechanisms and Feuerstein's efficient functions may be seen as the "buds", or the generative mechanisms, of the zone of proximal development.

Meaningful praxis, according to Vygotsky, occurs in the context of action. Miller (1984,p20) concludes from this that "culture may be conceptualized as the set of regulatory processes that become internalized through action". He explains that when examining cultural forms that regulate activity in the course of development, these regulatory functions may be thought of as extrinsic generative mechanisms. Through the process of mediation, in action, these functions are internalized for future self-regulation. The functions may then be seen as intrinsic generative mechanisms. So one can say that the transformation of regulatory functions from extrinsic to intrinsic generative mechanisms takes place in the zone of proximal development.

Having focussed my own inquiry on teaching and the nature of mediation (see Chapter Four) it is important to my work to find a way in which to approach the problem of investigating the substance of the zone of proximal development. It is, finally, the work of Craig (1985) which is useful in this regard. In her study of mother/child dyads she constructed

what she refers to as <u>mediational operators</u>. The term is meant to convey "the ideal adult mediational strategies which will produce in the child efficient autonomous problem-solving skills" (Craig,1985,p209). She argues that if mediational operators are present in the instruction process, they would generate the development of efficient independent problem-solving skills in children.

Craig derives the concept, mediational operator, immediately from two sources - Feuerstein and Pascual-Leone. The "mediational" aspect refers to Feuerstein's emphasis on the role of the adult mediator, while "operator" is borrowed from Pascual-Leone's concept of silent operators that operate on content schemes. The derivation does, of course, refer back to the work of Vygotsky and Piaget. Vygotsky argues that significant others mediate the meaning of objects and events in the world for the learner. And Piaget's notion of equilibration (the balance of assimilation and accommodation) is a dynamic force which acts to produce successive states of resolution within the cognitive system. After a "lengthy and deep immersion" (p136) in the data of her study (viewing video tape, negotiations of actors' accounts, and posing bits of information from each of these against each other) Craig "fashioned" (p134) a set of ten ideal instructional or mediational strategies for her purposes, and called these mediational operators. The mediational operators served as "second order analysis" (p133), that is, the analyses that are performed on the "raw data" are a "rational reconstruction" (p133) of what could be the mediational operators. Important to note is Craig's intention that these mediational operators are a conceptual move and not an empirical generalization (p139). Also, that the mediational operators which she devised are some **likely** components of an ideal instructional process:

`Ideal' in the sense that it seems that were such mediational operators present in the execution of tasks [such as those she used], they would provide the occasion for the development of efficient autonomous problem solving skills in children (1985,p203).

In this sense of use it is, of course, "open to experimental validation whether or not the suggested mediational operators in fact produce efficient problem solving skills" (p203,original emphasis). Craig's research involved urban Zulu speaking mothers and their children aged between 2,6 years and 4,7 years. The way in which Craig uses one of the mediational operators in her study may serve to enrich understanding of the way in which she used the construct. The mediational operator "Making the problem explicit" is quoted as example:

Making the problem explicit.

In order to engage effectively in a problem solving situation, the participants must be aware of the task as a problem solving situation that demands a solution. In the case of instruction from mother to child, it is necessary for the mother to make explicit to the child that the task as a whole and the different facets of the task demand specifiable responses that will solve the problem. This process is referred to as `making the problem explicit'. In Table 10 the instructional process focusses on the essential features of the problem that requires solution. Notice in this example how the mother specifies the appropriate responses that are necessary to fit the sticks into the template.

Table 10: Awareness of problem situation.

(The mother has looked at the model, the pieces on the table and the child's template. She introduces the task to the child as follows:)

MOTHER	CHILD
Now take the stick, a stick that is sharp like this one. (Pointing at appropriate stick on the model)	(Observing mother's actions)

Choose a stick that is sharp like this one. Do you see how sharp it is? (Showing sticks, in hand, to child)	(Watching)
Put it in here. (Pointing to appropriate space in model) There you are.	(Watching where mother points and chooses a stick) (Holding stick and watching mother)
Now put it in a hole that's sharp like this one. Look at the holes. Do you see the holes here? Now we are going to put it at the beginning in a hole that's sharp like this one. (Pointing at model)	(Looks at template and back at mother's actions)
Now you start over there in your things. Yaa. (Watching child's actions)	(Child places stick in template and looks back at model)

The extract in Table 10 is a beautiful example of what
is meant by the mediational operator, 'making the
problem explicit'. The mother specifies the nature of
the problem, that is that a stick shaped in a
particular way ('sharp') should be selected in order to
place it correctly in a similarly shaped hole. She
directs the child's attention to the holes and
emphasizes that their shape is important ('a hole that
is sharp') for the correct placement of the stick.

The instructional process in Table 10 illustrates how
necessary it is for the adult to anticipate the
problems the child may encounter and how this adds to
the child's awareness of the problem situation
(Craig,1985,p231-233).

Craig's use of mediational operators is taken from the
analyst's account in the study. A development of the
concept is that of Kok (1986) who derives a set of six
mediational operators from the actor's point of view (the

teacher or mother). Kok, in this case, focusses on mediational strategies employed by mothers, from their perspective and based on their intentions in the instructional process.

The concept of mediational operators, as a method, allowed both Craig and Kok to focus on describing and explaining the social regulation of cognition, and the shift from other-regulation to self-regulation. They found the mediational operators that they derived useful in the dyadic situation. However, I wished to study mediation in a one-to-many situation and so, for my purposes, I needed to derive a set of mediational operators that would be likely to serve as an analytical tool for describing the dynamics of the zone of proximal development in an instruction process in the classroom. The set of rationally reconstructed mediational operators that I derived should assist me in isolating moments of mediation for reflexive action in the context of my praxis.

In the previous chapter three aspects of classroom practice were identified as amenable to improvement - (1) a more rigorous development of collaborative learning, (2) a more serious attempt at negotiating the curriculum, and, (3) a more reflexive form of critical reflection on teaching and learning. In these lessons some form of instruction would arguably have taken place. The idea is, then, to derive a set of mediational operators which, when present in the instructional process, would constitute the dynamics that explicate the workings of the zone of proximal development. `Dynamics' is stressed because the intention is to study the generative power of mediation in the zone of proximal development. As Craig (1985,p311) explains:

> [T]he zone of proximal development as a region defined
> by some limits at each end may be understood as
> defining a dynamic interface between mind and culture.

Learning from Craig and Kok, and adapting the concept of
mediational operators for use in this study, that is to a
one-to-many situation, I identified three strategies as
appropriate to the method and to the intention of the study.
In other words the mediational operators served as
explanatory constructs for me to study the dynamics of the
zone of proximal development. The mediational operators are
(1) providing a particular environment for mental activity;
(2) embedding instruction in reflexive planning; and
(3) embedding instruction in `what is learning?' tasks.
The mediational operators were derived in the following way:

After a sustained and systematic study of the (raw) data by
myself and with participants in the project, certain trends
in the various lessons became evident. The idea was to
select from the original audio and video taped recordings of
lessons those sections that best illustrated the intentions
and purposes of the lessons. It must be understood that
this was not some kind of random selection of events for the
selection was theoretically derived - the data have bearing
on the intentions of this action research project. The next
step in the process of rationally reconstructing an ideal
instructional process was to select from transcripts of
these lessons illustrative aspects of the suggested
mediational operators which were "fashioned" for my purposes
of "second level analysis" (Appendix A, B, and C are
examples of transcripts of lessons from which mediational
operators were fashioned). The mediational operators are
presented as components of an ideal instructional process
emphasizing the demands of tasks in terms of a critical
pedagogy. These mediational operators describe in effect

the construction of knowledge deemed desirable in a critical
pedagogy. As all three of these operators will be
explicated in the next chapter by situating them within
actual lessons in the study, only an explanation of each
follows here.

(1) Providing a particular environment for mental activity.

This mediational operator serves to explain the actions of
myself and some of the children as we engaged in
collaborative learning (formal) tasks.

A fundamental orientation of action research is towards
emancipation. This leads to educational approaches which
emphasize an active role for the learner, what may be seen
as praxis. It is essential to distinguish this concept of
activity from ideas of `learning by doing' and `discovery
learning' which derive from empiricism, because:

> Praxis avoids tendencies to reduce knowledge simply to
> personal experience based on interaction with the
> environment.... it also places stress on the
> theorization of experience, a task in which the teacher
> has an important part to play (Youngman,1986,p103).

Vygotsky's argument on thought as action enriches the notion
of praxis. He argued that mental functions do not exist
independently of the physical, in a Cartesian form of
dualism, but rather that there is only one single object,
which is the thinking body of living real people, so that
thinking is not the product of an action but the **action
itself** (in Wertsch,1985a). The `mathematics investigation'
lessons in which the children and I were regularly engaged
was an attempt to situate the actors in a social process of
illumination, in a tool-mediated action. Taking a

progressive approach to the teaching of mathematics meant overcoming the separation of mathematics from any sort of meaningful activity, and overcoming the separation of pupils' conceptions from their formalization (Hoyles & Noss, 1987,p17). In other words, the ideal instructional process in mathematics (in a critical pedagogy) would take the content of the curriculum and identify this with the learning process. It takes the actual knowledge in the curriculum (mathematics syllabus) to account. While operating in the zone of proximal development a mediational operator may be defined in this instance as `providing a particular environment for mental activity'.

(ii) Embedding instruction in reflexive planning.

This mediational operator serves to explain my actions as I attempted to engage the children in the process of negotiating the curriculum.

In order to situate authority in a democratic context I saw it as part of my responsibility to include the children in decision-making processes, so that what we do in the classroom and how we do it becomes a matter for all to consider. The curriculum, in this process, becomes less `official' and more a matter of negotiation of form and content by all participants. The issue is how to bring the curriculum, and its school subjects, to the service of political action.

Attempts to capture this form of engagement were carried out regularly in the course of the project. Most often these lessons took place before or after formal task work. The challenge was to mediate in such a way that the children

were able to develop the ability to participate actively and authentically in the planning of formal tasks (such as mathematics investigation lessons). Extrinsic and intrinsic enabling conditions together produce the dynamics of the zone of proximal development. The process of instruction must be such that it is sensitive to this dynamic. While operating in the zone of proximal development a mediational operator may be defined in this instance as `embedding instruction in reflexive planning.

(iii) Embedding instruction in `what is learning?' tasks.

This mediational operator serves to explain my actions as we attempt a more reflexive form of critical reflection on teaching and learning.

Axiomatic to action research is the intention to involve and to improve. This is so because the educator's resource for a reflexively and dialectically conceived educational enterprise is a recognition of her own ignorance and of the children's understanding. For this reason action researchers are inevitably concerned with the politics and processes of innovation and change. In the case of teacher-researchers it is a concern with the politics and processes of innovation and change in schools, with an understanding of bureaucratic and institutional authority.

Strategically the democratic aim of involvement in this project resulted in many sessions of critical reflection on schooling over the period. These sessions took various forms and involved different participants, but they were regarded as opportunities to reflect on what I and the pupils were doing in an institutional setting. A study of

the original data from these sessions reveals that whether it was the participant observers talking with the children, or the children talking with me, a common moment in these sessions was the focus on learning, the ways in which to learn, the content of learning, and why we learn. In other words, our attempts to `deconstruct' schooling took the form of `what is learning?'

The challenge in this process of instruction was to find ways in which to mediate such that we could talk about learning and teaching and praxis in critically reflective moments. Moreover, in the spirit of action research, the ideal process of instruction had to be such that reflection denied the possibility of theory achieving a finality or legislative authority over classroom practice. While operating in the zone of proximal development a mediational operator may be identified, in this instance, as `embedding instruction in a `what is learning?' task'.

In this chapter I have tried to explain the significance of the zone of proximal development in the teaching/learning dynamic. An understanding of mediation and mediational processes are central to a developing theory of teaching and learning. I have argued for the use of mediational operators as one way in which to `capture' moments of mediation in the zone of proximal development, and identified those mediational operators which I believe are most appropriate to the intentions of this study. How I use these mediational operators to help me understand my classroom practice is the subject of the next chapter.

CHAPTER SIX

THE TEACHER-RESEARCHER AT WORK

Chapter Six locates critical reflection in the use of
rationally reconstructed mediational operators. Action
research's conception of the theoretic competence of
the social actor is made problematic. The transforming
of human action into text-in-action is suggested as a
way of studying meaning. The mediational operators are
used as text-in-action. They form the analysis of the
data and constitute an interpretation from the actor's
(teacher's) point of view.

The attempt to define and use mediational operators is a way
in which to provide an explanation for some of the
interactions that took place during the course of this
research project. It is an attempt to gain access to
meaning. Kok (1986,p28)), drawing from the work of Miller
and Craig, argues that the zone of proximal development is
constructed within a three dimensional conceptual space with
social, psychological and biological planes. Now, wherever
these three planes, the biological, psychological and
social, intersect, the natural product is **meaning**, so that
the substance that constitutes the zone of proximal
development is meaning. The object of study in this case is
meaning, rather than, say, neutral facts. When dealing with
the insubstantial domain of meaning, one enters the field of
interpretation.

In chapter three I argued that action research is founded
upon an implicit challenge to positivism's version of the
relation between theory and practice. This chapter, dealing
as it does with interpretation, must present argument of the
ways in which action research's challenge to positivism

rests upon <u>a conception of the theoretic competence of the social actor</u> (in this case, a teacher). Most action research writers present this conception unproblematically as a process of `critical reflection' (see Winter,1987,Chapter Three, for an excellent review of some of this writing on critical reflection). The point to make is that investigators, while noting the need to speak independently of Nature, do not analyze their grounds for doing so, so that "conditions for the possibility of `critical reflection' are ignored by being presupposed" (Winter,1987,p43). I shall take McNiff (1988) as an example of what I mean by presupposing conditions for the possibility of critical reflection (see Chapter One for discussion of the term `critical reflection').

In her book McNiff devotes chapter six to "Making sense of the data". She says that "analysis is to do with making sense of what is going on in real life" (1988,p85), and that the researcher must suggest "how the educative action in question approximates to the sense", and that this is done through group validation. However, McNiff gets `caught' in the `problems lead to solutions' dilemma. In her comments on reflection she suggests teachers ask "Does the solution actually solve the problem?", and "Is there clear evidence of improvement?" (p87). That she does not render problematic `critical reflection' (indeed she skirts it rather with her reliance on group validation for interpretation), results in her implication that researching one's practice means improvement in practice. So she can say, later, that validation is reaching "a common understanding" (p122), without analyzing her grounds for saying so. It is as though simply by adopting a critical stance "understanding" will result. Her claims for "originality" and personal "judgment" (p124) conceal the question, `What is meant by a critical stance?' In other

words she ignores the conditions for the possibility of
`critical reflection' in action research.

If action researchers are to achieve a transcendental effect
in action then they will need to do more than create
information and document classroom events and claim these as
evidence, as some sort of product of the research exercise.
Rather will teacher-researchers need to show how by actually
documenting and recording the facts **new** conceptions are made
available within the project of action research. This means
that critical reflection must include a dialectical
formulation of institutionalized processes and of
ideological processes so that the self-other relation and
theory-practice relation are maintained. McNiff (1988), for
example, does not include comment on her own subjectivity in
the process of critical reflection, she avoids theorizing
about her subject position and so (apparently) ignores some
of the conditions for the possibility of critical
reflection, and, therefore, the possibility of `new'
conceptions. In her approach she may simply be rehearsing a
familiar debate armed with `fresh' evidence within well-worn
categories. In other words, the prospect of going `beyond'
competing ideologies to the possibility of changes in our
thinking and practices must include a questioning of the
categories in which interpretations are presented.

If critical reflection is to lead to transformation then it
must be undertaken in a dialectically reflexive way.
Arguably, then, when teachers write about their work (and
what they write about their work and their interpretations
of that work) it should include a sense of `open-ness', as
being incomplete, as requiring an Other, a reader, in that
reflexive intersubjectivity where meaning resides. This
notion stresses the collaborative importance of a reader, of

the creativity of the reader. It is what Barthes (1977) refers to when he suggests that the authority of the author as a source for meaning must be abolished (see also discussion of Barthes' work in Chapter Nine). In this way interpretations should not be seen as regrettably incomplete in a positivistic sort of way, nor should the action researcher attempt to provide an exhaustive description, which is probably impossible. A more useful approach may be taken from hermeneutical interpretation.

Making meaning through an act of interpretation, and thus providing a base for making decisions about action, is known as hermeneutical interpretation (Ricoeur,1976). The production of knowledge through the making of meaning is seen in historical and literary interpretation, in the production of texts. It is the notion of 'texts' that is interesting in this, for while an interpretation of a document is accepted practice for an historian, the interpretation of actions is somewhat different. It would seem that interpretive sciences have to transform human action into something else in order to study it. Habermas (1972) compares this methodology with that of empirical-analytic science when he suggests that the hermeneutic sciences gain access to the facts by the understanding of meaning, not observation. "The verification of lawlike hypotheses in the empirical-analytic sciences has its counterpart here in the interpretation of texts" (Habermas.1972,p309). Because interpretive sciences want to deal with action in a holistic sense, they must find ways of recording action and later producing it in some form - field notes, photographs, audio or video recordings, transcripts. In this way the action is reproduced as a text, or what Kok (1986) refers to as a text-in-action.

Hull (1984) in considering some of the problems of utilizing interview data, particularly that in which he participated and helped create as interviewer, also uses the notion of texts, for he refers to the transcripts of audio-recordings as text. He rejects the historian's approach as "actors can arguably claim unique rights to the interpretation of their own experience" (p147). As he had what he calls a "black market record of events" in the shape of field notes, photographs and understandings of the situations built over time, which afforded him critical purchase on the "public" data, the question for him became:

> How were my interpretations to be accessible to the judgment of readers if the data on which I drew were for me, uniquely, a trigger to remembrance of lived events (Hull,1984,p147)?

Hull notes, too, the difficulty of human action being analyzed from written records, pointing out that it is "bald words alone" which endured translation, the interactive situation "pressed neatly flat, like washing from a mangle" (p148). Hull turns to the art of literary criticism for explanation of his task as analyst-interviewer, for he sees this as a way to record his unique knowing of the event. Arguing that criticism is the "art of disclosure", a "lifting of the veils that keep the eye from seeing", his task as analyst of transcript data was to "disclose significances" in the transcripts, which is a critical task. He sees the transcripts themselves as "poems" or "fictions" (the presence of an audio-recorder is a reminder that participants' talk, like written art, is public). He concludes that from the tradition of literary criticism may be drawn frameworks for the analysis and interpretation of transcript data "that maintain integrity both to the meanings which are between the lines of such data and the requirements that research be a public discourse" (Hull,1984,p150).

Hull's approach is a useful one but it neglects the
essential open-ness to which a more dialectical
interpretation would aspire. It seems to be "public
discourse" with the author in control.

A development of this understanding of text may be seen in
the work of Geertz (1973,p15) who speaks of anthropological
writings as interpretations, as "fictions":

> Fictions, in the sense that they are `something made',
> `something fashioned' - the original meaning of fictio
> - not that they are false, infactual, or merely `as if'
> thought experiments.

These fictions, for Geertz, must include the principle of
dialectic, they must be "thick descriptions". He argues
that the description of social actions must be at least as
thick as the meaning of the actions described, for the
meaning is constituted essentially in the dialectical
intersubjectivity and interplay of cultural symbols (the
notion of "thick description" has also been adopted by
education research, for example, Eisner,1977; and
psychology, for example, Miller,1989).

In the present project the set of mediational operators may
be seen as providing the framework for "thick description".
The "thick description" which Geertz (1973,p6) describes as
the "intellectual effort" required in "doing ethnography"
also applies to the analysis I make of the "raw data" in
this project. The zone of proximal development is a zone
created in the process of instruction, it is a zone in the
sense of a region defined by what the child is capable of
and what the child can do with the help of a significant
other. It is a zone, then, in which meaning is created, and
it is in an attempt to understand how meaning is created

that the set of mediational operators is used. The
mediational operators may usefully serve as reflexive
moments of critical reflection on mediation in the zone of
proximal development. It is a way in which to present in
writing a `formulation' within which both I (having written
this, what made it possible), and the reader can engage.
Each mediational operator provides a text-in-action which
does not prescribe meanings for the reader, but rather sets
meanings in play. In other words, the set of rationally
reconstructed mediational operators identified in the
previous chapter represents the thick description in this
methodological paradigm, and constitutes an interpretation.

It is important to note that the interpretations that are
offered, are, of course, with the recognition that my way of
knowing is rooted in the time (in Heidegger's sense of the
temporality of Being) and conditions of my subjectivity (in
the sense that they are culturally located as a set of
limits and resources). However,

> ... just as `possibilities' do not mean that any
> formulation is possible, `limits' do not mean that
> cultural tradition imposes itself as a final closure,
> since culture and tradition have their own constitutive
> and playful open-ness (Winter,1987,p18,original
> emphasis).

In the process of researching my classroom practice the data
produces self-constructed accounts by me, the teacher, of
learning in the classroom. And so, of course, the set of
mediational operators derived, is one formulation of the
possible ways in which to constitute the workings of the
generative power of transaction in the zone of proximal
development and is not necessarily complete nor true, it is
open to a continuous process of creation and modification.

(1) Providing a particular environment for mental activity.

As explained in Chapter Four, from April 1984 until June 1984 I concentrated on improving my practice in the teaching of (critical) reading, having "negotiated" with the class that reading was important and something that they all wished to do well. During this cycle we worked with a variety of texts, but used mainly fictional works. In July 1984, I switched to mathematics investigation. An extract from my field notes reads:

> My intention was to show that imagination was needed in situations other than fictional/literary, and so I used two examples of maths investigation:-
>
> (i) Professor Brainwave found these seven dinosaur eggs in a square field. He wanted to fence them off from each other - in case they hatched, he said - with <u>three</u> straight fences only. Can you do it for the professor?
>
> (ii) <u>Next please!</u> What number comes next? 1, 2, 4, 7, 11, 16, * .
>
> I operated on the fact that imagination was necessary in problem solving ... The children manifested confused behaviour in that they were initially restless, demanded my direction, had no strategy to operate on the problem, `gave up' quickly, and `solved' the problem as quickly as possible without considering the given facts - square field, 3 straight fences, 7 separate eggs. ... The session was noisy and never really settled to any genuine discussion that I could note. ... The urge to write something down was strong in each child. ... The children were exhausted at the end of the second problem so the lesson was closed.
>
> The following day I did a third problem - <u>1089</u> :Write down a 3-digit number, say 742; Reverse the digits, 247; Subtract, 495; Reverse the digits, 594; Add, 1089. Do you always get 1089? What happens if you start with 564? Can you prove that you always get 1089? Are there similar results with 2-digit numbers?

> I did the problem with the whole class on the
> chalkboard, guiding them through the process. We then
> evaluated this sort of learning ... [but] it came too
> soon, and the pupils had little insight into the
> possibilities of this kind of learning. No-one begged
> for more when I attempted to negotiate future
> curriculum (25.7.84) .

We were to spend the rest of that year, and part of the
next, with mathematics investigation. A month after we
began mathematics investigation lessons I wrote:

> Collaborative learning is working so much more
> powerfully now. ... Whatever I do there is no question
> about the ability of nine year olds to investigate
> problems - many show evidence of abstract thought and
> the ability to generalize and create rules (28.8.84.).

Although I had taught mathematics for some twenty years in
primary schools, I had not ventured any sustained research
into my practice but was, nevertheless, dissatisfied with
the formal Euclidean approach which was directing my
teaching of the subject. The `logic of progression', or the
working of the if-then chain, was leading the pupils in my
classroom to believe that mathematics has to be learnt in an
uncritical way. Rogers (1979,p19) explains:

> We teach children methods for solution before they have
> any experience of what the problems are, we arrange a
> series of tasks according to some logical sequence, and
> so on. In such an authoritarian situation adult-
> developed mathematics is transmitted, but never
> discussed.

Moving from the authoritarian situation was the risk I
needed to take in order to engage in the kind of critical
reflection that could transform my practice.

I was also committed to the value of collaborative learning
for cognition. In my practice I take collaborative learning

to mean situations which require a mutual task in which
pupils work together, with me or with each other, to produce
knowledge that none was likely to be able to have produced
alone, at least at that time. Given the emphasis on and
attention to individual achievement in schools, the focus on
collaborative learning allowed me to consider anew how a
teacher's work within an institutional setting specifies a
particular version of what counts as knowledge; what it
means to know something; and how we might construct
representations of ourselves, others, and our physical and
social environment (Giddens,1979). The notion of the zone
of proximal development was useful in my attempt to make
sense of the dynamics of the situation in which such mental
activity was to occur, provided the environment for such
mental activity was established.

Operating on the idea that the activity of pupils can be
initiated by means of tasks, and that to motivate for
specific types of activity - such as exploratory,
investigative or problem-solving activity - specific tasks
are needed (Leont'ev,1981), I provided a range of
worksheets, and apparatus such as cuisenaire rods,
calculators and puzzles. The children selected their own
activity, and their own group formation, usually based on
common interests (children who, for example, chose to work
on calculators tended to group together regardless of social
affiliations).

The text-in-action used as illustration for seeking moments
of mediational operation is taken from a transcription of an
audio-recorded lesson on 26 March 1985, when the children
were in standard three (nine and ten years old). The lesson
transcription is of a group of children (Byron, Ruald,
Brandon and Yannick), and me, working on worksheet three

with cuisenaire rods. (1) The worksheet referred to in the lesson, and the full transcript, appear as Appendix A.

A reading of the transcript in conjunction with worksheet three (Appendix A) indicates that the children chose not to centre on number and multiplication tables as intended by the task. My field notes for the prior lesson (22.3.85), show that this group had used the idea of 10x10 for the white rods, 50x2 for red, and 25x2 for yellow. Ruald had commented to me, "Every time it's divide by two. There is a pattern, multiply and then divide". But when it comes to the green rods, they don't say that 3 is not a factor of 100, in other words it can't be done, they say it can be done by `cutting' up a green rod and using one third of green. I recorded Byron saying,"Look, it's one third". And Brandon saying, "33 1/3 for green".

They have, if you like, decided that fractions are more powerful for their purposes, and stay with that idea. Their obvious deviation from the worksheet occurs when Ruald elects to work on "the blue" (Appendix A,pA-11), although Yannick, who seems to have read the instructions which ask for the activity to change to form a square with brown rods, says "brown". It is as though they are wanting more time to feel comfortable with what they are doing, as though they sense a possible moment for learning (or, if you like, sense their own ignorances and capabilities at that juncture). The decision to stay with what they are doing appears to be one arrived at through mutual understandings and agreement. In other words, the learners' interests influence the

---

(1)Cuisenaire rods are different coloured rods ranging in size from a centimetre cube to a 10x1x1cm rod. There are ten colours, one colour for each of the ten sizes or lengths. White=1, red=2, green=3, mauve=4, yellow=5, turquoise=6, black=7, brown=8, blue=9, and orange=10.

direction of the learning process, and their experience is its starting point. The collaborative nature of their work highlights some considerations about the teaching and learning process.

For example, the children are not familiar with sixths and spend some time on discussion and manipulation of the rods to arrive at an answer to `how many turquoise to make a 10x10 square'. The correct answer is 16 & 4/6, or 16 & 2/3. Initial estimations (guesses) had been 20, 17, 20, and 20. As the lesson proceeds the estimations change to 9, 10, 20 & 20, and then to 16, 14 & 4/4, 16 & 1/4, and 14 & 1/4. A segment of the transcript (Appendix A,pA-5) reveals the nature of the collaborative effort. Byron has just shown that 16 whites = 4 mauves in order to try and find 4 mauve = x turquoise. Then:

Yannick	So the turquoise is a sixth.
Wendy	A sixth of what?
Yannick	Uh ...
Byron	The turquoise is a sixth ...
Yannick	Ja.
Byron	And then you ... and then that's four sixes.
Brandon	Four sixes.
Byron	So ... um ...
Wendy	.... you realize by this arguing that in fact some of these could be turquoise in value.
Byron	This is a 4 hey?
Yannick	That's a quarter, ja.
Byron	So this is four whites.
Yannick	Ja.
Byron	So this is 8, 9 and this is 16 then.
Pupil	So it's ...
Pupil	6 + 6 = 12.

Wendy	So you've got 16 whites there. So Byron is saying 4 mauve = 16 whites.
Pupil	And then ...
Pupil	So then ...
Pupil	And then ...
Yannick	18.
Byron	18. So this could be white, this could be a mauve, and it would have ...
Yannick	The value of ...
Byron	How much of white should it have left in it? So ...
Yannick	Two.
Brandon	Two.
Byron	Two. So that's 4. No. That's a sixth, hey?
Yannick	Ja.

The complementary roles played by the pupils in this part of the lesson, particularly that of Byron and Yannick, suggest the interpsychological to intrapsychological process of social learning. It can be argued that there is cognitive value in peer interaction, in the give and take of equal status knowledge (or at least not intentionally unequal). The cognitive conflict here may be said to be one of strategy at least - the impact of different social interaction on the strategies which Byron and Yannick adopt in order to carry out the task. Yannick, with his brief comments of "Ja" and "18" and "two", appears to perform an observing, guiding and correcting role, while Byron has more extended verbal contributions while he performs the task procedures (Byron is manipulating the cuisenaire rods). It would be an exaggeration to say that Yannick was the "more capable peer" operating in the zone of proximal development, for he seems rather to be providing support in a complementary role. **Together** they are constructing the set of assumptions and procedures and information useful to solving the problem. They are integrating their conflicting

conceptions of the task into a mutual plan in order to solve the problem. Forman and Cazden (1985,p343) state:

> One way to achieve a shared task perspective is to assume complementary problem-solving roles. Then each child learns to use speech to guide the actions of her or his partner and, in turn, to be guided by the partner's speech. Exposure to this form of social regulation can enable children to master difficult problems together before they are capable of solving them alone.

Forman showed in her systematic study of peer collaboration, compared with solitary problem-solving, that collaborative partners were able to solve many more problems than solitary problem-solvers during the same period of time (Forman & Cazden,1985). Forman also administered a combinatorial problem to each child individually at three different times, so that she was able to compare each child when he or she worked alone or in pairs. Her data shows instances where problem-solving strategies first appear as social interactional procedures and are later internalized. Using a Vygotskian perspective, she regarded as important her conclusion that:

> experience with social forms of regulation can provide children with just the tools they need to master problems on their own. It enables them to observe and reflect on the problem-solving process as a whole and select those procedures that are the most effective. When they can apply this social understanding to themselves, they can solve, independently, those tasks that they had previously been able to solve only with assistance (Forman & Cazden,1985,p343).

I do not wish to suggest that this sort of collaborative enterprise is the best form of mediation. Rather is it an attempt to argue that providing a particular environment for mental activity serves to generate kinds of activity that have cognitive consequences.

The segment below follows shortly after the one quoted above. It may serve to indicate how the teacher, as mediator, creates meaning, through "adult guidance", in the zone of proximal development. I pick up the lesson at the point where the children have shown that there are 4 mauves to be `cut up' into turquoise, and they know how many whites are equal to the value of the mauve and of the turquoise (Appendix A,pA-9).

Byron	Let's just make a white stack.
Wendy	Then you've got two left over there.
Byron	Ja. So put that there and then you put that one there ...

Byron matches 3 mauve to 2 turquoise.

Wendy	That's a good idea. You see.
Yannick	Ja.
Wendy	Now what you've got is 3 mauves and you're showing that it's equal to 2 turquoise.
Brandon	So that means if you had 4 whites that would be 6 ... would be 6 turquoise, Ma'm.
Pupil	Yes.
Brandon	If you had 4 turquoise.
Wendy	No, you've got 4 mauves.
Brandon	Yes.
Wendy	Now you had 4 mauves here. Byron has now said that 3 mauve is equal to 2 turquoise. He's shown that by balancing the rods here, by putting the one against the other ...
Pupil	Oh, ja!
Wendy	Okay? So those 4 mauve that you have there, 3 of them are equal to 2 turquoise, but you still have one over. So in a sense this shape could take so many turquoise and one mauve.
Pupil	Ja.

Wendy	And Brandon was trying to say what fraction that was. What fraction is it Brandon? Does anybody know? Ruald, what about you?
Brandon	3/4 Ma'm.
Wendy	No, it's 4 of what? It's 4 whites ... and these are?
Yannick	Turquoise. Those are sixes.
Pupil	Sixth.
Byron	Here's a white sixth, so you can measure it.
Yannick	4 sixes ... 4 sixes.
Wendy	Well done. So in fact you can say that that shape takes how many turquoise now? 10 and ...
Pupil	14.
Byron	16.
Yannick	14.
Wendy	16. No, because you replaced, remember you said ...
Yannick	Oh ja! Ja!
Wendy	So it's 16 and 4/6 turquoise.

As staunch advocates of dialectical and historical materialism Vygotsky and his followers were interested in the formation of higher mental functions that lie in the child's zone of proximal development. According to Vygotsky, instruction in the zone of proximal development "calls to life in the child, awakens and puts in motion an entire series of internal processes of development" (Wertsch,1985a,p71). The kind of instruction that Vygotsky had in mind was not concerned with specialized technical skills such as bicycle riding, but rather with instruction in formal, academic disciplines:

> Instruction is one of the principal sources of the school child's concepts and is also a powerful force in directing their evolution; it determines the fate of his total mental development (Vygotsky,1962,p85).

And:

What the child can do in co-operation today he can do
alone tomorrow. Therefore the only good kind of
instruction is that which marches ahead of development
and leads it (1962,p104).

Teaching, it is argued, is a decisive motive force in
cognitive development, particularly when the teaching is in
advance of development in a leading activity such as formal
learning. The children quoted in the above segment seem
unable to "say" that 16 and 4/6 turquoise is the "answer"
without the mediation of the teacher. They have grasped the
idea of sixes/sixths in a practical sense, but aren't able
to piece the bits together as it were. The interjections,
`Now what you've got is ...', the corrections, `No, you've
got ...', and questions, `It's 4 of what?' of the teacher,
within the context of the activity, gives coherence to the
action, by systematically shaping the joint experience.

The joint experience is an important part of this
teaching/learning situation. It is an attempt to address
the problematic intersubjectivity between reflective
subjects. If educational practice is conceived as the
setting of a task and as a requirement of the answer, the
mutual difference between the teacher and the learners will
be glossed by an authoritarian imposition. By structuring
the interaction in this way the children can participate,
and be guided to a deeper understanding of the task in hand.
Guiding the children through to my statement that "... it's
16 & 4/6" is a way of providing the conceptual language
necessary for internalization, and for problem-solving
alone.

The increasing confidence certainly of Byron and Yannick in
the lesson as it precedes - `How can it be a sixth when it's

a seven? (laughing)' - is possibly an overt indication of growing confidence if not understanding. My own interjections near the end of the lesson are markedly different from those in the moments where I appear to be mediating. My comments finally, seem to be of an organizational or facilitative kind, `You need some blacks', `3,6,9, whites have been used', `It's a seventh'- this last as a **repetition** of Byron's contribution. The mediation, as opposed to the facilitation, however, may be described as operating within a particular environment which provides mental activity.

Later in the lesson Byron takes over as peer tutor or "more capable peer" when Ruald is having difficulty with blue = 9, and the idea of 1/9. Byron explains while demonstrating with the rods (Appendix A,pA-15):

Byron	Okay. Now.
Byron	There's ten.
Byron	There's ten over here.
Byron	Now you thought it would be 11, because this would make another ...
Yannick	10.
Byron	Another .. another blue, but you see, there's one white off ... you see there's a space over there because it's one white off.
Byron	So that makes 10, that makes 11 and 1/9, because these ...
Ruald	Ma'm, what about this one?
Wendy	He's counted that. He's counted them Ruald, because he says there are 10 blues there.
Ruald	Yes, Ma'm, but there's one thing Ma'm. This 9, it's not 1/9 because ...
Byron	Ah come on! Please. Don't make it...
Ruald	Because you added this one.

Wendy	No. Byron is saying that the one white one left over there is equal to 1/9 of a blue rod.
Byron	Ja.
Wendy	Because it takes 9 whites to make a blue rod.
Byron	Look here Ruald. 10 and that's 11 because it's all whites making up that one and this little one is equal to 1/9 because, look here... that is ...
Ruald	That's blue.
Byron	That is 10 altogether. [demonstrates] Now this is a ninth, you see? Because there's 9 fits in here. 9 fits in here. Okay? So then that's 11 and then ..

[Byron demonstrates by matching a blue against 10 whites.
He then shows how 1 blue replaces 9 whites in the square.
This then shows the square made up of 10+1 blue rods, making
11 blues and the one remaining white rod represents 1/9 of a
blue rod, thus making 11 and 1/9.]

A review of the eight volumes of Soviet Studies in the
Psychology of Learning and Teaching Mathematics (1969)
supports the view that peer tutoring in intellectual
pursuits has not been a focus of research, in the way that
adult/child teaching and learning has. However, exploring
Vygotskian perspectives in a school setting immediately
gives rise to questions about peer instruction and the
cognitive value of this instruction.

Byron's increasing articulateness and precision in
verbalizing the task indicates that the demands of tutoring
include the ability to formulate academic content in words.
Byron tries to move quickly from "one white off" to "So that
makes 11 and 1/9", but Ruald does not follow. Byron is
obliged to reword his instruction and demonstrate
differently. The necessity for repetition and reformulation

(trying to explain how 1 white rod represents one ninth)
provides the challenge to internalize overt formulation into
inner speech - the function which controls and regulates
human activity (Vygotsky,1978). Ruald, as tutee, appears to
benefit from the scaffolding provided by Byron in the zone
of proximal development, for on the next colour, brown,
Ruald gives the correct fraction:

Wendy	4 pieces of ..?
Ruald	4 eighths.
Wendy	Exactly, Ruald. 4 eighths.

Whatever the case may be, my field notes about work with
this group after the lesson, read, "We were all excited and
exhilarated by the lesson" (26.3.85). We seem to have
achieved an imaginative intersubjectivity which encouraged
investigation of the task. It was as though intuitively as
a group we had agreed that there were moments in the lesson
when the particular environment lent itself to mental
activity, mental activity of a challenging sort.

(2) **Embedding instruction in reflexive planning.**

The traditions of the division of responsibility and the
distribution of power in the work of teachers and learners
is strongly embedded in the history of schooling - in the
words of Britton (1985),"The teacher ticks and the students
tock". Conventionally, the responsibility for creating
educative experiences in classrooms is assumed to rest with
the teachers, who in turn are guided, in South Africa, by an
official curriculum which specifies, amongst other things,
what should be taught.

However, it is action research's stated endeavour to engage participants in strategic action in the light of developing understandings. As Grundy (1987,p146) states:

> Action taken within the action research spiral both arises out of and allows for the development of authentic insights about the construction of the practices under investigation.

I decided that one way in which to involve the children in the construction and reconstruction of classroom practice was to include them in the decision making processes of curriculum. The democratic intent of action research suggests that the learners have the right to help determine the activities in which they will participate. This entails that the curriculum be a matter for negotiation. Moreover, it seemed to me that a reflexively conceived professionalism could go beyond mundane realizations of its practices to its own inherent possibilities, without having recourse to a normative ideal for those practices. As Winter (1987,p97) points out in his criticism of Crookes's work, if the teacher has recourse to a normative ideal for practice, the possibilities inherent in a reflexively conceived professionalism are "only theoretical". As far as the improvement of my practice was concerned, negotiating the curriculum meant the development of my own understanding of the teaching/learning dynamic, and the opportunity for the children to consider the conditions in which learning can best occur.

However, allowing children to become active decision makers in relation to their own practice as learners will not generate praxis within the children unless there is opportunity for their action also to be theoretically informed. Cosgrove (1982,p37) concurs:

I want to emphasize that negotiating the curriculum
implies that the teacher has confidence in his/her
students' ability to learn and make decisions about
their learning. I also want to emphasize that the
majority of students have not had this experience. In
fact they have been learning quite the opposite for
most of their school life. ... a negotiable curriculum
results from an attitude that has to be shared and
developed by teacher and student. It is a long-term,
continuously developing and improving relationship
between teacher, students and learning.

Extracts from some of my field notes give a sense of the
"continuously developing and improving relationship":

I went into maths investigation with some confidence in
its choice ... I have not succeeded in negotiating the
curriculum ... decision making processes tend to be
controlled by me (20.8.84).

I asked if they wished to continue with the calculators
and got a loud `yes'. In an attempt to be fair I asked
who was not. Byron, Bevan, Richard, Rolf and Yannick
were particularly vocal in saying `no more'. Their
reasons were not thoughtful but voiced rather on the
lines of, "Can't we have more stories ... What about
some science ... Number can be boring ... What about
play acting ..." I was left with the impression that
they saw the negotiation of the curriculum as a way to
keep changing, drop and pick up etc. They seemed not
to be considering their own learning needs. This will
need to be re-talked about. Have they not appreciated
the purpose of maths investigation? Must discuss this
(21.8.84).

I find the negotiation process very difficult, but must
remember that even an attempt at democratic processes
enables children to experience some of the elements.
... the children ... settled to the work with more
interest ... was it the choice aspect in that they were
doing what they wanted to do (25.9.84)?

[The children] have come a lot further along the road
of self-direction than I realize at times. I have very
few interruptions now, the majority settle to their
work, read their instructions and get on with it. They

do not question their ability to read and indeed do read purposefully and intelligently ... The children seem to be getting a feel for investigation and what it requires (7.5.85).

The methodological paradigm of this project dictated that any negotiation of action should be rooted in reflexive action and observation, and so the practice was established to discuss formal task work prior to or just after such work. Some of this discussion was informal in nature, but generally the children and I gathered together for sustained consideration. This discussion was occasionally audio-recorded, but otherwise written by me in the form of field notes after the session. An examination of one such audio-recorded session on 30.4.1985, will illuminate how I attempted to mediate an understanding of curriculum, and the responsibility for learning, in the instruction process (for the full text see Appendix B).

When a teacher and learners are operating in the zone of proximal development, each will have their own way of defining the situation (Wertsch,1985a). However, by talking about an event it is possible to create a temporarily shared social reality (Rommetveit in Wertsch,1985a). The challenge for me, the teacher, was to find ways in which to communicate so that the children could participate. I tried to do this by 'setting' the problem:

I had the feeling to-day that there were many people who actually weren't really learning a great deal ...Now I don't know because I obviously don't know what kind of learning is going on in your heads ... I realize you must have been learning something ... about something, but ... how many of you actually learnt anything about maths, about maths investigation, about

cuisenaire rods, about calculators, the kinds of things
where I have defined the parameters (Appendix B,pB-1)?

Richard takes up the invitation to tell us he was "playing
around", and Byron points out that their group were not
really investigating and so "learnt not so very much" (pB-
1,B-2). As other children had chosen the same worksheet as
Byron's group, I questioned them about the value of this
kind of curriculum material, and Paul and Colin tried to
articulate what it was that kept them absorbed. I attempted
to theorize about learning:

> To Paul:- ... you were talking about the orange
> rectangle and the green rectangle;
> To Colin:- ... you're gaining knowledge about numerical
> patterns.

When Alwyn says he did not learn much, "Because there was
not much to learn about the calculators." I reply, "So in
fact you aren't pushing yourself into programming yet.
You're kind of hanging about the edges there" (pB-4). These
were quite conscious attempts by me to take a serious
attitude to their contributions to discussion by extending,
or abstracting the possibilities for learning - the
calculator Alwyn was using had programming facilities which
he had not as yet explored, for example.

In situations such as this the concern is to embed
instruction in the process of reflexive planning so as to
share control of the development of learning through sharing
theories of learning and curriculum construction with the
children. What are the theoretical intentions of a
worksheet? Why have calculators with programming potential?
What are the possibilities (if any) in these resources in a
school curriculum? If intersubjectivity can be maintained
in reflexive situations such as these, then children can at

least participate in a minimal way in interpsychological functioning, and eventually come to define the (academic) task in a new way.

Through the use of language (semiotic mediation) I try to direct the children to what they need to know. When Carl and Anthony agree that we should continue with mathematics investigation, I comment:

> You two have not even begun to investigate what others have been investigating. So you must be careful of just flitting from one thing to another and not learning anything ... I noticed to-day Anthony, Fernando, Mark and Nigel, have quite a lot of problems with this style of learning ... You don't sort of settle to the maths investigation. Maybe you're very accustomed (remember you're new in this class) to having a teacher direct you and tell you what to do, and it's a bit strange ... I think you need to be conscious of that ... so that you can begin to direct yourselves (pB-5).

The "semiotic challenge" is the mechanism which can provide the transition to intrapsychological functioning. The fundamental significance of the social nature of learning is that teaching is possible because our actions can be regulated, and this includes mental actions. The teacher mediates new understanding in the process of instruction. So if the teacher initiates dialogue on, say, the curriculum, and how we act with that curriculum - passively, as in the case of Carl and Anthony, or actively, as suggested by my comments about self-direction - a measure of control of the discourse about curriculum is possible. That is to say, the teacher uses discourse as scaffolding for new understanding. Maintaining intersubjectivity in this way has the potential for encouraging the learner to view a situation in a more appropriate manner.

A consideration of the zone of proximal development will support the idea that the teacher, as significant other, (extrinsically) generates interpsychological functioning which is internalized for future self-regulation (intrinsic generation), so that a teacher can introduce notions of self-direction in learning, with the intention of empowering the learners. In the context of these reflexive moments in the action research cycle, this transcript reflects perhaps some of the honesty of approach we attempted. Because of this `ethos' Richard can say he was "playing around" after stating that he wasn't "always concentrating", and I can say "it looks like you're mucking about", and "but Byron said he didn't think you really investigated it. I think you tended to rush through it". And Yannick is able to respond that they "still did do it".

Within the established view of authority (as outlined in Chapter Two) it may be argued that negotiation takes place when two parties have a common set of interests, and that this is not so in the classroom - there is an authoritative separation of teacher and pupils. But this is an unreflexive conception of the educational enterprise. If, on the other hand, we use the resource of the teacher's ignorance and the children's understanding, we can conceive of the educational enterprise in more reflexive ways - it renders problematic authoritative decision-making. My opening comments, "...I don't know what kind of learning is going on in your heads... I realize you must have been learning something... about something, but...", suggest the approach that I, as teacher, was adopting in my attempt to rework the notion of authority. I did not claim to know what they had learnt, nor that there was only one way in which to learn, nor that there was one set of `facts' to

learn.   I was, I think, theorizing about learning to make praxis possible.

The emancipatory intent in action research is to view classrooms as critical communities. What is important in the process is that the possibility for authentic learning by the children, rather than coopted agreement (what Hargreaves,1975, refers to as "pseudo-concord"), be safeguarded. <u>Embedding instruction in reflexive planning</u>, it can be claimed, moves towards safeguarding the voice of the learners. Action research, with its anti-positivistic stance, seeks to interpret reality within the historical moment. Teaching about curriculum through the process of some kind of negotiation around the curriculum became the curriculum at that moment (a point made by Fullan,1982).

The attempt to situate authority in a more democratic context through the process of negotiation led to my use of triangulation to understand better what we actors were perceiving. An excerpt from an interview in which Chris, as triangulator, was interviewing me reflects some of the struggle for authentication:

Chris   How genuine do you think they (the class) would say the negotiations would be? How free do you think they would feel to change the course of events?

Wendy   Not very free ... [Initially] negotiation was distinctly narrow and definitely ruled by me, in that we can negotiate as much as we like about what activities we do, but we won't negotiate the subject. It will be maths ... They're definitely redefining the parameters of what is done, in that, while it is still maths investigation, it is

less and less directed by me ... They don't go
near those worksheets that I brought ... They use
each other's worksheets or they do their own thing
(18.6.85).

On the same day Chris interviewed the children. Here is an
excerpt on their comment on the matter of exploitation of
the learner:

Chris   You were allowed to choose each week what you
           wanted to do, weren't you?

Pupil   Yes we were. ... If we wanted to do calculators
           ...

Chris   Now is that a good thing? Shouldn't you just be
           told what you should be doing? Why should you be
           able to choose like that?

Yannick   Because then, say you find that you're not getting
           enough out of that ... particular thing, then you
           can choose another one. You weren't forced to do
           one thing.

These excerpts may be seen as indications of children
beginning to question and criticize what they see about
them, rather than accepting that certain practices are
inevitable. While traditional forms of knowledge may,
within an already established educational system, initially
provide a basis for study, "the legitimacy of the
construction as well as the selection of pieces of knowledge
for acquisition must become part of the focus of curriculum
enquiry" (Grundy,1987,p125). This was the challenge for
Carl and Anthony and Richard and all of us - to focus our
inquiry on the "pieces of knowledge" and to begin to make
informed judgments about educational practice. The semiotic
challenge was for me to mediate in such a way that informed
judgment was a possibility. The zone of proximal

development is the dynamic region for mediation. <u>Embedding instruction in reflexive planning</u> is one way in which to operate this mediation.

(3) Embedding instruction in a `what is learning' task.

The principle of improvement which grounds the action research process includes the notion that the social and material contents within the context need improvement. It is always the case, of course, that these contexts need to be understood. "So it is that action research reflexively interrelates understanding and improvement, knowledge and action, theory and practice" (Grundy,1987,p142).

Traditionally, knowledge about schooling and the social construction of realities is imposed from `outside', and largely by non-practitioners in the classroom processes. With action research, however, it is the knowledge generated **within** the action research group which is regarded as the authentic and legitimate base for action. It is with praxis that the methodology "promotes a critical consciousness which exhibits itself in political as well as practical action to promote change" (Grundy,1987,p154). In my attempt to make the pedagogical more political and the political more pedagogical I realized that we (the children and I) should address the material conditions and power relations that determine the context within which schooling takes place - it was strategic action in both the pedagogical and political sense. And it carried with it the central notion of critical reflection - the retrospective link in the action research cycle.

The attempt to do this in this study was (largely) formalized in sessions which we called `interviews'. These interview sessions usually took place during the time allotted to, and instead of, formal task lessons, but can be considered as lessons in their own right. While there were regular sessions of this sort, for purposes of explicating the mediational operator in such lessons, I will use as an illustration the final interview that the children and I had on 25.3.1987, virtually a year after I had stopped teaching them (Appendix C). We had agreed in 1986 that we should `get together' again to share our thoughts in reflection before they proceeded to secondary school in 1988.

Talk about teaching and learning is couched in a particular (pedagogical) discourse, what Gellatly (1987) refers to as a discourse "genre" in order to emphasize discourse as a cultural construction. And, he states, "Children have to be inducted into the genre if they are to become proficient in it" (1987,p37). In order to raise understandings about schooling I asked, "What do you sit in classrooms for?" (pC-6) and got a number of responses about the vocational role of schooling. "You must go to work", as Richard said. It is at that point that I attempted to `get at' the hidden curriculum through a comparison of teaching styles. I asked the children to say whether they thought one particular teacher (Ms S.) was more, or less, effective than another teacher (Ms V.) they had had (Appendix C,pC-10):

Wendy   Can you say why it wasn't as effective...

Simon   Because it wasn't very well explained with Ms S., and you had to sort of figure everything out yourself. But with Ms V., she lectured you, and told you everything you must do, and then you ... knew what to do.

Wendy	Let's unpack what Simon has been saying. He says Ms V. told you everything, and Ms S made you think about it yourself ... Two different teaching styles, two different learning styles. Earl comment on that please.
Earl	Ms S ... she just gave you the work, and you're supposed to do things on your own, but you were in groups ... you can compare each other's thoughts, ... which is quite good. But Ms V's teaching, ... she'd give you everything, and make it so easy when it came to exams, everything would be easy. But Ms S would let you compare your thoughts in groups, and then when it came to the exams, then you are not in groups, then you have to try and work it out yourself, which is quite good.
Richard	... When I was in standard two with Ms S, it was okay, and then we went to standard three. Half way through the year my mother decided that she was going to put me in Ms V's class, because she didn't think Ms S was teaching well. She didn't give me homework often. She didn't teach me well. And then in Ms V's class it was difficulter than it was in Ms S's class. Then it got easier and then I found that Ms V's class was much better.
Wendy	Because she told you what to do?
Richard	She explains everything ...
Wendy	So you, in a sense, don't have to do what Earl is saying - you don't have to think for yourself or compare opinions or anything?
Richard	No.
Wendy	... she tells you everything?
Richard	Yes.
Wendy	You learn it and you write it for the exam ... Simon, do you want to add to that?

Simon	I remember one of our history tests with Ms S. She gave us questions and then she gave us ... a picture of a Dutch house and some ... writing. All the answers were there ... all you had to do was just look for it ... And for a test you should think for yourself, and if you don't know the answer leave it out. But all we had to do was to look in that paper and you would find the answers so you weren't really thinking for yourself.
Wendy	So you didn't have to remember?
Simon	... You didn't have to remember anything.
Wendy	Is memory necessarily learning?
Simon	Well, just that so you know what you've learned and if you don't know the answers you know you haven't learnt that.
Wendy	And if there were no exams in school, could you comment on learning styles now? ... everyone of you that has commented, other than for Earl, has commented in an exam frame ... If you were not doing tests and exams, what would have been your comment?
Simon	Well, you would have just written everything down and not learned anything.
Wendy	So are you suggesting you didn't learn anything in that class?
Simon	You wouldn't have learned anything, because you didn't have to learn. You would not have to learn for tests or exams or anything. So nothing would go into your head.
Wendy	So in Ms V's class you learned quite a lot of facts? You located facts and you wrote them on your worksheets? ... And then you learnt the facts and you wrote them in your exams. ...You're speaking about facts.

But I do not think that that's what Earl was speaking about. Can you comment again?

Earl   From Ms S ... when you do your work you can criticize when you are in groups ... and when it comes to really criticizing ... then you know how to criticize. ... Like in say exams ... questions for criticism or opinions, because you have been taught how to, how to compare each other's opinions and criticize each other's work.

Wendy   Earl is placing importance on different kinds of learning to what some of you others are placing importance on ...

I was trying to make a distinction between knowledge production (a reflexive concept of knowledge) and the mechanistic memorization and reproduction of facts. The conflicting opinions of, say, Earl and Simon, begin to raise serious considerations about the function of schooling, about power and knowledge. Simon's bald statements about "lecturing" which was "effective" because you "knew what to do", whereas in "group work" it "wasn't very well explained" and "you had to sort of figure everything out yourself" is a particular view of schooling and of the priority of certification. Earl is much more concerned with acquiring the skills to produce knowledge, "criticism", "opinions", and "comparisons", all within the collective endeavour, which is a very different view of schooling concerned with empowerment rather than domination or competition.

In juxtaposing the two somewhat different teaching/learning experiences that the children had encountered in their schooling it is possible to incorporate a critical orientation to their encounter, so that they begin to question critically the role of `facts' in schooling. Tool mediation, as in this instance, creates the cognitive

conflict necessary for the emergence of scientific concepts, which, according to Vygotsky (1962), have great significance for the development of higher mental functions.

Moving from a comparison of other teachers I tried later to encourage critique of my lessons. I pointed out that in my lessons we were not concerned about learning facts, and so ask, "What were we doing besides nothing at all?" (pC-14). By pointing out that in my lessons "there were no tests", I am able to confront them with the knowledge production/reproduction nexus. So Simon is able, within this instruction process, to recognize the contradictions in schooling when he suggests (pC-15) that he was learning in a way that had nothing to do with recall. Brandon, extending the contributions of Yannick and Simon, is able to use the notion of knowledge construction - "you had to construct an idea", and that that idea was the result of collaboration - "you had to come together and put your heads together and think up an idea".

It is particularly noteworthy that so many children contributed so much to the discussion once they could `get a handle' on the topic. The organizing function of speech is at play. In his work on the ontogenesis of the sign (language) Vygotsky points out that language has two functions - the interpersonal/communicative and the cognitive/representational. Embedding instruction in a `what is learning' task allows for the development of both functions of language, so that children are able to transform their ability to

> participate in gradually more complex interactive
> events with other agents, as well as [their] ability to
> reflect on, talk about, and reason about these
> interactive events (Hickmann,1985,p254).

As the lesson develops the children do reach a consensus
that schooling is "about pressure", and "about exams" and
"marks" (Appendix C,pC-20), but seem to `resist' the radical
intent of examining this hidden curriculum. In an attempt
to allow critical access to the institution of schooling, a
further moment of other-regulation can be isolated in this
lesson.   The moment (Appendix C,pC-25ff) really begins on
page C-23 when I say, "But that's what I'm trying to dig
down to. What were those differences [between my teaching
and other experiences] and why were there differences?"
After some attempt to articulate, I try again:

Wendy   ... What I'm trying to say is, in those lessons
           did you feel over controlled by the teacher? Do
           you think that the way the teacher behaved (me)
           was an acceptable form of behaviour? Was there
           too much authority? too much control? too little
           authority? too little control? no discipline?
           ... comment then on the teacher, and the way a
           teacher sets that classroom environment, and what
           you do in that classroom.
* * * * *
Ruald   I like your way of teaching because if you had a
           problem you could go home, but with other
           teachers, you have to figure out that problem
           before the end of the day. But with Ma'm you
           could of worked it out, and you come back the next
           day, and you sleep on it, and you work it out
           finally. Then you ... tell everybody the answer,
           and see if they agree.
Wendy   You think that was good for learning?
* * * * *

Wendy   [In answer to Richard's comment about investigating the calculator]
That was part of the learning, of the teaching style, though. As a teacher I was not doing, I was not explaining everything on the board.

* * * * *

Yannick   I think your way of teaching was also good. We didn't find it boring, because what you did was interesting to us, because you did things that we didn't know, and it was different from other teachers' type of working. It was nearly like a break [i.e.tea/lunch break] but it was different from a break ... You would do things during that time that you wouldn't do in a break. Something that would help you learn a little bit more, just that little bit more that would help you later on. So, like, once I had to explain to you, I drew this house, and it was on a piece of paper and you said,"You're meant not to be joining houses now, you are supposed to be working". So I said,"Well there was this other thing for you, you must draw something without lifting your pencil off the page, and not going over the same line". So then you said,"Oh!", and then, I mean, it's just the way you teach, it's a good way.

Finally Earl addresses the question I posed about `authority' and `control', as he understood the question.

Earl   Your way of teaching, your authority, was just right. You could control everybody properly. Not like you could only control this lot and have to shout to get them quiet ... You could just say,"Can I have your attention, please." And everybody would be quiet. So I think your way was a good way of teaching (pC-28).

These excerpts of children evaluating a teaching style and teaching approach give an indication of how they begin to use the genre of pedagogical discourse and take control of meaning. The differences they raise in evaluating my approach are interesting - the acceptance (by me) that learning takes time (Ruald), that there are different kinds of learning, even enjoyable learning (Yannick), that teaching can also be other than talk and chalk (Richard), and that socio-political authority can be reworked to the benefit of pupils (Earl) - for they suggest that the children are appreciating the possibilities in schooling, and the limitations of some of the kinds of schooling that they have experienced.

Human actions are regulated by biological factors and by social factors, by what is natural (organic growth and maturation) and what is social (cultural methods of behaviour). As far as social factors are concerned children's actions are regulated by a mediating agent. This interpsychological functioning determines how we operate on the world of our experience, and how we experience the world we operate on, so that we can say that socialization is directed at teaching children how to behave or act under various conditions and in different situations. This is because the essence of human activity is to transform specific domains. Development does not occur in a vacuum - "the cultural development of a child ... is the function of the socio-cultural experience of the child" (Vygotsky,1928,p424). The strategy of embedding instruction in a `what is learning' task is a process of mediation in action whereby these functions are internalized for future self-regulation. That children, through the mediation of particular experiences, can begin to recognize the possibilities for change, is, perhaps, one of the most

important contributions that a study of the zone of proximal development can make. As Miller (1989,p158) explains:

> Between universal human competence and the performance demands imposed by tasks at a particular time and in a particular historical context, is a zone that we could refer to as a Zone of Human Potential. How people operate within this zone is largely a function of education ...

In the sense in which I am trying to argue the role of the teacher as transformative intellectual, schooling could be seen as contributing to that education.

In this chapter I have tried to present an interpretation of my teaching. I have used mediational operators as text-in-action to constitute an interpretation from my point of view. I have tried to show that the zone of proximal development provides a focus for investigating the substance that generates meaningful human action. I have used a set of rationally reconstructed mediational operators to investigate forms of mediation which operate in that zone. The mediational operators described in the previous chapter and illustrated above are regarded as "ideal" moments in an "ideal" instructional process (after Craig,1985,p263). This does not mean that such ideal moments are empirical realities of a critical pedagogy. What is suggested, however, is that given a teacher's commitment to social transformation, certain moments of the instructional process seem crucial. The moments discussed above are therefore presented as important in an instructional process aimed at the development of forms of knowledge that have emancipatory possibilities.

This chapter concludes the account of my documented work in the classroom. The following three chapters represent my attempt to reflect critically on the research cycles, and to

make sense of my experience - of how I `came to know'. The three chapters that follow in themselves, therefore, constitute another cycle in this action research process, although, as I have tried to emphasize, reflexivity is such that the writing of this entire text constitutes yet further cycles in the endless dialectic of action research.

CHAPTER SEVEN

PEDAGOGICAL DISCOURSE

Chapter Seven sets in motion a consideration of the
limit conditions within which the teacher as
transformative intellectual operates. The chapter
focusses on pedagogical discourse, specifically that of
child-centred pedagogy. The argument starts with
comment on psychometry, and then moves to discussion on
child-centredness, and the resultant production of
development as pedagogy. The chapter sets out to show
that an emancipatory form of pedagogy will require a
discourse which moves beyond notions of individualism
and child development psychology, to a notion of
psychological beings which hold more promise for social
transformation.

Having written the first six chapters of this dissertation
as a textual account of the actual study, I need, now, to
reflect on the possibilities of this work. Hence my text
now becomes more of a Subject re-viewing a range of cultural
resources (the published texts of Foucault, Walkerdine, and
Piaget, for example) in order to assemble its own
expressions relating to critical pedagogy. As Merleau-Ponty
says:

> Expression is always an act of self-improvisation in
> which we borrow from the world, from others, and from
> our past efforts (in Winter,1987,p17).

Given that my resources, and thus my limits for theorizing,
are my social conditions as found in the academic,
professional, political and economic communities to which I
belong, my conception of theorizing itself is a grounded and
articulate response to that membership. I need, then, to
seek to transcend my actual resources in order to theorize.
In this sense knowledge and cultural tradition "are

biographically contingent and thus mutually `limiting'"
(Winter,1987,p17). I do not take this to mean a form of
exclusivity or legislation, but, as I tried to argue in the
previous chapter, rather to mean that theorizing is an
engagement with the reflexive processes of language and all
the possibilities that that holds. In other words, within
the dialectic of this project there is neither an origin nor
a final truth `at the end of the road'. Instead there is
the endless play of contradiction, and a reflexivity which
necessitates its own critique.

In order to study pedagogical discourse it is essential to
consider psychology, for psychology is a subject which
claims to have some explanations for what is generally
called `learning'. A survey of the literature (e.g. The
South African Journal of Psychology, The British Journal of
Psychology) shows, however, that much of the work carried
out by psychologists in this field concerns how people
acquire and retain `information' - the storage and retrieval
of information. It has been assumed in psychology
(certainly in Western thinking) that we know well what it is
that people know and need to know, and this has shaped our
images of intelligence and the learning process. Because of
this bias, conventional psychology has ignored the social
and political influences which shape the theory (Emler &
Heather,1980). This is not surprising, perhaps, if we
accept that theory is shaped by historical context.

The rise of Positivism in Western culture has placed a high
value on technological-scientific thinking with the
consequence that a premium has been placed on knowledge that
is technically exploitable, knowledge that can be used to
change, manipulate and order both nature and society (see,
for example, Bowers,1987, particularly the Afterward). In

psychology this is evidenced in differential psychology
where techniques of assessment have evolved in response to
the practical requirements of efficient measurement. "No
request is more frequently made to the psychologist", wrote
Cyril Burt in 1921, "than the demand for a simple mental
footrule" (Simon,1981,p133). The abiding concern with the
differences between individual intellectual power may be
traced back to Galton's work, Hereditary Genius, published
in 1869, and the influence of Darwin's idea of differential
biological fitness (Emler & Heather,1980,p138). Chisholm
(1987), in her work on sex, crime and punishment in
industrial schools and reformatories in the 1920s and 1930s
in South Africa, shows how beliefs about innate biological
differences became part of common-sense ideology and
entrenched in schools through, for example, "regular IQ
testing" (1987,p164). The use of psychometry for socio-
economic and race and gender discrimination and repression
was widespread. Indeed a

> virtual mania for testing and classification developed
> ... [and] both classist and racist assumptions about
> the mental inferiority of blacks and `poor whites' and
> superiority of whites and `middle classes' underpinned
> the connection between delinquency and mental
> deficiency (Chisholm,1987,p149 and 150).

The implications for education were profound, for
psychometry (or mental testing) established its hegemony in
schools and, in South Africa at least, remains entrenched.
Indeed, the discourse of psychometry is enshrined in the
National Education Policy Act of 1967, where it is stated
that "Education shall be provided in accordance with the
ability and aptitude of and interest shown by the pupil, ...
and that appropriate guidance shall, with due regard
thereto, be furnished to pupils" (Behr,1978,p42). The
recent `gifted child' movement in House of Assembly schools

can serve as one of many practical examples of the
implementation of such policy and the use of that discourse.

Intelligence Quotient (IQ) has been the main criterion for
selecting children who are `gifted'. Fincham (1977,p88/89)
writes that "most definitions of giftedness are based on IQ
scores" and that it is not his intention to berate the IQ
measure as such, for it "selects in, as it is supposed to
do, many students who are likely to achieve better than
average". While he gestures towards "the psychometric
problems encountered in defining giftedness", he remains
within the positivistic understanding of learning. Breen
(1984), worrying about the "human factor" in learning,
nevertheless selected his students for his "gifted
programme" in his Western Cape school on "the basis of IQ
scores and teacher nominations", and goes on to speak about
"underachievers" who have IQ scores of 145+, and the need
for specially trained teachers of the gifted.

This example serves to underline the deeply ingrained
understanding in South African schools of streaming children
according to (mental) ability. Having worked in the entire
range of primary schools in South Africa (House of Assembly,
House of Delegates, House of Representatives, Department of
Education and Training, and private schools) I can
confidently say that `mixed ability' classes are the least
common of any kind of differentiation, while the most common
is an `A' stream. Differentiation is a taken-for-granted
assumption about organizing children into classes.

While I recognized the inherent elitism in psychometric
forms of assessment, and indeed was an active instigator of
moving away from streamed classes in the previous school in

which I had worked, I did not fully appreciate how
psychometric theory, and indeed psychological theory,
dominated the discourse about teaching and learning and
influenced (my) pedagogical practice. I placed myself in
the `child-centred' camp and thought that this was
remarkably progressive as it seemed not to focus on the
measurement of ability in children, but rather on individual
competence and performance. I began this particular
research project on the assumption that exams were `bad'
practice, and child-centredness and alternative forms of
assessment `good' practice. On reflection, I had a very
uncritical understanding of a `child-centred' pedagogy, not
really even fully appreciating the Piagetian influence,
although intuitively I saw it as better than the
authoritarianism more obviously evident in rote teaching
styles. An extract from my field notes early on in this
project illustrates this:

> The children are accustomed to a formal textbook
> oriented, rote learning style. The school is test and
> exam oriented and the parents measure the value they
> get from their school fees in terms of academic
> progress. The school has a traditional approach to the
> curriculum - there is no evidence of innovation, no
> audio-visual technology, and no primary school library.
> However the headmaster is supportive of change as long
> as it does not reflect in poor academic performance ...
> I believe I can establish an inquiry-based learning
> atmosphere ... A few immediate changes that I would
> like to make are (i) develop a taste for literature;
> (ii) develop a finer concept of print; (iii) develop a
> keener sense of quality of response and the ability to
> learn from others' thinking; (iv) develop the ability
> to think about thinking ... The possibility of making
> these changes is good, but I must be patient, ... I
> must see these changes as radical changes ...
> constraints are many (13.5.84).

What is evident in these notes is not so much what I do say,
but what I don't. There is a "naive optimism" (Shor,I. &
Freire,P.,1987) present and therefore a lack of
consciousness of the political economy of schooling. The

question, `What views do you hold on the social and political nature of society?', had it been asked, would have caused me some perplexity. My present conviction that education is political was in its infancy, and so I did not recognize that what I was saying (in a progressive framework) might be agreed to by any and all political and ideological persuasions - the discourse is the same.

For example, Margaret Donaldson, a psychologist who studied under Piaget, begins her highly influential book Children's Minds (1978,p11) with the following paragraph:

> The scene is a small open courtyard, within a school building. There are paving stones, warm in the sunshine, and tubs bright with flowers. On top of a low wall a child is lying, propped up on her elbows, looking at a book with intense concentration. Near her another child is carefully watering the flowers, while a third is sitting with his back against the wall and a notebook on his knees. He appears to be drawing or writing something. Like the first child, he is lost in his task.

This rather romantic (liberal) view of children (individually) feeding the plants and feeding their minds is a typical one held by many proponents of a child-centred pedagogy. (1)

A review of the discourse in the literature on child-centred pedagogy (or progressive education as it came to be known) shows that particular words, phrases and metaphors are used when talking about children, teaching and learning. Some of

---

(1) I am not going to deal to any great extent with the historical genesis of child-centred education. See Clark,1988; Hoyles,1979; Sharp & Green,1975; Walkerdine,1984, for excellent accounts. However, it should be noted that the `growth' or `gardening' metaphor still evident to-day has a long history in the education of children, and includes such educational `giants' as Rousseau, Pestalozzi and Froebel. My concern is to show the limits of this discourse as presently used.

the words, phrases and metaphors are: `learning by
discovery', `active learning', `needs of the child',
`interests of the child' (Blenkin & Kelly,1981); `freedom',
`love', `joy', `exercising control with a light touch and
never relishing the need' (Donaldson,1978); `autonomy',
`choice', `self-directed' (Rowland,1984); and, `happy',
`involved', `self-confident', `informal', `caring' (Sharp &
Green,1975).

A review of some documentation of educational intention in
South Africa absorbs this discourse: `think for himself'
(sic), `work on his own', `a desire to know', `the human
aspect rather than the accumulation of facts' (Primary
School History Syllabus, Education Gazette,1978, Cape of
Good Hope); `enjoy', `the power to reason', `common
humanity', `sympathetic attitude', `man's activities ... are
his efforts ... to use to advantage the resources'
(Department of Education and Training, Syllabus for
Geography,1983); and, finally, the National Education Crisis
Committee's People's English Commission, `determine their
own destinies', and `transform themselves into full and
active members of society' (Kruss,1988).

The psychological model of human thinking, based on an
unmoderated form of intellectual individualism according to
which it is the individual who thinks, chooses and acts, who
invents, solves problems and discovers truth, is evident in
most understandings of child-centred pedagogy. In an
article on the future of Schools of Education in
universities the conflation of the discourses of child-
centredness and `high standards' is evident when Ashley
(1987,p19) wrote:

> In its work and conduct, the School needs to show its allegiance to the central tenet of liberalism. This is that the individual is at the core of all social life and, therefore, of education. It is ultimately in this concern for individual human beings, in their uniqueness and with respect for their potentialities, that liberalism makes its moral claim to be able to make a contribution to human welfare.

An example of how this undialectical stress on the individual appears in State documents may be seen in the Cape of Good Hope publication on <u>Teaching in the Primary School</u> (1973,p3):

> The mode of living of a society which has for its aim the happiness of all of its members is based on the recognition and appreciation of the individual ... The development of individuality is therefore of the utmost importance in the education of the child, and, in addition, it must be an individuality·which embodies such a sense of citizenship and self-control that it is also concerned with the welfare of his fellowmen (sic).

Encouraging the `spontaneous development of the child from within himself' has its roots in Descartes's claim that the starting point for all knowledge is the individual's experience of his own existence (Emler & Heather,1980,p136). It is this individualism present in the discourse about progressive teaching which caused Sharp & Green (1984,pviii) to state that:

> the child centred educator, with his individualistic, voluntarist, and psychologistic solution to the problem of freedom fails to appreciate the ways in which, even in his own practice, the effects of a complex, stratified industrial society penetrate the school. ... the radicalism of the `progressive educator' may well be a modern form of conservatism, and an effective form of social control ...

Progressivism depends centrally upon a conception of learning and development as individually paced. One primary school policy document shows this dependency well:

> Being committed to the ideal of an education system which consciously promotes the development of the child as an individual, we are committed to providing for the differentiated rates and styles of learning (The Philosophy of Ellerton Primary School, Ellerton Primary School, Cape Town, n.d.).

Knowledge is defined in terms of experience and activity - "The human aspect and drama in historical events rather than the accumulation of facts should be stressed" (Cape Education Department, Teachers' Guide for History, 1980, p2).

Knowledge, understood as concepts, is acquired and produced through the development of an active learner, who develops `at his own pace':

> The teacher should guard against allowing the children to be over-taxed, by arranging that new tasks are assigned to them at the appropriate time and in the right way (Cape Education Department, Teaching in the Primary School, 1973, p3).

The teacher does not teach, but must "guide", "facilitate", "arrange", "promote", indeed must passively become part of the facilitating environment which observes and monitors the sequence of natural development: "The class teacher is a facilitator, a guide, an organizer of learning experiences" (The Philosophy of Ellerton Primary School, Ellerton Primary School, Cape Town, n.d.). Implied in this is that teachers' passivity is vital to the possibility of children's activity.

Educationists, in their attempt to seek answers to the question, `Why did school end up in failure for so many?', turned to developmental psychology, that is, to what they

believed to be a more effective psychology. Donaldson's book <u>Children's Minds</u> (1978) is a good example of this attempt. However, a pedagogy is bound by the limit-conditions of the project of developmental psychology itself (Walkerdine,1984). That is, particular disciplines, regimes of truth or bodies of knowledge make possible what can be said and what can be done. Thus we can say that particular pedagogies should be understood as centrally and strategically implicated in the possibility of a developmental psychology itself. So the notion of a normalized sequence of child development is enshrined in pedagogical practices - in division into classes, hierarchical structure of syllabi, techniques of assessment and so on. The set of assumptions about learning and teaching as witnessed in our schools is all premised on a child development theory, which means, of course, that there must be a set of empirically verifiable facts of child development.

There is a long tradition of child study starting from Darwin and the idea of `natural child development' (Hoyles,1979). A survey of the literature shows that by the end of the nineteenth century, and with the advent of compulsory education, `children' as a category came to be singled out for scientific study (Aries,1962; Postman,1982). The practice of weighing, observing and measuring children is widespread, as are studies of their interests, habits, beliefs, drawings, lies, fantasies and so on. The discourses which produced `children' as the objects of study were drawn from biology, topography, and everyday common sense (Walkerdine,1984), and the terms of the discourse have shifted little as evidenced in books about children such as Donaldson (1978) and Rowland (1984), and documents and policies such as those quoted above.

What is important to note for my purposes here, is that
central to all of this is the <u>production of development as
pedagogy</u>. Development is produced as an object of
classification and schooling, with apparatuses such as
record cards, teacher training, classroom layout, workcards,
workbooks and so on. Two examples, taken from a 1988
examination paper of a college of education in South Africa,
and one example taken from a primary school policy document,
illustrate what I mean by the production of development.

The first example:

> During the preparatory period at the beginning of the
> Sub A year the teacher will check certain aspects of
> the child's development. List these and suggest
> possible methods used to assess each aspect.

This example stresses the role of observation, and the
teacher as observer and monitor of certain (developmental)
categories. There is no knowledge stated outside the terms
of a developmental accomplishment. Foucault (1977) uses the
term 'surveillance' to describe this function of the
teacher. In his discussion of power/knowledge he points out
that specified details of surveillance were integrated into
the teaching relationship so that it "functions like a piece
of machinery" (1977,p177).

The second example:

> Do you think the physical environment and layout of the
> classroom could have an influence on the learning
> process of the pupil? If so, what factors would you
> bear in mind when you plan your classroom?

This example suggests that there is a certain (correct)
organization of pedagogical space which must be understood
within the terms which made it possible - doing, activity,

development, experiences and so on. The pedagogic space and the terms of the discourse are intertwined.

The third example:

> The members of staff are specially selected. They are caring people, able to provide the child-centred education that is the hallmark of Ellerton. ... We base our programmes on Bloom's Taxonomy of Educational Objectives (The Philosophy of Ellerton Primary School, Cape Town,n.d.).

This example suggests that there is a certain (correct) hierarchical order of skills in the attainment of educational objectives. As explained in the document "higher processes are based on the lower levels so that growth of a child's intellect follows a definite sequence". It is understood that to deny children this sequence is to deny them "the full realization of their own patterns of growth". Teachers plan their lessons around the list of skills and monitor the children according to the list. The taxonomy as apparatus also becomes the pedagogical practice, in this case the "hallmark" of good pedagogical practice.

It is in these sorts of ways that various concepts and aspects of practice are singled out as central to good pedagogy, or, to state it differently, to what is understood as good teaching. In other words, instead of the apparatuses found in schools being an application of a pedagogy, they have become a site of production in their own right. While it can be argued that many teachers are not child-centred in their practice, the point is that the parameters of the practice are given by the common sense of child development evident in the apparatuses. The apparatuses themselves provide a norm, a standard of possible pedagogy.

Walkerdine (1984,p190) draws attention to the impossibility of setting the `individual' free under these circumstances when she writes:

> It is perhaps the supreme irony that the concern for individual freedom and the hope of a naturalized rationality that could save mankind (sic) should have provided the conditions for the production of a set of apparatuses which would aid in the production of the normalized child. It is the empirical apparatus of stages of development which of all of Piaget's work has been most utilized in education. It is precisely this, and its insertion into a framework of biologized capacities, which ensures that the child is produced as an object of the scientific and pedagogical gaze by means of the very mechanisms which were intended to produce its liberation.

It seems that South African schooling is dependent upon an understanding of teaching and learning which has a genealogy of both psychometric and child development theory, and that the pedagogical discourse and pedagogical practice are intertwined with these theories in such a way that inhibits radical change. My own tension within these limit-conditions is reflected in a field note of 20.8.84:

> I introduced the next problem, consecutive sums, with an attempt at teacher control and teacher directedness, but while the class partially played the game, they re-negotiated the relationship and had it their way; i.e. they dictated the moves and the commitment. Again many children came up with interesting solutions (Earl, Alwyn, Yannick, Mark, Brendon, Paul). Again there were some pupils (Sammy, Marcellino, Kurt, Gerard) who were not interested and a steady stream of requests to go to the toilet began. I have an interesting problem with this class as they resist my authoritarian approach in what has been negotiated as a democratic situation. Oh my reluctance to relinquish control! This irritation of mine has been recognized by me all along - I want the children to think for themselves but am reluctant to perceive my role differently from my traditional understanding of it. Perhaps I am frightened of chaos and yet the class respond to my request for "silence" or "attention"! My dilemma, not theirs.

A scrutiny of this note reveals the `roots' of the dilemma. The role of the teacher as mediator in the instruction process is being subsumed (with self-accusatory remarks about authoritarianism) in favour of a `do-it-yourself' model of learning. My guilt (Walkerdine,1984) is obvious in my rather crude understanding of democratic practice. There is an absence of a true appreciation (by me rather than the children) of the teaching/learning dynamic in the zone of proximal development. Caught up in the discourse of child-centred pedagogy I relinquish my responsibility as `teacher' and seek that of `facilitator' and `manager'. This is even more naked in my field note of 11.10.84:

> I think children need more time to explicitly discuss how to proceed and what the rules are. I must encourage children to do this before hurrying on to process. That is, encourage them to read critically and reflect before proceeding. OR is this interference in their learning pattern; should the children not come to this realization through trial and error? OR if I was to be available to contribute at the initial stage when invited to do so without "instructing" (sic) or "intervening" in the general work patterns of the children. In other words not <u>direct</u> children to think or behave in a particular way but rather to suggest in a conversational way in the sense that I would not seek to dominate the learning style (original emphasis).

It is remarkable how persuasive the discourse is. The teacher subjugates her knowledge of the teaching process, her lived personal knowledge, as it finds no articulation with the dominant discourse about schooling.

After studying the Hadow Report of 1933, and the Plowden Report of 1967, Walkerdine (1986,p59) summarizes the qualities suggested that the teacher of young children should possess:

The right temperament;

A thorough theoretical knowledge of Child Study and
psychology;

A parent substitute;

The ability to make children feel that they matter;

Patience;

Provision of experience;

Tender care;

Detachment;

Diagnosis of potentialities;

Challenge and inspire children;

Encourage curiosity;

Collaborate;

Lead from behind;

Responsibility and spur of freedom.

This is a formidable list, and yet resonates for any primary
school teacher in this country, for the list reflects the
common-sense understandings that we have about our work.
These are the qualities that may be isolated from a review
of college of education courses, education department policy
documents, school policy documents, and popular writing
about primary education. For example, a study of the
Ellerton Primary School policy document will show what
characteristics the teacher does not possess. She does not
`teach', but rather "organizes learning experiences"; she
does not `discipline', but rather "tolerates", "cares",
"challenges", "diagnoses", "inspires". The list of absences
constitutes a dangerous voice from the past, what Walkerdine
(1986) refers to as "the spectre of authoritarianism", of
the old ways, of overt power and regulation. It is not
surprising, therefore, that Sharp & Green (1975) see child-
centred pedagogy as a new form of conservatism. What is
important to note is that the development of modern
psychology, and especially the study of children, is central

to the modern `truth' about pedagogy, and that this `truth'
excludes the role of the teacher as mediator in the process
of instruction.

A recognition of the influence of child development theory
on child-centred pedagogy counterbalances in some way
theories of economic reproduction. There is a tendency in
Marxist theory to conflate the exercise of power with the
apparatus of the state. What I want to argue here, rather,
is that by deconstructing the power/knowledge relations
central to the production of the object (the child) of
developmental psychology, we can more easily begin to
explain what children come to know. Foucault (1980)
suggests that what he terms a genealogical analysis may
reveal the several connections, play of forces and multiple
processes which establish the self-evident·intelligibility
of events. In contrast to the various projects which aim to
inscribe knowledges in the hierarchical order of power
associated with science, a genealogy should be seen

> as a kind of attempt to emancipate historical
> knowledges from that subjection, to render them, that
> is, capable of opposition and of struggle against the
> coercion of ... scientific discourse
> (Foucault,1980,p85).

Psychology has claims to truth and to the production of
fact. It is its very status as a science which is so
important to recognize when attempting to talk about
emancipatory practices in schools. As Foucault (1980)
points out, scientific knowledges cannot be reduced to
ideologies or cultural representations. He argues that
although knowledge and power are intimately linked, this
does not imply a structure of centralized imposition. On
the contrary, power is a ubiquitous and immanent feature of
the social relationships within which knowledge is

constituted. Rose (1979) and Walkerdine (1986) both
demonstrate the way in which mental measurement of certain
capacities in the population, calibrated in a normal
distribution curve, provides the base not only for
techniques of classification, but also for dividing the
population to be educated into normal, educationally sub-
normal, educationally gifted and so on. Walkerdine
(1986,p61) argues that it was on this basis that
"educational institutions and practices could be developed
in which normal and subnormal children were produced as
subjects of those pedagogical practices". So we can suggest
that what was meant by `normal' was defined by the practices
of measurement themselves.

School psychological services/clinics attached to the
various education systems in this country may be seen to be
extensively involved in these practices which, with the
advance of technology, have become fairly sophisticated. It
can be argued that technologies of measurement have acted
powerfully to produce the techniques and practices for the
regulation of normality within the population and thus how
we talk about children and pedagogy. Chisholm (1987,p149)
tells how in the early 1930s Fick, an educational
psychologist concerned with mental deficiency amongst South
Africa's `poor white' population, conducted extensive tests
in reformatories and industrial schools. Fick's results
were used "to prove the connection between juvenile
delinquency and mental abnormality". Currently the
regulation of normality extends to `the child' on school
entry. When interviewed by a reporter on school readiness,
Mrs Logan, a remedial teacher in Cape Town, and responsible
for testing children about to enter school said:

> Assessing school readiness involves looking at all
> aspects of the child (sic). We talk to the parents to
> discuss the child's history and identify areas where
> there could be a problem. Then we do basic perceptual
> tests with the child to assess whether he's (sic)
> reached a certain level necessary for instruction - the
> two main areas we treat are visual and auditory (The
> Argus,23.10.89).

In these ways children are labelled (Apple,1979) and
classified before entering school.

The taken-for-grantedness apparent in the newspaper report
underlines the power/knowledge axis referred to by Foucault.
The modern form of sociality, founded in science's claims
and guarantees of truth, cannot be ignored if we are to
understand change. If practices and discourses can be shown
to be historically specific, rather than timeless truths, we
can deconstruct the power that they have. Change is not a
matter only of deconstruction, of course. A new reading
permits the possibility of struggle to work for
transformation of that sociality, those (pedagogical)
practices and the subject-positions produced within them.
Foucault (1977,1980) argues that an ahistorical account of
human subjectivity fails to engage with the very spatial and
temporal specificity of truths and practices. More
precisely, he suggests we need to engage in

> a mode of examination of the general signification of
> the history of particular forms of rationality and
> scientificity. This would consist in the exact
> opposite of the rationalist historicism where the truth
> of history is interpreted as the effect of a meta-
> historical process of rationalization; it would mean a
> study of the specific effects of practices whose
> rationale is the institution of a regime of truth
> (Foucault,1980,p242).

An example of the disempowerment of an ahistorical account

of human subjectivity is seen in the work of Brearley (1974), who, in applying Piaget's "learning theory" to her pedagogical practice, gets caught in the discourse. She writes:

> Man (sic) is a learning animal and young children are supplied with a fund of curiosity which will lead to learning if, in the first place, we don't prevent it and in the second, we provide ample and appropriate material for learning to work on. Any teacher meeting a child at five years old (or three) who has lost his thrust for learning is dealing with a remedial problem ... and must put attention to this before anything else (Brearley,1974,p85).

The taken-for-granted assumption that because man (sic) is a "learning animal" who will learn (biologically) naturally, barring some special explanation ("prevention"), is not examined reflexively, and so remains ahistorically situated so that Brearley is able to suggest that a child who is not learning has something wrong with "him" that needs remedy. Moreover it is further entailed that if a remedy has been effected, then learning will resume. There is a total negation of the role of the teacher as `teacher' in this biologized, developmental version of learning, for its entailment makes it redundant and self-deluding to urge children to bring into existence what logically must occur.

The understanding that the regime of truth (developmental psychology/child-centred pedagogy) is premised upon the notion of a psychological individual, goes some way to understanding why present pedagogical discourse and practices are seen by all persuasions from the right to the left as `progressive'. But, more importantly, that understanding gives content to viewing schools as sites of struggle and resistance. As Walkerdine (1986,p74) would have it:

[T]he specificity and historicity of our struggle with
the fictional discourses which pronounce their truth
and claim to `know' us, is always a space for
contestation and for hope.

This chapter has tried to show that with the entrenchment of
psychometry the language of competency, performance, and
effectiveness, as measurable and quantifiable, became
dominant in pedagogical discourse. Further, that the
absorption of some child-development theory into pedagogical
theory came, in practice, to mean that good teaching is that
which is demonstrated by good management skills, and by good
use of the apparatuses of production of `the child'. Child-
centredness, it is suggested, disallows the teacher the
possibility of acting as mediator in the instruction
process, and, concomitantly, inhibits the possibility of
emancipation. My own efforts to engage reflectively with
the problematic of teaching and learning is the topic of the
next chapter.

UNIVERSITY *of the*

WESTERN CAPE

CHAPTER EIGHT

TEACHING AND LEARNING

Chapter Eight focusses on the nature of teaching and
learning. Using a reworked notion of authority it
argues for a central role for the teacher in children's
learning. Critical reflection on my teaching is
approached reflexively, and my ignorances
problematized. In an attempt to explicate the
interdependence of other-regulation and self-
regulation, the chapter begins with comment on the
social nature of learning. As the focus shifts to
self-regulation Vygotsky's notion of inner speech, and
Piaget's notion of equilibration are suggested as
important contributions to a teacher's understanding of
her practice. The chapter closes with concluding
remarks about regulation and mediation.

In Chapter Seven I argued that the dominant technicist
pedagogical discourse had redefined what teaching and
learning meant. This discourse has had a marked effect on
curricula and curriculum practice. In terms of this
discourse good curricula are exclusively those which have
immediately available and easily testable results, and good
learning is only the accumulation of atomistic skills and
facts. As Byron commented in our final interview (Appendix
C,pC-18) in a discussion of what the children had learnt in
their time with me:

Byron   I think we learnt about thinking skills and
            debating, and thinking with others, and we learnt
            a lot of that, but ... let's see ... I don't think
            you could waste a whole standard on that, that is
            what I think.
Wendy   Why do you use the word `waste'?
Byron   Well, um ...

Wendy	In other words, I'm saying what is more important. You know, what are you saying as more important than that?
Byron	Um ... er ... Facts. Because ... when I got into standard four I fell flat on my face, because we had had no homework and all of a sudden we got history, and then sometimes we had weekend homework. And we would say, "Ma'm, why are we getting this?", and all that.
Wendy	So we are back to exams and tests that are pushing you again, aren't we?
Byron	Yes, because that's what it's all about.

Byron's insight explains that what are accepted now as good teaching, good curricula and good learning are really aspects of what might best be thought of as deskilling - the deskilling of teachers as professionals, and, therefore, the disempowerment of both teachers and learners. These practices signify as well a structuring of schools by a technicist logic. Wexler and Grabiner (quoted in Apple,1986,p147) put it this way:

> Taken together, these various processes of student and teacher deskilling and expansion of methods of measurable organization and administrative surveillance constitute the commodifying aspect of a larger historic process of educational reorganization. They empty the content of curriculum and teaching of any cultural history that is not reducible to narrowly defined technical skill. The technical skill, by virtue of its method of acquisition and evaluation, is not the kind of generative capacity which engages the imagination.

In Chapter Seven I tried to show that many of the policies and programmes which enter schools do so under the guise of the 'common good', and that these programmes and policies for altering teachers and curriculum content may be followed

for the best of intentions, but they are founded on a notion of child-centredness which disallows the teacher the possibility of acting as mediator in the instruction process, and, concomitantly, inhibits the possibility of emancipation.

Dissatisfaction with present conditions in schooling and (my) ignorances about the teaching/learning dynamic is what engaged me in this project. In response to some discussion about my interest in learning about children controlling their own learning, Earl asked, "But why did you want to know?". I answered:

> Because I was interested in being more democratic.
> Because I do believe that everybody has potential. And
> I do believe that in schools children are kept in a
> situation in which they don't develop that potential,
> that they are doing fairly easy routine traditional
> things which aren't really difficult. Memory is
> difficult. I mean memory in the sense that `I must
> remember everything for my exams', might seem hard, but
> the rest of it actually isn't. And for me there is a
> lot of boredom at school, and people are actually
> waiting for break to go out and play, which is very
> much nicer, and that seems a pity. ... So I was
> interested in ways of learning that one takes into
> adulthood. I'm much more interested in things like you
> were saying, that learning about other people's
> opinions, learning to refine your own thinking, because
> I think those are important things, therefore you can
> do them in the classroom (Appendix C,pC-35).

In Chapter Six I tried to isolate those moments in lessons when I felt that either I or one of the children, operating

in the zone of proximal development, was mediating within the instructional process. Central to the argument is the idea that (only) through other-regulation does a learner move to self-regulation. Embedded in this argument is a (particular) understanding of the social nature of learning. It is this understanding which has matured in my attempts to reflect upon the action cycles in this project.

An important difference that I needed to grasp was the way in which Vygotsky used `developmental' compared to the way in which that term was used by child development theorists. Vygotsky defined development in terms of "revolutionary" shifts rather than quantitative increments, and argued that these shifts caused radical changes in the very nature of development. These revolutionary shifts, or changes in development, were heavily dependent upon forms of mediation. Indeed, his claim that mental processes can be understood only if we understand the tools and signs that mediate them is an important aspect of his claim that higher mental processes in the individual have their origin in social processes. Thus Vygotsky defined development in terms of "the emergence or transformation of forms of mediation". His notion of social interaction and its relation to higher mental processes, therefore, "necessarily involves mediational mechanisms" (Wertsch,1985a,p15). And so it is that Vygotsky's work offers us an escape from biological reductionism, mechanistic behaviourism or the structuralism of gestalt psychology, while shifting the emphasis to social forces in development (see 1962, and 1978, particularly chapter six, where Vygotsky critiques these schools of thought).

In discussing qualitative transitions and the role of mediation, Vygotsky (1978) distinguishes between

"elementary" and "higher" mental functions. The four
criteria he uses to distinguish between these functions are
the emergence of self-regulation or voluntary regulation,
the emergence of conscious realization of mental processes,
the social origins of higher mental functions, and the use
of signs to mediate higher mental functions. So one may say
that for Vygotsky, elementary functions are determined by
environmental stimuli, while the central feature for higher
mental functions "is self-generated stimulation, that is,
the creation and use of artificial stimuli which become the
immediate causes of behaviour" (1978,p39). It is cultural
development which converts elementary into higher mental
functions, so that it may be said that it is not nature, but
society that is the main determining factor in human
behaviour. He explains:

> The active part ... is played by the organism which
> masters the means of cultural behaviour supplied by the
> environment. But the organic maturation plays the part
> of a condition rather than a motive power of the
> process of cultural development, since the structure of
> that process is defined by outward influences
> (Vygotsky,1928,p423).

Particular to this argument on the social nature of
learning, and in answer to the skeptic's `So what, everybody
knows that we learn from others', is the stress Vygotskians
place upon the dialectical relationship between the
individual and the social. It is a dialectical relationship
between individual development and sociohistorical
evolution. In noting this particular understanding of what
is meant by the social nature of learning, it is important
to appreciate the particular dynamic of the zone of proximal
development. The dynamic is a cultural dynamic and involves
the potential for change, it is the `motor' of cognitive
growth. Most psychologists translate `social' only into
`interpersonal', not into `sociohistorical' or `cultural'.
Indeed, Bruner & Haste (1987,p9) warn that the notion of the

zone of proximal development became popular precisely because it could be seen as congruent with classical theoretical and methodological preoccupations of Western developmental psychologists. That is, the zone of proximal development merely "adds" something to development which can still be seen as a solo process. (1)

Vygotsky's work on the zone of proximal development draws attention to the significance of human activity and intentionality in producing knowledge, showing that it is not a passive process but one in which the learner is actively involved - a form of praxis. Thus Vygotsky's fundamental distinction between mediated and unmediated psychological processes led him to argue that language produces a qualitative change in the development of representation and thought:

------

(1)Psychologists working cross-culturally are still torn between two aims - the desire for a global, universal understanding of culture and cognition, and the need for culturally-relative and culturally-sensitive conceptualizations of cognitive functioning and cognitive development. (Contemporary anthropology accepts cultural relativity as a prerequisite to attempting any global statements about `culture'). The influence of Piagetian stage theory on Western societies reflects the importance attached to logical thinking, and to formal operational thought. Clearly not everyone values the same things and so the ideal `end-point' of development varies across cultures. The point to make is that global, universal theories of culture and mind cannot be attempted until we have a reliable, culturally relative understanding of cognition. In this sense, when talking about universals (as Piagetians tend to do) we should insert the word `relative' before `universal' (for extended discussion see, Cole & Scribner,1974; Goodnow,1980; Miller,1984; Curran,1988).

> the most significant moment in the course of
> intellectual development, which gives birth to the
> purely human forms of practical and abstract
> intelligence, occurs when speech and practical
> activity, two precisely completely independent lines of
> development, converge. Although children's use of
> tools during their preverbal period is comparable to
> that of apes, as soon as speech and the use of signs
> are incorporated into any action, the action becomes
> transformed and organized along entirely new lines
> (Vygotsky,1978,p24,original emphasis).

While Vygotsky did not equate thought and language, he did
see them as interdependent (1962), arguing that
qualitatively unique forms of verbal thought arise that
cannot be reduced to prior thought or prior speech as
independent elements. He saw a unity of thought-and-speech
as "emergent", what Kohlberg and Wertsch (1987) refer to as
"emergent interactionism", for Vygotsky argues that the
development of higher mental functions is primarily a matter
of participating in, and gradually mastering, social
interaction.

I certainly had some appreciation of the interdependence of
language and thought when I began this project, and, for
example, had cultivated the habit of using correct
terminology when teaching the children, and trying not `to
talk down to' the children in interactive situations. In a
recorded conversation with the children's class teacher on
18 June 1985, I asked her to comment on my verbal
interaction with the children. Part of her reply follows:

> ... the way [the children] were talking yesterday, the
> articulation and the words used, the maths terminology
> that came out, and you could see that they're
> definitely conscious of learning and the methods they
> use ... someone like Deon, and his approach
> specifically to maths has changed, he really was quite

> frightened of maths I think, and [now] he talks in a
> different manner and I really think it's that ... You
> know last year when the story with the whale and the
> ambergris and all that came up? That's all that time
> ago but I remember then ... they spoke about the way
> you used that lesson. 'Cause quite often you refer to
> something, maybe it's just a word that's used, and they
> remember that from you ... From a democratic point of
> view I think you are very democratic ... You stretch
> them a lot and they responded to that. I can hear in
> their vocabulary that they're using.

I was operating to a large extent on personal knowledge, and
on subjective experiences in classrooms, experiences which I
regarded as "authentic" (Polanyi,1958,p202). But I did not
have a theoretical grasp of the shift from other-regulation
to self-regulation and the role of inner speech in this
shift. It is only now in reflection, with my deepening
understanding of the dialectical relationship present in
inter- and intra-psychological functioning, that I recognize
the importance of Vygotsky's notion of inner speech to a
teacher in the role of transformative intellectual. In
discussing the notion of inner speech I need to include some
discussion of Piaget's notion of egocentric speech, for
Vygotsky argued against this notion of Piaget's
(Vygotsky,1962,particularly chapters two and seven).

Familiar to most teachers trained in this country is a
`diluted' version of Piaget's work on what he called
"egocentric speech" (1926). We understood this to be
(verbal) speech for and to oneself, generally noticeable in
preschool children, and somewhat frowned upon in school
going children. Indeed Piaget (1926) argued that egocentric
speech declines and finally disappears with increased

communicative competence. Piaget viewed language as only one aspect of representational intelligence, and that representational intelligence emerges without language. In addition to seeing intelligence as underlying both thought and language, Piaget (1967,p98) argued that language and thought were independent units in interaction with one another:

> Language is ... a necessary but not sufficient condition for the construction of logical operations ... [L]anguage and thought are linked in a genetic circle where each necessarily leans on the other in interdependent formation.

Inevitably one is left with the understanding that thought is primary, and that language is the tool of thought. Piaget's influence on pedagogical practice is marked, for language plays a secondary role in schooling, with conceptual development being viewed as something separate from and independent of language (Flanagan,1989; Walkerdine,1984; see also Chapter Seven of this dissertation). In a review I carried out on subject method courses in teacher training institutions, I could not find evidence of any sustained attention given to the teaching and learning of the language of the subject and its primary role in cognition, certainly not in any way different from a Piagetian understanding of the role of language in learning. But Vygotsky (1962,p44) wrote:

> No matter how we approach the controversial problem of the relationship between thought and speech, we shall have to deal extensively with inner speech ...

Vygotsky rejected Piaget's notion of egocentric speech disappearing and being replaced by communicative speech, and argued instead that egocentric speech, or self-directed speech, goes "underground" to form the self-regulative function of inner speech. He explains that:

> There remains a constant interaction between outer and
> inner operations, one form effortlessly and frequently
> changing into the other and back again. Inner speech
> may come very close in form to external speech or even
> become exactly like it when it serves as preparation
> for external speech [social speech] ... Essentially,
> the development of inner speech depends on outside
> factors ... The child's intellectual growth is
> contingent on his mastering the social means of
> thought, that is, language (Vygotsky,1962,p49 & 51).

Kohlberg et al (reported in Kohlberg & Wertsch,1987) in
their research support Vygotsky's interpretation of the fate
of self-directed speech. They argue that since Vygotsky's
interpretation is such that self-directed speech must first
be differentiated from social speech, and then internalized,
"one could predict an initial increase followed by a
decrease in its use" (Kohlberg & Wertsch,1987,p205). In
contrast to Piaget's idea that there is a steady decline in
the use of self-directed speech they found in their study of
4 to 6 year olds that instead of a steady decrease in its
use, "they found its use to be curvilinear" so that, in
accordance with Vygotsky's interpretation,

> this curvilinear development of self-directed speech
> reflects first the differentiation and growth of the
> self-regulative use of overt speech, and then the
> internalization of self-regulative speech into inner
> speech or verbal thought (Kohlberg &
> Wertsch,1987,p206).

Kohlberg et al's research is only one of the many which have
confirmed the idea that self-directed speech serves a self-
regulatory function, the function that inner speech
subsequently serves (see also Forman & Cazdan,1985;
Hickmann,1985). It may be said that inner speech is a form
of intrapsychological functioning that derives from
interpsychological functioning, or, if you like, social
speech, and that inner speech is uniquely formed through

language as a mediational tool. Indeed, for Vygotsky,
mediated psychological processes are possible because of the
development "of forms of linguistic mediation such as
genuine concepts and inner speech" (Kohlberg &
Wertsch,1987,p207).

In my argument for the mediational operator `embedding
instruction in reflexive planning' in Chapter Six, I made
the point that children can participate in decision making
processes about their own conditions if the notions of
intersubjectivity and semiotic challenge are taken into
account. On reflection I think that had I had a clearer
understanding of the function of inner speech I would have
been more effective as a mediating agent at that time and in
that situation. I remain convinced that I did instruct in
reflexive planning, but a glance at, for example, Appendix
B, shows that most of the talking is done by me on occasions
when the children are unable to define the task in
articulate ways.

What I am trying to suggest is that the challenge to the
teacher to find ways in which to communicate so that the
children can participate would be met more easily if she is
more conscious of the notion of inner speech and the
important role it plays in the planning and regulation of
action. For example, in my future practice I could research
ways in which to use a dialogic mode more effectively (see,
for example, the description by Shor & Freire,1987,chapter
four). By `dialogic' I do not mean a mere technique, nor
that everyone must speak, but rather that I give the
children more opportunity to communicate verbally their
common sense understandings and lived experiences so that I
can use these contributions as part of the instruction
process (see Wertsch,1985a,p223-231, for discussion on the

dialogic nature of inner speech). I suggest that in this
way intersubjectivity might more easily be maintained and a
transition to critical consciousness more easily be made.

Linked to a clearer understanding of the notion of inner
speech should be a clearer understanding of Piaget's
argument that <u>cognitive conflict</u> is essential for mental
development. When I began this particular project I had
dismissed the work of Piaget, probably because his work has
been so poorly transferred to pedagogy. I had gone through
the process, while studying for a Certificate in Remedial
Education in 1970, of learning Piagetian stages of
development `off by heart' and regurgitating this `learning'
for examination purposes. (2) I had also fallen victim, as
it were, to putting children into boxes for teaching
purposes and not challenging them beyond the stage they were
purported to be in, for example, sensorimotor or concrete
operational periods. When I grew dissatisfied with my own
practice I saw Piaget's influence as partly to blame. I
decided that his contribution was useless to me in my

---

(2)Colleges of education for whom I externally examine still
invite students to the rote learning of Piagetian stages and
ask them to design lessons according to a particularly rigid
interpretation of these stages. For example, an examination
question for third year students (May 1989) reads,"What is
the significance of Piaget's theory for the teaching of
mathematics in Junior Primary?". An extract from the top
student's answer to this question, reads,"Piaget says that a
child must have an understanding for the concepts of
classification, which forms the basis of logical thinking,
comparison, conservation and seriation before starting
formal maths learning in the junior primary. The child must
therefore not be taught a concept before his thought
structures are ready for it. The child can only think
logically but not abstractly in the concrete operational
stage (7-11 yrs) therefore he must work with concrete
apparatus to form and understand a concept. A concept
cannot be introduced verbally only." This example could as
easily have been inserted in the previous chapter, as it
captures so well the argument about child development theory
influencing pedagogical discourse and practice.

attempts to become a good teacher, for I was by this time deeply impressed by the social nature of learning. I was also convinced that children had the cognitive ability to cope beyond what the official curriculum demanded. It is only now, on reflection, and in my present attempts to understand the teaching/learning dynamic better, that I realize how important Piaget's work is to our understanding of cognition, and in particular his argument for cognitive conflict as explaining how we move from the familiar to the unfamiliar.

Arguing that any active learning process involves continuous adjustments of action via self-regulating processes, Piaget (1976) distinguishes between three primary types of self-regulation: autonomous; active; and conscious regulation. Autonomous regulation is an inherent part of any "knowing act", it is a way in which the learner continually regulates his or her performance, however small or simple the action. Active regulation is engagement in constructing and testing "theories-in-action" - in testing a current theory via concrete actions that produce tangible results. Piaget argues that not until a very much later (chronological) stage can the learner mentally construct and reflect on the hypothetical situations which would confirm or refute a current theory without the need for active regulation. Conscious regulation permits mental reasoning (hypothesizing) independent from actual active testing. Conscious regulation he sees as restricted to the formal operational stage of development. He explains (1976,p352):

> Finally, at the third level (from 11 to 12 years) which is that of reflected abstraction (conscious products of reflexive abstraction) the situation is modified in that cognizance [consciousness] begins to be extended in a reflexion of the thought itself ... This means that the subject has become capable of theorizing and no longer only of `concrete', although logically structured, reasoning. The reason for this is the child's new power of elaborating operations on operations ... He thereby becomes capable of varying the factors in his experiments, of envisaging the various models that might explain a phenomenon, and of checking the latter through actual experimentation.

This means that mature learners can create theories and worlds in their imaginations to explain actions and reactions within them. This, really, for Piaget, is the essence of scientific reasoning and the `end state' of development. It is quite clear, I hope, from this brief description of Piaget's notion of self-regulation that he does not consider other-regulation in the way that Vygotskian psychologists note it as important, and thus ignores to a large extent cultural influences on cognition. As elaborated in the previous chapter, Piaget's work inserted itself comfortably into contemporary Western consciousness where the psychology of intelligence is not generally viewed as involving ideological distortion. Furthermore, in accounting for the transition in forms of self-regulation and the move to representational forms of thought, he uses the notion of functional constants of assimilation and accommodation, thus emphasizing the continuity that occurs with the advent of representational activity, rather than the fundamental change argued by Vygotsky.

I have already argued in Chapter Six that teaching is possible precisely because our actions can be regulated by others in a way that will enable the learner to construct

understanding. The above description that I have given of Piaget's work seems to contradict this argument in that it appears to ignore the significance of other-regulation. But I have not given any consideration to self-regulation in a truly novel performance which an adequate theory of learning must explain. In this regard Piaget's concept of equilibration is being considered anew by Neo-Piagetians as an important contribution to the task of describing truly novel performances.

In his theory of cognitive development Piaget claimed that equilibration (the assimilation and accommodation of new experience) was fundamental to his theory. Moll & Slonimsky (1989,p163) explain that the achievement of formal operational thought

> is deemed to be biologically necessary, and comes about as a consequence of the structures of concrete operational thought (the preceding stage) having achieved a state of closure in their adaptation to the environment. This closure of structure creates the conditions, through equilibration, for the emergence of a new structural form, abstract thought.

What this means is that cognitive conflict (or disequilibrium) becomes an important factor in the transition to new understandings. It is precisely in this way that social experiences derive their importance from the influence they can exert on equilibration through the introduction of cognitive conflict. Perret-Clermont (quoted in Forman & Cazden,1985,p340) shares this view of development when she writes:

Of course, cognitive conflict of this kind does not
create the forms of operations, but it brings about the
disequilibriums which make cognitive elaboration
necessary, and in this way cognitive conflict confers a
special role on the social factor as one among many
other factors leading to mental growth. Social-
cognitive conflict may be figuratively likened to the
catalyst in a chemical reaction: it is not present at
all in the final product, but it is nevertheless
indispensable if the reaction is to take place.

While I think that the mediational operators defined and
described in Chapters Five and Six suggest that cognitive
conflict was present in those moments of generation, I was
ignoring (theoretically at least) the importance of the
concept. The particular view of authority that I was
exercising initially influenced my understanding of
`democratic practice', in that `democratic practice' at that
stage was that I should attempt to be unobtrusive and more
laissez-faire in my approach to classroom practice. Stated
bluntly, I must not be the one who `causes' cognitive
conflict. Caught up in the discourse of child-centred
pedagogy, I was actually reneging on my responsibility to
teach, to create conditions for cognitive conflict. I had a
poor understanding of what was meant by `self-directed'
learning, wrapped up as it was in my socialization of `self
discovery' as a hurrah idea. Understanding little about
other-regulation and self-regulation, I was not explicitly
appreciative of the fact that

> [t]he conflict between what the learner brings to the
> situation, and what the task demands, creates the
> intrinsic driving force for learning new things. In
> other words, those instances of "approximate knowledge"
> and "poorly solved problems" (Piaget,1977) create the
> conflict which moves the learner further into the
> unknown or unfamiliar (Craig,1989,p169).

I was not taking seriously enough the idea that formal
schooling can be an important location in which learners can

be exposed to the kind of tasks that create disequilibrium
in the attempt to gain purchase on formal operational
thought (although believing that all people have the
potential for formal operational thought). Any teacher
wishing to transform her practice with the intention of
empowering the children will need to think more carefully
about how she behaves in the classroom and what academic
tasks she designs for her pupils. The typical worksheet or
textbook format presently popular in primary schools with
the emphasis on factual information and memory training,
serves only to domesticate pupils rather than liberate them.
I am reminded of an occasion in one of my earliest sessions
with the children in 1984 when I asked them what they
thought the purpose of schooling was. Nine year old Paul
replied, "To practise what we know".

In this process of reflection I am becoming much more aware
of my role as mediating agent in the context of knowledge
construction. I am beginning to recognize how I, as agent
of change, can operate in the zone of proximal development;
how I can introduce conflict in the learning situation and
mediate the situation in such a way that the children
acquire the resources to surmount the conflict. It means
acquiring a clearer notion of how to create the "bridge"
between what the learner brings to the task, and the
particular demands of the task itself. That "bridge" would
include what the learner needs to know (or do) in order to
engage effectively and autonomously in the task. To borrow
from Craig (1989), I will need to be more consciously aware
of what may count as a claim to knowledge in any particular
subject, of limits of knowing and knowledge, and of the
criteria by which claims to knowledge may be certified or
discounted. If teachers became conscious of these aspects
of knowledge, I believe children would be enabled to
exercise their unique capacity to construct knowledge.

Very importantly, too, I am much firmer in my reasons for promoting collaborative learning in my classroom. Collaborative learning was a major component of this project, and I was certainly committed to the idea before I launched into researching my own practice, indeed it was one of the things that I set out to research. My field notes for the fourth session I ever had with these children (15.5.84) read:

> I was much firmer with the children and began instruction in social skills of group work - listen to the others; help each other to think more clearly; organize who speaks first.

What has been so powerful about this process of reflection on my action, and the reflexive nature of that reflection, is that within the process of problematizing teaching/learning, I am better able to articulate why collaborative learning should be a central style of learning in any classroom where the teacher wishes to contribute to transformation in society. Further comment on collaborative learning may make clearer some of these considerations.

During the 1960's a great deal of classroom observation was undertaken in an attempt to analyze classroom interaction. The best known examples are perhaps the work of Bellack (1966) and Flanders (1963). Essentially the results of this research showed that teachers do most of the talking, and that they talk in very particular ways. Flanders (1963), on the basis of his analyses, put forward his 'two thirds' rule: two thirds of every lesson is made up of talk, and two thirds of the talk comes from the teacher. In practice this meant that in a class of thirty children, each pupil will have about 20 seconds of talk at her/his disposal. Bellack (1966) found that there were certain (four) moves in the 'language game' in classrooms. Teachers initiated the

moves, solicited (short) responses from the pupils,
elaborated on these responses and evaluated these responses.
The pupils were not the initiators (such as initiating a new
line of thought or introducing a new issue or aspect of the
topic), but "passive responders" in a limited and tightly
controlled way in classroom interaction. The response from
those in education to these sorts of findings was one of
dissatisfaction and an awakening interest in linguistics
(the work of Halliday,1973,1975, was influential), classroom
language (for example, Rosen,H. & Rosen,C.1973;
Barnes,1976), and teaching styles (for example,
Hargreaves,1967; Esland,1971; Barnes,1976). Of course, the
conjunction of this literature with a burgeoning literature
on the sociology of knowledge (for example, Berger &
Luckman,1967; M.D.Young,1971; Bowers,1974), and Marxist
analyses of schooling (for example, Althusser,1971; Bowles &
Gintis,1976; Dale et al,1976) should be noted.

Of particular significance to my own awakening interest was
partly the literature on sociolinguistics
(Stubbs,1976,1980), but more dramatically that of
psycholinguistics (Britton,1970; K.Goodman,1973;
F.Smith,1978), because the psycholinguists gave a fresh
dimension to the debate about language and learning, placing
emphasis on the notion that we **talk** to learn, **read** to learn,
and **write** to learn. The Bullock Report, A Language for
Life, commissioned by the Department of Education and
Science in Britain, published in 1975 and introduced to
South Africa in the same year, gave official sanction to the
idea that group work was good practice and that talk by the
children was important. The idea that every school should
have a policy for language was mooted (Flanagan,1980), and a
series of in-service courses, discussions and talks were set
in motion. I personally spent two years (1977 & 1978) as an
itinerant adviser on and demonstrator of group work and the

kinds of reading and talking tasks that should happen in
primary school classrooms.

Underlying this activity, I think, was a notion of
democratic practice and the `common good'. The title of
David Bridges' book, Education, Democracy and Discussion
(1979), on group work and the importance of talk captures
well the intentions. He, and others, argued for learning to
respect each other's opinions, for standing outside our own
knowledge and seeing it as relative, for developing social
skills, for recognizing the worth of others, and so on, a
distinct emphasis on the moral worth as opposed to the
academic worth of such organization and activity in the
classroom. An extract from a discussion between the class
teacher and myself (18.6.85) illustrates the emphasis on the
social:

Wendy   You see, what I have noticed recently with the
            children in that collaborative situation is that
            they have learnt to accept leadership within a
            group.
Teacher   Ja, as long as it is not strongly imposed, it's
            almost a natural thing.
Wendy   Somebody's going to have a louder voice, so
            everybody is happy about it and will go along with
            it and will be very tolerant of it, until it
            reaches a point where they can't accept anything
            that the person's doing, and will either disappear
            or lose patience or take over leadership, and that
            I found very interesting. That didn't happen
            originally. And the other thing that I find so
            powerful is the way they seem to move so casually
            from group to group and join it with no problem.
Teacher   Yes, there's that constant flux.

Wendy   Yes, and offer a comment which is often listened to, or considered, or included and so on. That kind of tolerance of everything. I have no more of "Don't copy us, you're looking". And "Don't tell anybody", and secret codes and so on. Now, I have seen no evidence of that recently.

Teacher   Even in a test situation when we have to test, they used to always put up books, now they've stopped doing that as well, because they accept that `I'm sitting in a group, but this is my work'.

Wendy   Clearly group work teaches social skills which one uses elsewhere without even knowing one is. What has interested me in the last few lessons where I've just been sort of neglected in a corner, because they don't need me at that stage, was the way in which they learnt to listen to each other. They're not dominating everything with, "This is what I want to say, so you all keep quiet, and I'll do all the talking". There is that skill of listening to other people and the appreciation that other people actually have something valuable to say.

Teacher   And they do listen avidly.

Wendy   And they do listen, and they do take cognizance of what is being said. That I find very powerful because one could almost say that they are learning to see their own knowledge as relative, and to be able to stand outside of their own knowledge and consider other people's knowledge.

Teacher   Ja, and that sharing thing that comes through with it. I think that they are very conscious of the fact.

So in a way, this was further evidence for what I already believed, that group work encourages the development of

certain (approved) behaviours and attitudes. But, as
indicated earlier in this chapter, what is dramatic for me
in this process of critical reflection, is my deeper
understanding of the social nature of learning. Group work,
or more accurately in this case, collaborative learning,
holds much more theoretical and practical significance for
me now than it did previously.

For example, People's Education has argued consistently for
schools qua schools to be seen as sites of struggle where a
radical pedagogy can take its place as a means of
facilitating social change. In the debate about
methodologies it is consistently argued that collaborative
learning is an essential approach in the classroom (UWC,
People's Education,1987), and an educational methodology to
be fostered in all spheres of learning. Soudien et al
(1989,p7) write:

> There is common agreement [about the educational
> methodology of People's history] that ... one of the
> ways in which students engage in history themselves is
> through collaborative learning and group work, which
> allows them to become `critical agents in the learning
> process', sharing responsibility for it with their
> teachers. Replacement of the rote learning and
> transmission mode so deeply engrained in the Bantu
> Education model becomes an important objective of
> People's history.

At the level of rhetoric this is a fine sentiment but we
need to spell out much more clearly exactly what we mean by
"collaborative learning and group work". Soudien et al
(1987,p10) argue that a factor that will need careful
consideration is "the difficulty of examining collaborative
work, to accord it the status it requires". They stress
that a mark per fact type examination is popular in present
examining practices, so that the challenge facing any future
examining authority is "to create an examination with a

status and function which will allow it to influence the
whole school history curriculum, and at the same time
satisfy both the aspirations of students and expectations of
employers" (1987,p9). The problem with their argument, as I
understand it, is that they conflate the notion of
collaborative learning with the notion of group work. While
these two notions are not necessarily mutually exclusive,
they do not necessarily draw from the same theory of
learning and understanding (for example, group work is an
established practice in junior primary schools in this
country for social integration purposes, rather than for the
development of higher mental functioning, see Natal
Education Department Handbook for Junior Primary
Teaching,1978).

I want to suggest that if we had a firmer grasp on the
psychology of other-regulation and self-regulation in higher
mental functioning, we would not necessarily perceive
`difficulties' in the way that Soudien et al, and others do.
If we are to argue that other-regulation is a necessary and
vital aspect of the learning process and that the perceived
goal is self-regulation and independent problem solving (or
formal operational thought), then surely (if certification
is seen as an important function of schooling) it is quite
possible to examine certain features of the learning which
takes place in schools. But this purpose of schooling
should not be confused with another possible purpose of
schooling in a transforming society in which collaborative
learning is encouraged, not only for its moral teaching, but
also for the value of this kind of regulation in the
development of mental functions. Why would it, or should
it, (or could it?) be necessary to examine collaborative
learning? Is not collaborative learning the procedurally
dynamic thing to do in order to generate self-regulation,

which could then be examined? Earl (Appendix C,pC-11) articulates this idea of self-regulation when he says:

> Well with Ms S we were in groups. You can compare each other's thought, which is quite good. But with Ms V's teaching, she gave you everything, and made it so easy when it came to the exams, everything would be easy. But Ms S would let you compare your thoughts in groups, and then when it comes to exams, then you are not in groups, then you have to try and work it out yourself, which is quite good.

In other words, a more serious consideration of the zone of proximal development and the generative mechanisms for independent thought is imperative if we are to advance in any way in our understanding of critical pedagogy. Further comment from the children on collaboration illustrates the confused understanding we have about learning and what counts as learning (Appendix C,pC-7ff):

Wendy   Are you suggesting that you learn better when you work on your own?

Colin   What generally happened was, when you were working in groups, if you had somebody in your group, it tended to work out that the person, if we had a group of, just say, Byron, Paul and I and perhaps Chieh-hwa, and it was a maths group for the day, we would probably give Chieh-hwa all the work and he would do all the answers, and then we wouldn't do anything, so we wouldn't learn anything from that. Whereas if you are learning by yourself you are forced to. If you have a project to do, you have to do that project, or if you're working by yourself, you have to do that.

Wendy   Could I chip in and say that in the lessons that I ran, you were working in groups, did the same thing happen there, that only one person did the work?

Colin   Sometimes, it depended. If you had a group of two, or three, generally you had to work together. If it was a group of one or two or three, it was such a small group you had to work together. But as soon as you got a big group, you started finding that ... only the few ... the ones that wanted to work would work, the others who wanted to take the day off, would just take the day off.

Wendy   Is there anything wrong with taking the day off?

Colin   Yes, you're not learning. Your parents are actually just wasting their money ...

* * * * *

Ruald   When you worked with Chieh-hwa you had to be at the same level of intelligence with him, otherwise you wouldn't know what he was doing.

Wendy   Were you able to learn from him?

Ruald   Yes, Ma'm. Sometimes. But sometimes he went in such complicated ways, you hardly learnt a thing.

I have come to realize the crucial significance of mediation and how important it is to create a zone of proximal development in the instruction process. While I have identified certain mediational operators in this project, I did not give sufficient attention during the research process to the kinds of mediation necessary for the effective generation of learning in group formations when someone other than the teacher acts as significant other or mediating agent. I am also (now) aware that, as Slonimsky phrased it to me in a workshop discussion (Flanagan, 1989), "If we could phrase what we are learning, we would say that we weren't learning". I take this to mean that in the

process of learning we are unable to say what we are
learning, which makes it extremely difficult to articulate
exactly what it is we are about. This allows me to
appreciate more the inappropriateness of much of my
questioning of the children in reflective moments of the
action cycle. I often asked, "What have you learnt?", and
was often dissatisfied with the "answers". However there
were some interesting effects of the democratic practices we
were attempting. I draw again from the discussion I had
with the class teacher in June 1985:

Wendy   I would like to conclude that they are
               recognizing, without being able to necessarily
               articulate it, but are innately recognizing it.
               It's become part of them that collaborative
               learning is a powerful means of learning. It's
               becoming a natural attitude.   .

Teacher   And the thing is, I think, that you actually try
               and explain what you're doing. In the beginning
               they weren't quite sure what you were doing, [but]
               they are definitely more aware of what you are
               doing there and why. ... I have quite a few
               mothers saying that they're very worried that
               their children are so confident now, and it's now
               bothering them in the home because the children
               voice their opinions too much. Someone like Simon
               or Byron. Because Mrs Wills says she doesn't like
               Simon's new attitude. He's too positive about
               everything.

Wendy   ... now being seen as precocious?

Teacher   Ja, she didn't go that far but she's obviously
               implying that.

Wendy   Do you think other parents are thinking that
               they're inheriting super-brats?

Teacher   I don't think she [Mrs Wills] found him totally
               brattish, but she was definitely threatened by the

fact that he was questioning things in the home.
Mrs Elliott, she wasn't talking about "brattish",
she just said that she noticed that Byron will
actually disagree and it does bug them. I think
they do feel threatened, and Byron's a fairly
diplomatic person.

There are probably others that I'm not aware of,
because they are very confident. I think it
worries Ron [the headmaster] sometimes, because
they don't all jump to attention when he walks
into the class. So it obviously rubs off on all
of them.

Wendy   So are you saying then that these children have
the confidence to question decisions or indeed to
make decisions?

Teacher   I'll tell you what's interesting. You don't know
Colin very well, he's only been this year. I
think he was at Milnerton Primary all his
schooling. His parents came last term, they said
they're very worried about their child because his
past teachers say he never talks, he never takes
part, you know, terribly withdrawn. And then he
came here, and I left him alone because he was
gentle, and eventually he opened up. In a
discussion he is always there, he's opened up
totally. [see, for example, Colin's contributions
in Appendix C.] At the PTA on Monday his mother
said that she is so thankful for the fact, that
she thinks it's group teaching, because Colin is a
different child, she says he has changed, so much
more confidence.

The idea that learning is controlled by the learner
presupposes that knowledge is not transmitted directly from
teacher to learner, but that it is constructed by the

learner. It demands that both teachers and learners
recognize that the subject matter of learning resides
outside their "circle of intimacy" (Rowland,1984), rather
than exclusively in the teacher. It demands much more
appreciation of what is meant by a "community"
(Britton,1985) in the context of teaching and learning.

In my attempt to link the argument for cognitive conflict to
the argument for inner speech in the shift from other-
regulation to self-regulation, I have come to recognize how
much more we need to know about cognitive processes in order
to shape a critical pedagogy with any confidence. This
means that in our research endeavours we will need to go
beyond the dyad in furthering our attempts to theorize about
teaching and learning.

Finally, my developing understanding of the
teaching/learning dynamic has meant that I am much clearer
now about my reasons for defending instruction as a function
of schooling. By this I mean that any pedagogy which wants
to be critical in practice and liberatory in intention, will
need to pay much closer attention to the responsibility that
the teacher has to instruct in both emancipatory forms of
knowledge and appropriate forms of behaviour. Given the
history of a South African state which has used both
Christian National Education and Fundamental Pedagogics as a
form of ideological control, the challenge for teachers is
to become radical in, and critical of, their practices.
Reworking the notion of authority in emancipatory ways
includes a better understanding of the teacher as mediating
agent in the context of knowledge construction. Accepting
that she has an authoritative position in schooling, but
developing a dialectical approach to this position, she can
move beyond the rigidity inherent in authoritarianism and

the presumed egalitarianism of laissez-faire approaches to authority. A critical pedagogy, in all of these ways then, is one in which the teacher is an active agent in social transformation.

This chapter has tried to set out the limits and possibilities of a theory of teaching and learning. It has presented argument for the centrality of teaching in learning, which is saying that in the link between authority and emancipation the role of the teacher is crucial. The next (final) chapter becomes a problematic of action research and validity within the framework of critical pedagogy.

CHAPTER NINE

ACTION RESEARCH AND VALIDITY

This final chapter arises historically from the
research process and critical reflection on these
processes. It sets out to suggest ways in which
validity may be conceptualized in accordance with a
non-positivistic research strategy such as action
research. The chapter returns to the argument for a
particular notion of professionalism and proceeds to an
argument for a reflexive and dialectical formulation of
validity in action research. Validity of the processes
of action research, and validity of the descriptive
accounts of action research are considered. The
chapter concludes with comment on the reading of text
and how validity should be viewed in the context of
this written attempt of my own action research project.

The contradictions in the relationship between orthodox
social science and the social world which is its topic and
its resource are recognized in the attempt by action
research to reformulate this relationship. I have argued,
particularly in Chapter Three, that by adopting an anti-
positivist stance action research may, through a reflexive
and dialectical formulation, contribute to social inquiry as
a project, a project which Popkewitz (1984,p102) views as a
"new attempt by people to confront the strains and
contradictions of their existence".

In an attempt to move beyond concepts and constructs central
to traditional (educational) research, I wish to consider
how, in the project of action research, `validity' might be
conceptualized - that is to say, a conceptual understanding
of validity that is in accordance with its own inherent
problematic, and in accordance with an alternative, non-
positivistic research strategy. In order to highlight the

crucial necessity for a reflexive and dialectical
formulation of validity in action research, I shall first
place this consideration in the context of the notion of
professionalism that I have argued for in previous chapters.
Then I shall discuss the need for a reflexive and
dialectical formulation of validity of (a) the process of
action research, and (b) the descriptive accounts of action
research. This will be followed by argument for a
particular reading of text and claims for the validity of
that reading.

Professionalism and improvement.

I have argued, particularly in Chapter Two, that the
teacher, acting as a transformative intellectual, develops a
notion of professionalism that makes the political more
pedagogical and the pedagogical more political. But I have
pointed out that her task is also to ensure that the
politicization of educational discourse does not lead to the
detrimental neglect of educational issues. It is in these
two senses that improvement of practice must be viewed and
the notion of professionalism developed. A teacher has
knowledge, not only through her degree or diploma, but also
through an understanding of pupils' learning and how it
works. Her expertise is derived and developed precisely
because of her insertion into the everyday practices in the
classroom, an expertise which no outsider can expect to
have. The authority that she derives from this expertise
must always entail self-conscious analysis and development
as a necessary part of the interpretation of that expertise
in each specific instance. The authority derived from
expertise is therefore always open to question. How she
questions this authority and the methods she adopts to
research her practice are precisely what is at stake for a
teacher acting as a transformative intellectual. A teacher

wishing to transform her practice and, therefore, wishing to explore the possibilities for transformation (the practices that are, in a sense, `at risk') must use a coherent (valid) set of methodological principles to guide her inquiry. As part of that formulation the principles of reflexivity and dialectics need to be seriously considered.

Reflexivity and validity of the processes of action research.

In Chapter Three I argued for the epistemological radicalism of action research, radical in that it would treat rationality as critical and dialectical, rather than as interpretive and descriptive. What a reflexive action research would propose is a move away from theories which prescribe and justify an interpretive basis for action towards a reflexive awareness of the dialectic between such theory and action. Reflexivity ensures that the theory generated in the inquiry is located in the particular historical circumstances and social contexts of the inquiry. I view this as crucial if action research is to enable teachers to reflect critically on the contradictions between their educational ideas and beliefs and the institutionalized practices through which these ideas and beliefs are expressed.

In this attempt to write about my research project I have tried to use reflexivity as an analytical tool by recognizing it as a basic mode of ordering and presenting communicative adequacy, on the assumption that what language users share is a quality of reflexivity. In conventional research reflexivity is glossed, or veiled, in the attempt to transform interpretation into scientific knowledge. In action research it is by analyzing the reflexive dimension

of communicative acts that their grounds are, in principle, revealed. In this way `validity' is approached by looking at the form and nature of communication itself, that is, looking at the very conditions of its possibility. Both reflexivity and dialectics are fundamentally significant as principles

> for the understanding of both language and consciousness, which must indeed be presupposed as conditions for the possibility of social inquiry, if not for social life itself (Winter,1987,p6).

In this sense `bias' is confronted by an examination of the theoretical basis of the communicative act in the reflexive structure of the relation between subject, symbol, and object. Validity, in other words, becomes a quality of the interpretive process whose grounds are adequately theorized, "rather than a quality of a particular interpretation which itself can claim to be everyone's interpretation" (Winter,1987,p125).

McNiff (1988), in her action research project, gives three steps towards establishing the validity of a claim to knowledge - self validation, peer validation, and learner validation. Self validation comes through intentional critical reflection and disciplined inquiry. In "making public his (sic) particular form of life", the individual "invites others to share that form", and in this way "they validate his way of life and his claim to knowledge" (1988,p133). Through the Habermasian principle of dialogue in social communication (p134) peer validation is accomplished. Learner validation is accomplished by getting on record the reactions of the "clients" (sic) themselves. These reactions, she suggests, may be presented "in short written statements, diaries, or tape or video recordings" (p135).

McNiff seems to suggest that the `life' of the group (self, peers and learners) exemplifies the problems of human relations, such that "a claim to valid knowledge may be realized only through interaction" (McNiff,1988,p136). With this claim to validity she neglects the theoretical `life' of the group that a reflexive analysis would add. In other words, a reflexive analysis would note rather that, in attempting to address the `problems of human relations', those same problems would manifest themselves, so that the theoretical `life' of the group would exemplify the problems of attempting to address the problems of human relations. To put this another way, McNiff's work presents a particular notion of community, one in which the group is central to the building of consensus. The assumption that social consciousness is the major determinant in social action and development of meaning is therefore unexamined, and so the macrostructures in social life are glossed.(see also Sharp & Green,1976; and Sharp,1986, for a criticism of this kind of interactionist methodology and its lack of political rationale). Finally, then, when McNiff states that she knows that she has improved the process of education for herself and for the students in her care (1988,p133) we are left with the question `What are the structures and the limits of this knowledge of improvement?' In her claim for validity McNiff relies on glossing procedures for intelligibility, procedures which a reflexive analysis would take as its topic.

If I am to adopt a reflexive stance to my own work I cannot claim (or adopt) a viewpoint on the basis of an elaborately justified adjudication between members' (mine, the pupils', the participant observers') interpretations, for this returns me to the situation of `the strongest/best argument wins'. To this extent any justification of a particular preferred viewpoint will be polemical and, according to

Heidegger (1968), unlikely to constitute nor to develop clarification. As Heidegger says:

> Any kind of polemic fails from the outset to assume the attitude of thinking. The opponent's role is not the thinking role. Thinking is only thinking when it pursues whatever speaks <u>for</u> a subject (in Winter,1987,p128,original emphasis).

Thus polemic asserts the adequacy of one interpretation over another. By adopting an oppositional stance the validity of one interpretation can immediately be contested by the intelligibility of another.

Instead, I must question my own interpretation along with others and pose as problematic the grounds of all perspectives, for a reflexive interpretation is the language of questions. This should not imply an antagonism to all the perspectives, but rather a questioning which speaks **for** its interlocutor. In other words a reflexive interpretation operates within a problematic, within a theoretic space within which discourse can proceed under the auspices of theoretic grounds which may be shared (as I try now). It is these shared grounds that may come to be agreed "as <u>valid</u> theoretic grounds for the whole set of interpretations at issue" (Winter,1987,p128,original emphasis). Most importantly too, I would argue, is that it is only in this way that the criticisms levelled by Sharp and others about the neglect of macro structures can be addressed. The withdrawal from interpretation to problematic creates a potential political space allowing for the possibility of transformation of action.

Drawing from my own study this would mean, for example, that the metaphor of `negotiation' (in Chapters Five and Six specifically) shifts the criterion of validity from consensus concerning a particular agreed view of classroom

practice, to consensus concerning theoretic grounds for a
plurality of interpretations. This distinction is an
important one for the project of action research for
`negotiation' is a dangerous metaphor. As Popkewitz
(1984,p102) has pointed out:

> The idea of negotiation affirms ... beliefs in
> individualism and political life as organized through
> social contracts. It suggests that institutions can be
> changed through processes of negotiation and that
> reality is that which is defined solely through the
> intersubjective processes that occur in particular
> situations. The idea of negotiation <u>denies</u> any
> overriding objectivity in society by focusing upon what
> individuals do in interaction with other (original
> emphasis).

By focussing on the negotiated actions and the specific
discourse of interaction we end up `describing' reality, and
in this way the metaphor is mistaken for the things
interpreted. It is with this understanding that the
possibility for change as suggested by reflexive questioning
would need to be formulated analytically, rather than change
as mere contingency. It is in this context that the
significance of the dialectic can be formulated as a basis
for critique and thus for transformation.

Dialectic and validity of the processes of action research.

In Chapter Three I argued that contradictions give reference
to the principle that life involves a unity of mutually
exclusive opposites. Actual experience always contains
contradictions that cannot be resolved through formal
logical operations. The problem of contradiction merges
into that of dialectics, for dialectics direct attention to
the world in motion, to development as central to thought
and nature. Every substantive change manifests itself as a
change in relation to the whole and to itself, thus changing

the form of objectivity. This notion of change has
implications for understanding social transformation. In
looking for invariant determinants, there is also the
discovery of differences, and it is in this discovery that a
single concrete situation can claim a validity beyond that
of a possible interpretation of a mundane actor's
perspective.

McNiff (1988) claims validity through "dialectic logic"
which she describes as "the logic of question and answer".
She explicates this dialectic as something that operates in
a Habermasian understanding of dialogue. She explains that
her claim to knowledge rests on agreement together that:

* what I say about my practice is true;

* that we both use words and expressions that we both
understand;

* that we are both sincere and will avoid any
deception;

* that the situation is right for us to be discussing
this issue (1988,p135).

Nowhere does she raise these four "agreements" as
problematic, nor does she show how the dialectic assists as
a process of theorizing any difference in terms of
contradiction. In this way she is able to conclude that in
the final analysis "interaction" is what makes a claim to
knowledge realizable (p136).

McNiff's (1988) recommendation of the use of triangulation
may be seen as a specific illustration of an attempt to get
to "the heart of the matter in pooling information and
perceptions" (p84). Following on Elliott (1984) she views
this strategy as a process of "obtaining information on a
subject from three or more independent sources"
(McNiff,1988,p15 & 84). However, this view sees the

"subject" as being the same for all these "independent sources". In my own presentation of triangulation as a research strategy I have tried to argue that this strategy should not be seen as merely a listing of multiple interpretations from which a choice may be made, nor for the construction from them of a further transcendental interpretation. Rather have I attempted in the writing of this project to suggest that these interpretations be structured in terms of a principled conception of difference - that is, a principled conception of difference in terms of contradiction which leads to dialectic as a process of theorizing. For example, what do I mean when I talk about `authority', and from what position within the hierarchical structure of schooling do I speak about `authority'? What do the children mean when they speak about `authority', and from what position of knowing do they speak ? Where are the contradictions in a consideration of `authority'? and so on.

Triangulation is, and should remain, an important research strategy, for underlying the image of triangulation is the desire to create validity through the structure of inquiry, rather than by the multiplication of the objects of inquiry. As Winter (1987,p130) explains:

> For action research and case study, the object [of inquiry] is non-replicable - only by comprehending the structure of the object as the set of differences which constitute it, can validity be claimed in terms of generalizable structure.

However, action researchers are concerned that this structure should be grounded in the object of the inquiry, rather than, as in positivistic research, an independent set of categories brought to the inquiry. It is for this reason that Winter (1987,p130) raises one of the major questions of the dialectic: where are contradictions located?

The principle of contradiction allows for recognition of the tension between theory's desire for clarity of exposition, the complexity of its object, and its relation with that object. Formulations of the role of contradiction in social analysis must embrace this complexity and render problematic the complexity of categories such as symbol/object, and thought/reality (Winter,1987,p130). The point is that the reflection of reality is not static, it is in a continual process of movement. As Lenin explains:

> The reflection of nature in man's thought must be understood not `lifelessly', not `abstractly', not devoid of movement, not without contradiction, but in the eternal process of movement, the arising of contradictions and their solutions (quoted in Youngman,1986,p54).

The role of human activity - praxis - in the process of knowing is, therefore, very significant, for contradiction is that principle of ontology which makes obvious the fact that the concept does not exhaust the thing conceived (Adorno in Eagleton,1976). It may be said that dialectics proposes a way of encompassing the complexity of social experience, and the complexity of attempts to understand social experience. In this way dialectics can be a structuring principle which allows for the essential heterogeneity of the concrete.

What this means to the action researcher, or teacher-researcher, is that she must recognize that she herself is a cognitive subject, and that her own interpretations take on a quality of `identity' as soon as they are expressed. In the end, then, my own work must accept inevitable disintegration for it must face the resistance of what Adorno calls "otherness", and thus always be inconclusive. This is appropriate to the nature of action research, for action research is constituted in a dialectic between action and theory and thus does not wish its inquiry to provide a

conclusive prescription for action. Action research always invites and requires further phases of action research itself (see Chapter Three).

By this route we can begin to formulate a constitutive relationship between the principles of reflexivity and dialectics, and on this basis formulate the validity of the **processes** of action research. It is within this formulation that a formulation for the validity of action research's descriptive accounts of situations must be sought. I plan to develop this argument by first referring to the notion of `thick description' in the creation of data (the principle of dialectic), and then to the notion of text as requiring the production of meanings through the active participation of the reader (the principle of reflexivity).

Dialectic and validity of descriptive accounts.

The term `thick description' originates with Ryle and has been elaborated by the anthropologist Clifford Geertz (1973). Ryle (in Geertz,1973,p6/7) considers the behaviour of a rapidly contracting eyelid to make his point. The rapidly contracting eyelid may be an involuntary twitch, but it could also be a conspiratorial signal to a friend. While the movements (of an eyelid twitching or an eyelid winking) are identical, the differences are substantial, for the winker is communicating in a quite precise way, which the twitcher most definitely is not. Ryle pushes the cultural meaning even further when he proposes that a third party may parody the twitch and do so also by contracting the eyelid - only this party is neither twitching nor winking but parodying, so that this socially established code means not conspiracy but ridicule. This could be further extended to the satirist practising in front of the mirror, and so on.

The point Ryle is making is that between the thin
description of what, say, a parodist is doing (rapidly
contracting an eyelid) and the thick description of what he
is doing (practising a burlesque of a friend faking a wink)
- the cultural categories - lies the object of study.

Geertz argues that positivism seeks valid description by
reducing phenomena to the "thin-ness" of behavioural terms
so that winking becomes "rapidly contracting the right
eyelid" (1973,p5 & p12) and declares this an unhelpful
formulation of validity for social inquiry, for it evades
the social significance of the action in question. He
argues that the description of social actions must be at
least as thick as the meaning of the actions described, for
the meaning is constituted essentially in the dialectical
intersubjectivity and interplay of cultural symbols. Geertz
enhances his argument for a more rigorous use of theory by
means of thick description by drawing from the work of
Ricoeur, who asks, "What does writing fix?" Ricoeur argues
that what we write is the "noema", the "gist", of speaking.
It is the meaning of the speech event, not the event as
event (Geertz,1973,p19). The office of theory, for Geertz,
is to provide a vocabulary in which what symbolic action has
to say about itself - that is, the role of culture in human
life - can be expressed (1973,p27). This expression (or
interpretation) can never be finally "verified", for it is
"essentially contestable". According to Geertz (1973,p29),
"Cultural analysis is intrinsically incomplete". In other
words we can say that description may be considered as a
hermeneutic experience, for interpretation is caught up in
an endless dialectic of question and answer.

The interpretation of data given in the descriptive accounts
of my work should be validated within the argument for thick

description presented here. While I have argued that
interpretations are essentially contestable, this does not
mean that (my) interpretation becomes in principle a matter
of private opinion (a form of reductionism). On the
contrary, meaning is "public", these descriptive accounts
that I write are culture made public. The accounts do not
have a self-contained reality of their own, for that would
be a reification (Geertz,1973,p10-12), but meaning has
rather to be understood as constituted in the dialectical
intersubjectivity and interplay of cultural symbols. Thus,
although (my) interpretations can never be "verified", they
can always be "appraised" (Geertz,1973,p16) for thick-ness,
and this appraisal itself becomes a further interpretation,
which is available for further appraisal in the endless
dialectic of inquiry.

Reflexivity and validity of descriptive accounts.

Levi-Strauss (1966) provides a useful way into the
problematic relation between concrete experience and
validity of meaning with his notion of "bricolage". He
explains that the bricoleur is a sort of handyman (sic) who
will use whatever comes to hand to do a job by inspired "ad-
hocism" rather than with purpose-made parts. Primitive
thought uses pre-existing objects to serve new intellectual
purposes. This use of existing elements in a new way
transforms the elements of thought into **signs**. What happens
is that basic elements are used in a variety of improvised
combinations to generate new meanings within them. The
structures which are formed by these elements are improvised
or made up as ad hoc responses to an environment. They
serve to establish homologies and analogies between the
ordering of nature and that of society, and so
satisfactorily `explain' the world. The bricoleur relocates
a significant object in a different position within a

discourse, using the same overall repertoire of signs, which
constitutes a new discourse and conveys a different message.
In other words, the bricoleur carries out an essentially
reflexive review of biographically situated resources and
their possibilities. That is to say that bricoleurs, unlike
the positivists, know that those resources are their limits,
and in that knowing recognize the possible achievement and
the necessary limitation of the social researcher's
descriptive account.

Levi-Strauss's notion of a bricoleur allows for the
reformulation of concrete description in terms of an
analytical and reflexive strategy based on the multiple
meanings of the culturally defined sign. The criterion for
validity of his theory, then, is intelligibility, rather
than verification or falsification. In this sense Levi-
Strauss constitutes validity as a provisional, essentially
temporary achievement. To translate this to the intent of
the teacher-researcher is to say that the teacher-researcher
in interpreting the social world, and when acting as a
bricoleur, would know the limitations of her resources and
achievements, as constituted by what is available to her in
the context in which she practices. She would adopt a
reflexive review of resources in schooling and their
possibilities and would not claim universal validity for her
work. She treats "the concrete" as the inevitable habitat
of social inquiry (Levi-Strauss,1966,p28), a habitat which
delimits cognitive resources as culturally constructed and
contingently available. This teacher would constitute
validity as a provisional, essentially temporary
achievement.

Also interesting from Levi-Strauss's work in attempting to
come to an understanding of action research, is the explicit

reflexive dimension of his work in his thesis that human beings need to form relations with nature and to mark themselves off from it. This complex relationship between nature and culture is expressed in the form of myth. When understood as part of a corpus, myth is seen to carry messages about the organization of nature and culture, and about their interpenetration and difference. In Chapter Six I suggested that action research writing concerns itself with the relationship between descriptive structuring and aesthetic form. The value of Levi-Strauss's argument, as Winter (1987,p138) points out, is that he provides a level of analysis which can encompass the aesthetic "as a mode of comprehension and expression in juxtaposition to other forms of symbolization". Levi-Strauss's proposal is that the expression itself is the structure, for he is concerned with how myths "think" in people. In short, he suggests that we should study systems of relationships, not symbols but symbolic systems. He sees three constitutive contingencies to this structure - the occasion of the work, the execution of the work, and the purpose of the work:

> The process of artistic creation therefore consists in trying to communicate (within the immutable framework of a mutual confrontation of structure and accident) either with the model or with the material or with the future use (Levi-Strauss,1966,p27).

This argument of Levi-Strauss's enables us to envisage a reflexive description as one which makes explicit the relation between its own structure, its symbolic resources, its audience and the events which are its topic. By concerning itself with both the "material" and the "future use" (the audience for the symbolic process), the "model" allows a reflexive formulation of the aesthetic. This parallels action research's aim to transcend positivism by addressing the principled relation between action and theory (the "materials" of its research process), and between

research and its audience, that is, the possibility of the
teacher-researcher as one who is simultaneously artist and
audience (a similar point is made by Winter,1987,p139). The
system of relationships that Levi-Strauss stresses is seen
in the relation between expressive processes, audience, and
theoretic resource.

Significant support for a reflexive formulation of the
aesthetic may be found in the work of Barthes (1977). He
contends that bourgeois writing is not innocent. It does
not simply reflect reality, in fact it shapes reality in its
own image, acting as the institutionalized transmitter of
the bourgeois way of life and its values. He sees myths as
forms of representation in which ideological meanings come
to seem natural. Barthes argues that conventional criticism
aims at a closure of troubling plurality, it aims at finding
a source (the author) and an ending, a closure:

> The explanation of a work is always sought in the man
> or woman who produced it, as if it were always in the
> end, through the more or less transparent allegory of
> the fiction, the voice of a single person, the author
> `confiding' in us (Barthes,1977,p143,original
> emphasis).

For Barthes it is language which speaks, not the author -
"language acts, and not `me'". He draws from linguistics to
argue that "language knows a `subject', not a `person'"
(1977,p145) and in this way he "destroys" the author. The
author is not the subject with the book as predicate, "there
is no other time than that of the enunciation and every text
is eternally written here and now" (p145,original emphasis).
And so for Barthes the relationship between writer and
reader is a complex social and political affair. The text
has no unitary meaning injected into it by a unitary author,
rather is there collaboration in the construction of

meaning. Author-itative meaning is no longer "what (we think) the author meant"; instead, the closure of the author's descriptive work is transformed into the open-ness of readers' (critics') interpretive interaction with a text (p156). Barthes calls this kind of writer an "ecrivain". (1) The ecrivain is a materialist, working with the materiality of language, so that the finished work is not a product of magic and inspiration, but of intellectual labour - the production of a text. The text, in this understanding, requires the production of meanings, the active participation of the reader. Following on Brecht, Barthes (1977,p145) argues that the goal of literary work is to make the reader no longer a consumer, but a producer of text. The simple notion of reading as a revelation of fixed (the author's) meanings is abandoned in favour of the notion of a text as having a potential range of meanings all of which are historically sited.

The way in which action research can benefit from this argument regarding literature is not, therefore, to borrow literature's realist claims of validity through typicality as an alternative approach to the generalizing format of scientific positivism. This sort of claim for validity is made, for example, by Elliott (1984) and Walker & Adelman (1977) in their argument for narrative form in action research writing. Instead, by analogy with a modernist aesthetic, action research's claims to a theoretic stance can be made through an explicit recognition of the reflexive form of its own process of accounts.

---

(1)Barthes (1977) makes a qualitative distinction between two sorts of writer. The ecrivant is a "transitive" writer who produces a readable work; as reader we do not rewrite this work, but simply read it from start to finish (he uses the work of Ian Fleming to illustrate). The ecrivain writes a text which is "scriptible" because the reader, as it were, rewrites it as she/he reads it.

<u>Reading of this descriptive text (dissertation) and</u>
<u>validity.</u>

I want to try now to relate the above considerations to a
possible set of principles for action research's descriptive
accounts, using my own construct (text) as example. The aim
of using my production of descriptive text is to attempt to
locate the contradictions within the text, the points at
which it transgresses the limits within which it is
constructed.

Thus far argument in this chapter has suggested that
    * a reflexive description can only seek validity
through a structure which embodies a principled recognition
of the problematics of its own possibility;
    * following Levi-Strauss, the scope of this
problematic, as applied to social inquiry, is given by the
relationship between the descriptive account and its
symbolic resources, its **audience**, and its **model** (the
experience described); and
    * the structure of each of these problematic
relationships is dialectical (after Winter,1987,p142).

Some of the **symbolic resources** for my descriptive account
are: the reports of actors' perspectives (mine, the pupils',
the participant observers', the class teacher's, the
triangulators'), curriculum materials, interpretive
theories, mediational operators, and narrative structures
which embody mythic/ideological patterns as the constitutive
`characters' and `plots' of the `anecdotal' events recorded
by me as teacher-researcher. The dialectical relationship
resides in the combination of intimacy and incongruity, of
similarity and difference between the various elements. By

this I mean the dialectical relationship between my ideals and the actual experiences, between what I would like to claim and classroom action, between long-term reflection and short-term reflection, and between the ideals, ideologies and reported experiences, and rationalized interpretations of the different participants.

The relationship between my description and such resources should be dialectical in that any claim to coherence must make explicit the dialectical play between elements, in a structure whose unity cannot be that of resolution and negotiated consensus. In other words, there cannot be authorial imposition in a reflexively conceived text. Following on Barthes (1977) I cannot institutionalize a particular interpretation, for any institutionalization acts as a potent "normalizing" force. In doing·this I would undermine the very attempt at what I understand a critical pedagogy to be. Instead, I should recognize the irony in my situation, an irony so necessary to unity of structure - my claim to know and my own ignorance in making that claim, and the recognition of the problematic relationship between education and politics, between what I say and the social position from which I say it.

I would like to feel that I have given cognizance to these relationships in the presentation of my work, that the descriptive account suggests the temporality of my understandings. As I see it, this text, as opposed to the actual classroom experience of which it is an account, is an attempt to juxtapose a variety of elements, of symbolic resources, in a dialectical structure which gives coherence to the production. Moreover, by recognizing the historical moment in which the description is situated, I come closer to being able to claim a validity for the work for I view it

as both contingent and provisional. I anticipate,
therefore, a continuation through amendment and critique by
its readers (including myself), since I intend this
description to have a dialectical relation with its
audience.

The relationship between the **audience** and this descriptive
account relies on the assumption of intelligibility to its
readers - the very process of writing is structured on this
principle. This act of communication requires the
dialectical structure of intersubjectivity, the kind of
intersubjectivity that I also tried to interpret in the
transcriptions of some of the interactions in the classroom.
In this sense it may be possible to claim validity through
`persuasiveness' of the way in which the description,
through its own processes, presents phenomena in such a way
that it is mutually transformative for both writer and
reader. In other words I have tried to give an account of
the work in such a way that it does not reduce the situation
to one of simple antagonism between `similar' and
`different', but rather that in presenting the phenomena in
a heterogeneous way I come closer to representing a
dialectical relation with a varied audience. Winter
(1987,p143) sees this persuasive task as a form of
objectivity when he argues that:

> `Objectivity' can be seen as the quality of a
> description which anticipates a constitutive dialectic
> with a highly varied audience, i.e. a description which
> structures a dialectical relation between a wide
> variety of its own heterogeneous elements, and thereby
> achieves persuasiveness for audiences which begin their
> reading of the description from a position of
> provisional identification with only a limited range of
> those elements (original emphasis).

In writing this text I have tried to allow for the contingent features of a varied audience through a heterogeneous presentation. While argument could be made that only teachers and teacher educators (a highly specific audience) would show interest in this work, I would suggest that because the subject matter is `pedagogy' it should attract a more varied audience who could begin to identify with some of the elements, and with whom a dialectical relationship could be anticipated. A relationship, in other words, which would not allow the reader to see the work as tendentious, or to see her/himself in opposition to the description, but rather for the reader to engage with it in the Heideggerian sense of speaking for the subject.

The **model** for this particular descriptive account is a set of classroom experiences, but the description is presented symbolically, that is, linguistically. I have already argued that language is not simply a representation of `the facts', the actual event, but a metaphorical reference to experience. It is a way of communicating an experience that others have not shared, a way of theorizing the experience. I cannot invite the reader to share the actual experience (although a reader who viewed the videoed material of some of those experiences might come closer to the actual event). Instead I must recognize that however `thick' my description is, it can never claim a literal or final correspondence with its object. It cannot capture exactly the tone, ambience, emotion, intuitive recognition and so on of the way in which the children and I interacted. Instead validity must lie in the recognition of the metaphorical structure of description. The dimension of validity, in this case, lies with a reflexively and dialectically conceived description - a description which is critically aware of its own possibilities.

If the structure of the hermeneutical experience lies in the dialectic of question and answer as Gadamer (1979,p340) has explained, then this needs to be evidenced in the description of action research. The research project in which I was engaged was a search for answers to the questions that I raised (and still do) in the attempt to improve my practice, but, and here the dialectic, the `answers' which I have suggested in my interpretation of the action in this description have, in turn, given rise to further questions within the text itself. The questions raised by my consideration of hegemonic pedagogical discourse may be seen as one such instance. In other words, in relating action and theory I have tried to be both writer and critic by including within the text itself a critical commentary of the text's own problematic and how its processes address that problematic.

In my interpretation of the dynamics of the zone of proximal development I would like to believe that I have offered some `thicker' explanation towards an understanding of the teaching/learning dynamic. However, I did use a scientific construct to do this, and I must recognize the limitations of such devices, for scientific devices impress as though they can give access to truth. This is a way of saying that the ontological status given to `pieces' of discourse in those identified moments of mediation can only have a momentary status. The open-ness of my description lies in the recognition that intelligibility is only possible through the reflexivity of language and the dialectic between reader and writer. The interpretation I offer of those mediational operators can only be seen as a moment in a continuing process among writers and readers who are also practitioners, who also seek to understand mediation within the process of instruction.

The validity of this text in this context lies not in its correctness, but rather in its adequately representing the conditions of its possibility. However, this should not be taken to mean that I cannot then take action on my reflection, for this would defeat the very purpose of action research. In deciding which of the possibilities made explicit through the open text would be a feasible strategy `now', the contingency of `correctness' (with its implicit ironies) would suggest certain procedures rather than others. This is to say that decisions will not be based on some kind of correspondence between the account and reality, but rather be guided by the principles of reflexivity and dialectic which lend coherence both to the account and to further action in the research process.

Finally, the collaborative nature of action research brings into focus those perspectives (teacher's and pupils') which are usually dismissed as irrational, uninformed, or unimportant. While the subjectivity of a primary school teacher may be socially constructed in ideologies and discursive practices, she none the less exists as a thinking, feeling subject and human agent, capable of resistance and innovations produced out of the conflict between contradictory subject positions and practices. As a transformative intellectual she is able to reflect, reflexively and dialectically, upon the discursive relations which constitute her and the pedagogical practices which define her work, and choose from the options available to her within those limits. Between the extremes of denial of the very existence of ideology, and the absolute determinism of ideology, lies the ability to intellectualize our work such that we are able to critique it for emancipatory ends. This fundamental optimism in the possibility of questioning

the structures of our thought through momentary acts of radical doubt gives coherence to forms of critical pedagogy and socialist transformation.

BIBLIOGRAPHY

Althusser,L.   1971. `Ideology and ideological state
                                apparatuses'. Lenin and Philosophy and
                                other Essays. New York, Monthly Review
                                Press.

Apple,M.   1979. Ideology and Curriculum. London,
                                Routledge & Kegan Paul.

Apple,M.   1982. Education and Power. Boston,
                                Routledge & Kegan Paul.

Apple,M.   1986. Teachers and Texts. New York,
                                Routledge & Kegan Paul.

Arendt,H.   1986. `Communicative power'.
                                Lukes,S.(ed) Power. Oxford, Blackwell.

Argyris,C; Putnam,R; McLain Smith,D.   1985. Action Science.
                                San Francisco, Josey-Bass Publishers.

Aries,P.   1962. Centuries of Childhood. London,
                                Jonathan Cape.

Aronowitz,S. & Giroux,H. 1985. Education under Siege: the
                                conservative, liberal and radical debate
                                over schooling. South Hadley, Bergin &
                                Garvey Publishers.

Ashley,M.   1987. `The School of Education: the
                                liberal tradition and the future'.
                                Young,D. & Burns,R.(eds) Education at
                                the Crossroads. Cape Town, University
                                of Cape Town.

Austin,D. & Tordoff,W. 1972. `The newly independent
                                states'. Parry,G.(ed) Participation in
                                Politics. Manchester, Manchester
                                University Press.

Barnes,D.   1976. From Communication to Curriculum.
                                 London, Penguin.

Barthes,R.   1977. Image, Music, Text. Glasgow,
                                 Fontana.

Barton,L. & Walker,S.(eds) 1984. Social Crisis and
                                 Educational Research. London, Croom
                                 Helm.

Behr,A.L.   1978. New Perspectives in South African
                                 Education. Durban, Butterworths.

Bellack,A.   1966. The Language of the Classroom.
                                 New York, Teachers' College Press.

Bellack,A.   1981. `Contrasting approaches to
                                 research on teaching'. Tabachnick,B;
                                 Popkewitz,T; Szekely,B.(eds) Studying
                                 Teaching and Learning. New York,
                                 Praeger Publishers.

Benne,K.   1986. `The locus of educational
                                 authority in today's world'. Teachers'
                                 College Record,88,1:15-21.

Bennett,N.   1976. Teaching Styles and Pupil
                                 Progress. London, Open Books.

Berger,P. & Luckmann,T. 1967. The Social Construction of
                                 Reality. New York, Anchor Books.

Bernstein,B.   1971. `On the classification and
                                 framing of educational knowledge'.
                                 Young,M.(ed). Knowledge and Control.
                                 London, Collier Macmillan.

Bernstein,R.   1985. Habermas and Modernity.
                                 Cambridge, Polity Press.

Bisseret,N.   1979. Education, Class Language and
                                 Ideology. London, Routledge & Kegan
                                 Paul.

Blenkin,G. & Kelly,A.   1981.   The Primary Curriculum.
                           London, Harper & Row.

Bloch,G.   1988.   Organization as education: the
                           struggles in Western Cape schools 1986-
                           1988.   Paper presented at Kenton
                           Conference, Woodstock.

Bolam,R.   1975.   `The management of educational
                           change: towards a conceptual framework'.
                           Harris,A; Lawn,M; Prescott,W.(eds)
                           Curriculum Innovation. London, Croom
                           Helm.

Bourdieu,P. & Passeron,J. 1977. Reproduction in Education,
                           Society and Culture. Beverley Hills,
                           Sage.

Bowers,C.   1974.   Cultural Literacy for Freedom.
                           Eugene, Elan Publishers.

Bowers,C.   1984.   The Promise of Theory. New York,
                           Longman.

Bowers,C.   1987.   Elements of a Post-liberal Theory
                           of Education. New York, Teachers'
                           College Press.

Bowles,S. & Gintis,H.   1976. Schooling in Capitalist
                           America. London, Routledge & Kegan
                           Paul.

Bray,M; Clarke,P; Stephens,D. 1986. Education and Society
                           in Africa. London, Edward Arnold.

Brearley,M.   1974.   `Open schooling: an
                           introduction'. Education 3-13,2:85-87.

Breen,C.   1984.   `Educating the gifted - the human
                           factor'. South African Journal of
                           Education,4:178-181.

Bridges,D.   1979.   Education, Democracy and
                           Discussion. Windsor, NFER.

Britton,J.   1970. Language and Learning. London,
                     Allen Lane.

Britton,J.   1985. `Second thoughts on learning'.
                     Language Arts,62,1.

Brown,L; Henry,C; Henry,J; McTaggart,R.   1981. `Action
                     research: notes on the national
                     seminar.' CARN Bulletin No.5.
                     Cambridge Institute of Education.

Bruner,J.   1966. Toward a Theory of Instruction.
                     Cambridge,Mass., Harvard University
                     Press.

Bruner,J.   1972. The Relevance of Education.
                     Cambridge,Mass., Harvard University
                     Press.

Bruner,J.   1974. Beyond the Information Given.
                     London, George Allen & Unwin.

Bruner,J.   1983. In Search of Mind: essays in
                     autobiography. New York, Harper Row.

Bruner,J.   1985. `Vygotsky: a historical and
                     conceptual perspective'. Wertsch,J.
                     (ed) Culture, Communication and
                     Cognition. Cambridge, Cambridge
                     University Press.

Bruner,J.   1986. Actual Minds, Possible Worlds.
                     Cambridge,Mass., Harvard University
                     Press.

Bruner,J. & Haste,H. 1987. Making Sense. London, Methuen.

Buckland,P.   1984. `Technicism and de Lange:
                     Reflections on the process of the HSRC
                     investigation'. Kallaway,P.(ed)
                     Apartheid and Education. Johannesburg,
                     Ravan Press.

Buckland,P; van den Berg,O; Walker,D.   1981.   The Education Debate.   Cape Town, University of Cape Town.

Cape of Good Hope   1973.   Teaching in the Primary School. Cape Education Department.

Cape of Good Hope   1979.   The Primary School Course Syllabus for History.   Cape Education Department.

Cape of Good Hope   1980.   Teachers' Guide for History. Cape Education Department.

Carnoy,M.   1983.   `Education, democracy, and social conflict'.   Harvard Educational Review,53,4:398-402.

Carr,W.   1987.   `What is educational practice?' Journal of Philosophy of Education,21,2.

Carr,W.   1989.   `Action research: ten years on'. Journal of Curriculum Studies,21,1:85-90.

Carr,W. & Kemmis,S.   1986.   Becoming Critical: education, knowledge and action research.   Sussex, Falmer Press.

Castles,S. & Wustenberg,W.   1979.   The Education of the Future: an introduction to the theory and practice of socialist education. London, Pluto Press.

Christie,P.   1985.   The Right to Learn. Johannesburg, Sached Trust.

Chisholm,L.   1987.   Sex, crime and punishment: South African industrial schools and reformatories for girls 1911 - 1934. Paper presented at Kenton Conference, Salt Rock.

Clark,C.   1988.   `Child-centred education and the `growth' metaphysic'.   Journal of Philosophy of Education,22,1:75-88.

Coetzee,J.   1975. `Christian National Education'.
                    Rose,B. & Tunmer,R.(eds) Documents in
                    South African Education. Johannesburg,
                    Ad Donker.

Cohen,L. & Manion,L. 1980. Research Methods in Education.
                    London, Croom Helm.

Cole,M. & Scribner,S. 1974. Culture and Thought: a
                    psychological introduction. New York,
                    Wiley.

Cosgrove,S.   1982. `Negotiating mathematics'.
                    Boomer,G.(ed) Negotiating the
                    Curriculum. Sydney, Ashton Scholastic.

Craig,A.   1985. Mothers and Children.
                    Unpublished doctoral thesis. South
                    Africa, University of Natal.

Craig,A.   1988. `Excellence in and through
                    education'. South African Journal of
                    Higher Education,2,1.

Curran,H.   1988. `Relative universals:
                    perspectives on culture and cognition'.
                    Claxton,G.(ed) Growth Points in
                    Cognition. New York, Routledge & Kegan
                    Paul.

Dale,R; Esland,G; MacDonald,M.(eds) 1976. Schooling and
                    Capitalism. London, Routledge & Kegan
                    Paul.

Dalin,P.   1978. Limits to Educational Change.
                    London, MacMillan.

Davydov,V. & Radzikhovskii,L. 1985. `Vygotsky's theory and
                    the activity-oriented approach in
                    psychology'. Wertsch,J.(ed) Culture,
                    Communication and Cognition. Cambridge,
                    Cambridge University Press.

Dewey,J.   1916. Democracy and Education. New
                    York, Macmillan.

Dewey,J.   1933.   The Quest for Certainty.   New
                            York, Capricorn Books.

Dewey,J.   1938 (first edition).   Experience and
                            Education.   New York, Macmillan,1963.

Dewey,J.   1956.   The School and Society.   Chicago,
                            University of Chicago Press.

Donaldson,M.   1978.   Children's Minds.   Great Britain,
                            Fontana.

Dreyfus,H. & Rabinow.P.   1982.   Michel Foucault: beyond
                            structuralism and hermeneutics.   Sussex,
                            Harvester Press.

Du Preez,J.M.   1985.   Africana/Afrikaner.   Alberton,
                            Librarius.

Eagleton,T.   1976.   Marxism and Literary Criticism.
                            London, Methuen.

Ebbutt,D.   1985.   `Educational Action Research:
                            some general concerns and specific
                            quibbles.'   Burgess,R.(ed)   Issues in
                            Educational Research: qualitative
                            methods.   London, Falmer Press.

Egan,K.   1983.   `Children's path to reality from
                            fantasy: contrary thoughts about
                            curriculum foundations'.   Journal of
                            Curriculum Studies,15,4:357-371.

Eisner,E.   1977.   `Thick description'.   Hamilton,D;
                            Jenkins,D; King,C; MacDonald,B;
                            Parlett,M.(eds)   Beyond the Numbers
                            Game.   London, Macmillan.

Elliott,J.   1984.   `Teachers' theories of teaching'.
                            Flanagan,W; Breen,C; Walker,M.(eds)
                            Action Research: justified optimism or
                            wishful thinking?   Cape Town, University
                            of Cape Town.

Ellis,T; McWhirter,J; McColgan,D; Haddow,B.   1976.   William
                            Tyndale: the teachers' story.   London,

Writers & Readers Publishing Cooperative.

Emler,N. & Heather,N.   1980.   `Intelligence: an ideological bias of conventional psychology'. Salmon,P.(ed) Coming to Know. London, Routledge & Kegan Paul.

Enslin,P.   1984. `The role of fundamental pedagogics in the formulation of educational policy in South Africa'. Kallaway,P.(ed) Apartheid and Education. Johannesburg, Ravan Press.

Esland,G.   1971. `Teaching and learning as the organization of knowledge'. Young,M.(ed) Knowledge and Control. London, Collier Macmillan.

Evans,M.   1972. `Karl Marx and the concept of political participation'. Parry,G.(ed) Participation in Politics. Manchester, Manchester University Press.

Ferron,O.   1984. Pedagogical research in Anglophone Africa with special reference to the independent homeland states of South Africa. Paper presented at Kenton Conference, Paddagat.

Feuerstein,R. with Rand,Y; Hoffman,B; Miller,R.   1980. Instrumental Enrichment: an intervention programme for cognitive modifiability. Baltimore, Baltimore University Press.

Fincham,F.   1977. `Gifted children: Quo Vadis?' Perspectives in Education,2,2:87-93.

Fitzclarence,L. & Giroux,H.   1984. `The paradox of power in educational theory and practice'. Language Arts,61,5:462-471.

Flanagan,W.   1980. Towards a Policy for First Language in Primary Schools: a review of some aspects. Unpublished Master of Education thesis. Durban, University of Natal.

Flanagan,W.   1989. Negotiation or the worst possible
                             kind of persuasion? Paper presented at
                             Kenton Conference, Makgobaskloof.

Flanagan,W. & Walker,M.   1984. Classroom action research.
                             Paper presented at Kenton Conference,
                             Hamburg.

Flanagan,W; Breen,C; Walker,M.(eds) 1984. Action Research:
                             justified optimism or wishful thinking?
                             Cape Town, University of Cape Town.

Flanders,N.A.   1970. Analysing Teaching Behaviour.
                             U.S.A., Addison-Wesley.

Forman,E. & Cazden,C.   1985. `Exploring Vygotskian
                             perspectives in education: the cognitive
                             value of peer interaction'.
                             Wertsch,J.(ed) Culture, Communication
                             and Cognition. Cambridge, Cambridge
                             University Press.

Foucault,M.   1977. Discipline and Punish. London,
                             Penguin Books.

Foucault,M.   1980. Power/Knowledge. Gordon,C.(ed).
                             Great Britain, Harvester Press.

Freire,P.   1974. Education for Critical
                             Consciousness. London, Sheed & Ward.

Freire,P.   1976. `A few notions about the word
                             `conscientization'. Dale,R; Esland,G;
                             MacDonald,M.(eds) Schooling and
                             Capitalism. London, Routledge & Kegan
                             Paul.

Freire,P.   1985. The Politics of Education.
                             London, MacMillan.

Freire,P. & Macedo,D.   1987. Literacy: reading the word and
                             the world. South Hadley, Bergin &
                             Garvey.

Fullan,M.   1982. The Meaning of Educational
                            Change. New York, Teachers' College
                            Press.

Gadamer,H.   1979. Truth and Method. London, Sheed
                            & Ward.

Gal'perin,P.   1969. `Stages in the development of
                            mental acts'. Cole,M. &
                            Maltzman,I.(eds). A Handbook of
                            Contemporary Psychology. New York,
                            Basic Books.

Galton,M. & Simon,B.(eds) 1980. Progress and Performance
                            in the Primary Classroom. The ORACLE
                            research team. London, Routledge &
                            Kegan Paul.

Gay,P.   1979. The Dilemma of Democratic
                            Socialism: Edward Bernstein's challenge
                            to Marx. New York, Octogon.

Geertz,C.   1973. The Interpretation of Cultures.
                            New York, Basic Books.

Gellatly,A.   1987. `Acquisition of a concept of
                            logical necessity'. Human
                            Development,30:32-47.

Gibson,R.   1985. `Critical times for action
                            research'. Cambridge Journal of
                            Education,15:59-64.

Giddens,A.   1979. Central Problems in Social
                            Theory. Berkeley, University of
                            California Press.

Giddens,A.   1982. Profiles and Critiques in Social
                            Theory. London, Macmillan Press.

Giroux,H.   1981. Ideology, Culture and the Process
                            of Schooling. London, Falmer Press.

Giroux,H.   1983. Theory and Resistance in
                            Education: a pedagogy for the

opposition. South Hadley, Bergin & Garvey.

Giroux,H.   1984. `Ideology, agency and the process of schooling'. Barton,L. & Walker,S.(eds). Social Crisis in Educational Research. London, Croom Helm.

Giroux,H.   1986. `Authority, intellectuals, and the politics of practical learning'. Teachers' College Record,88,1:22-40.

Giroux,H.   1988. Teachers as Intellectuals. South Hadley, Bergin & Garvey.

Giroux,H. & McLaren,P.   1986. `Teacher education and the politics of engagement: the case for democratic schooling'. Harvard Educational Review,56,3:213-238.

Glaser,B. & Strauss,A.   1967. The Discovery of Grounded Theory. Chicago, Aldine.

Gleeson,D.   No date. `"Theory" and "practice" in the sociology of Paulo Freire'. London, Hard Cheese.

Goodnow,J.   1980. `Everyday concepts of intelligence and its development'. Warren,N.(ed) Studies in Cross-cultural Psychology, Volume 2. New York, Academic Press.

Gottleib,E. & Cornbleth,C.   1989. `The professionalization of tomorrow's teachers: an analysis of US teacher education reform rhetoric'. Journal of Education for Teaching,15,1:3-12.

Gouldner,A.   1979. The Future of Intellectuals and the Rise of the New Class. New York, Oxford University Press.

Grace,G.   1978. Teachers, Ideology and Control. London, Routledge & Kegan Paul.

Graham,K.   1986. The Battle of Democracy. Sussex,
                         Wheatsheaf Books.

Greene,M.   1971. `Curriculum and consciousness'.
                         Teachers' College Record,73,2:253-269.

Greene,M.   1978. Landscapes of Learning. New
                         York, Teachers' College Press.

Greene,M.   1984. `Excellence: meanings and
                         multiplicity'. Teachers' College
                         Record,86,2.

Gretton,J. & Jackson,M. 1976. William Tyndale: collapse of
                         a school - or a system? London, George
                         Allen & Unwin.

Grundy,S.   1987. Curriculum: product or praxis.
                         East Sussex, Falmer Press.

Grundy,S. & Kemmis,S.   1984. `Educational action research
                         in Australia: the state of the art'.
                         Flanagan,W; Breen,C; Walker,M.(eds)
                         Action Research: justified optimism or
                         wishful thinking? Cape Town, University
                         of Cape Town.

Habermas,J.   1972. Knowledge and Human Interests.
                         London, Heinemann.

Hall,S.   1980. `Popular-democratic vs
                         authoritarian populism: two ways of
                         taking democracy seriously'.
                         Hunt,A.(ed) Marxism and Democracy.
                         London, Lawrence & Wishart.

Halliday,M.   1973. Explorations in the Functions of
                         Language. London, Edward Arnold.

Halliday,M.   1975. Learning How to Mean. London,
                         Edward Arnold.

Hamilton,D; Jenkins,D; King,C; MacDonald,B; Parlett,M.(eds) Beyond the Numbers Game. London, Macmillan.

Hammersley,M.   1984. `The paradigmatic mentality: a diagnosis'. Barton,L. & Walker,S.(eds) Social Crisis in Educational Research. London, Croom Helm.

Hammersley,M; Scarth,J; Webb,S. 1985. `Developing and testing theory: the case of research on pupil learning and examinations'. Burgess,R.(ed) Issues in Qualitative Research. Sussex, Falmer Press.

Hargreaves,A.   1985. `The micro-macro problem in the sociology of education'. Burgess,R.(ed) Issues in Educational Research. Sussex, Falmer Press.

Hargreaves,D.   1975. Interpersonal Relations and Education. London, Routledge & Kegan Paul.

Harris,K.   1982. Teachers and Classes. London, Routledge & Kegan Paul.

Hartshorne,K.   1986. `Post-Apartheid education: a concept in process. Opportunities in the next five years'. McGraw-Hill seminar.

Hartshorne,K.   Forthcoming. Liberation, Education and the Teacher.

Havelock,R.   1975. `The utilisation of educational research and development'. Harris,A; Lawn,M; Prescott,W.(eds) Curriculum Innovation. London, Croom Helm.

Hawes,H.   1979. Curriculum and Reality in African Primary Schools. Essex, Longman.

Haynes,F.   1986. `Curriculum, democracy, and evaluation'. Teachers' College Record,88,1:81-94.

Heath,S.B.   1983. Ways with Words. Cambridge,
                    Cambridge University Press.

Hickmann,M.   1985. `The implications of discourse
                    skills in Vygotsky's developmental
                    theory'. Wertsch,J.(ed) Culture,
                    Communication and Cognition. New York,
                    Cambridge University Press.

HMSO   1931. Report of the Consultative
                    Committee on the Primary School (Hadow
                    Report). London, HMSO.

HMSO   1965. Schools Council Working Paper
                    No.2. London, HMSO.

HMSO   1967. Children and their Primary
                    Schools (Plowden Report). England,
                    HMSO.

HMSO   1975. A Language for Life (Bullock
                    Report). London, HMSO.

Hoffman,D. & Heath,S. 1986. Inside Learners. Stanford
                    University.

Holly,P.   1984. `The institutionalisation of
                    action research in schools'. Cambridge
                    Journal of Education,14:5-18.

Hopkins,D.   1985. A Teacher's Guide to Classroom
                    Research. Milton Keynes, Open
                    University Press.

Hoyle,E.   1975a. `Planned organizational change
                    in education'. Harris,A; Lawn,M;
                    Prescott,W.(eds) Curriculum Innovation.
                    London, Croom Helm.

Hoyle,E.   1975b. `The creativity of the school in
                    Britain'. Harris,A; Lawn,M;
                    Prescott,W.(eds) Curriculum Innovation.
                    London, Croom Helm.

Hoyle,E.   1982. `The professionalization of
                    teachers: a paradox'. British Journal
                    of Educational Studies,30,2:161-171.

Hoyles,C. & Noss,R.   1987.   `Seeing what matters: developing an understanding of the concept of parallelogram through a logo microworld'.   Proceedings of the Psychology of Mathematics Education, Montreal.

Hoyles,M.   1979.   Changing Childhood.   London, Writers & Readers Publishing Co-operative.

HSRC   1981.   Provision of education in the Republic of South Africa: Report of the main committee of the Human Science Research Council investigation into education.   Pretoria, HSRC.

Hull,C.   1984.   `Between the lines: the analysis of interview data as an exact art'.   Flanagan,W; Breen,C; Walker,M.(eds) Action Research: justified optimism or wishful thinking?   Cape Town, University of Cape Town.

Hunt,A.   1980.   Marxism and Democracy.   London, Lawrence & Wishart.

Hustler,D; Cassidy,H; Cuff,D.   1986.   Action Research in Classrooms and Schools.   London, Allen & Unwin.

Illich,I.   1973.   Deschooling Society.   Harmondsworth, Penguin.

Kallaway,P.   1983.   `Meta what?'   Perspectives in Education, 7:162-165.

Kallaway,P.   1987.   `Education and the state: from mass education to Bantu Education to People's Education'.   Young,D. & Burns,R.(eds).   Education at the Crossroads.   Cape Town, University of Cape Town.

Kallaway,P.(ed)   1984.   Apartheid and Education. Johannesburg, Ravan Press.

Kemmis,S. & McTaggart,R.   1982.   The Action Research
                          Planner. Victoria, Deakin University
                          Press.

Kemmis,S.   1986. `Of tambourines and tumbrils: a
                          response to Rex Gibson's `Critical times
                          for action research.' Cambridge Journal
                          of Education,16:50-52.

Kenny,W. & Grotelueschen,A.   1984.   `Making the case for
                          case study'. Journal of Curriculum
                          Studies,16,1:37-51.

Kenton Conference Proceedings.   1981.   Lawrence,M.(ed)
                          Glencairn.

Kenton Conference Proceedings.   1982.   Muir,R.(ed)   Botha's
                          Hill.

Kenton Conference Proceedings.   1983.   Lawrence,M.(ed)   The
                          Stadt.

Kilpatrick,J. & Wirszup,I.(eds)   1969.   Soviet Studies in
                          the Psychology of Learning and Teaching
                          Mathematics.   Chicago, University of
                          Chicago.

Kohlberg,L. & Wertsch,J.   1987.   `Language and the
                          development of thought'.   Kohlberg,L.
                          Child Psychology and Childhood
                          Education: a cognitive-developmental
                          view.   New York, Longman.

Kok,A.   1986.   The zone of proximal development
                          from another perspective. Unpublished
                          Master of Arts dissertation (clinical
                          psychology). Durban, University of
                          Natal.

Kritzman,L.(ed)   1988.   Michel Foucault: politics,
                          philosophy and culture. New York,
                          Routledge & Kegan Paul.

Kruger,F.   1986. `DET destroys education in Duncan
                   Village'. Work in Progress,45:20-24.

Kruss,G.   1988. People's Education in South
                   Africa: an examination of the concept.
                   University of Western Cape, Centre for
                   Adult and Continuing Education.

Kuhn,T.   1962. The Structure of Scientific
                   Revolutions. Chicago, University of
                   Chicago Press.

Lacan,J.   1977. Ecrits. London, Tavistock.

Laclau,E.   1977. Politics and Ideology in Marxist
                   Theory. London, Verso.

Lather,P.   1986. `Research as praxis'. Harvard
                   Educational Review,56,3:257-277.

Lazarus,S.   1988. The role of the psychologist in
                   South African society: in search of an
                   appropriate community psychology.
                   Unpublished Ph.D. thesis. Cape Town,
                   University of Cape Town.

Leont'ev,A.   1981. `The problem of activity in
                   psychology'. Wertsch,J.(ed) The
                   Concept of Activity in Soviet
                   Psychology. New York, M.E.Sharpe.

Levi-Strauss,C.   1966. The Savage Mind. London,
                   Weidenfeld & Nicholson.

Levin,M.   1983. `Marxism and democratic theory'.
                   Duncan,G.(ed) Democratic Theory and
                   Practice. Cambridge, Cambridge
                   University Press.

Levin,R.   1988. Conceptualising "The People" in
                   People's Education: People's Education
                   and democratic transformation in South
                   Africa. Paper presented at Association
                   of Sociologists of Southern Africa

Conference, University of Durban-Westville.

Lincoln,Y. & Guba,E.   1985.   Naturalistic Inquiry.   Beverley Hills, Sage Publications.

Lively,J.   1965.   The Social and Political Thought of Alexis de Tocqueville.   London, Oxford University Press.

Lively,J.   1975.   Democracy.   Oxford, Blackwell.

Luria,A.R.   1976.   Cognitive Development. Its Cultural and Social Foundations. Cambridge,Mass., Harvard University Press.

Luthuli,P.   1982.   An Introduction to Black-oriented Education in South Africa.   Durban, Butterworths.

MacDonald,B. & Ruddock,J.   1971.   `Curriculum research and development projects: barriers to success'.   British Journal of Educational Psychology,41:148-154.

Major-Poetzl,P.   1983.   Michel Foucault's Archaeology of Western Culture.   Great Britain, Harvester Press.

Mashamba,G.   1990.   A Conceptual Critique of the People's Education Discourse.   Education Policy Unit Research Report No.3. Johannesburg, University of Witwatersrand.

Mayo,H.B.   1960.   An Introduction to Democratic Theory.   Oxford, Oxford University Press.

McCarthy,T.   1978.   The Critical Theory of Jurgen Habermas.   London, Hutchinson.

McDonald,J.   1986.   `Raising the teacher's voice and the ironic role of theory'.   Harvard Educational Review,56,4:355-378.

McNiff,J.   1988. Action Research: principles and practice. London, Macmillan.

Mellin-Olsen,S.   1987. The Politics of Mathematics Education. Dordrecht, D.Reidel Publishing Company.

Mercer,C.   1980. `Revolutions,reforms or reformulations? Marxist discourse on democracy'. Hunt,A.(ed) Marxism and Democracy. London, Lawrence & Wishart.

Miller,R.   1984. Reflections on Mind and Culture. Inaugural lecture. Pietermaritzburg, University of Natal.

Miller,R.   1989. `Conceptual issues in theorising about cognition'. South African Journal of Higher Education,3,1.

Mkhatshwa,S.   1985. Keynote address: Report on National Consultative Conference on the Crisis in Education. Soweto Parents' Crisis Committee. Johannesburg.

Moll,I.   1984. So what's happened to teaching?: a critical review of the Kenton Conferences 1980-1983. Paper presented at Kenton Conference, Hamburg.

Moll,I.   1984. The problem of content in the theory of formal operations: Piaget and Vygotskii in the South African context. Unpublished Master of Arts in Psychology thesis. Johannesburg, University of Witwatersrand.

Moll,I.   1989. `Roots and disputes of cognitive developmental conceptions of teaching'. South African Journal of Education,9,4:714-721.

Moll,I. & Slonimsky,L. 1989. `Towards an understanding og cognition and learning in the academic

support context'. South African Journal of Higher Education,3,1:160-166.

Molobi,E.   1986. South Africa: Education under Apartheid. Conference on USA initiatives for the education and training of South Africans and Namibians, Michigan State University.

Molteno,F.   1984. `The historical foundations of the schooling of Black South Africans'. Kallaway,P.(ed) Apartheid and Education. Johannesburg, Ravan Press.

Moore,T. & Lawton,D. 1978. `Authority and participation'. Lawton,D; Gordon,R; Pring,M.(eds). Theory and Practice of Curriculum Studies. London, Routledge & Kegan Paul.

Morgan,G.(ed)   1983. Beyond Method. Beverley Hills, Sage Publications.

Morphet,A.   1983. Deconstructing education: the case of skilss-training. Paper presented at Kenton Conference, The Stadt.

Morphet,A.   1987. Kenton `87 struggle as a site of education. Commentary of Kenton Conference, Salt Rock.

Morphet,A.   1985. Who is Feuerstein and do we need him? Paper presented at Kenton Conference, Paddagat.

Morrow,W.   1985. Education for democratic participation. Paper presented at Kenton Conference, Paddagat.

Musgrove,F.   1978. `Curriculum, culture and ideology. Journal of Curriculum Studies,10,2:99-111.

Natal Education Department 1978. Handbook for Junior Primary Teachers. Natal Education Department.

National Consultative Conference (NCC) 1985. Report on National Consultative Conference on the Crisis in Education. Johannesburg, University of Witwatersrand.

Neiman,A. 1986. `Education, power, and the authority of knowledge'. Teachers' College Record,88,1:64-80.

Nixon,J. 1981. A Teacher's Guide to Action Research. London, Grant McIntyre.

Nursey-Bray,P. 1983. `Consensus and community: the theory of African one-party democracy'. Duncan,G.(ed) Democratic Theory and Practice. Cambridge, Cambridge University Press.

Nyberg,D.& Farber,P. 1986. `Authority in education'. Teachers' College Record,88,1:4-14.

Oliver,D. 1982. `The primary curriculum: a proper basis for planning'. Richards,C.(ed) New directions in Primary Education. Sussex, Falmer Press.

Parker,B. 1988/89. `Review of Inset in South Africa: Issues and directions'. Perspectives in Education,10,2.

Parry,G (ed) 1972. Participation in Politics. Manchester, Manchester University Press.

Pateman,C. 1970. Participation and Democratic Theory. London, Cambridge University Press.

Pennock,J.R. 1979. Democratic Political Theory. Princeton, Princeton University Press.

Peters,R.S. 1963. Authority, Responsibility and Education. London, Allen & Unwin.

Peters,R.S.(ed) 1967. The Concept of Education. London, Routledge & Kegan Paul.

Piaget,J.   1926.   The Language and Thought of the
                         Child.   New York, Harcourt Brace.

Piaget,J.   1967.   Six Psychological Studies.   New
                         York, Vintage.

Piaget,J.   1976.   The Grasp of Consciousness:
                         action and concept in young children.
                         Cambridge,Mass., Harvard University
                         Press.

Polanyi, M.   1958.   Personal Knowledge.   London,
                         Routledge & Kegan Paul.

Popkewitz,T.   1984.   Paradigm and Ideology in
                         Educational Research.   East Sussex,
                         Falmer Press.

Postman,N.   1982.   The Disappearance of Childhood.
                         New York, Delacorte Press.

Postman,N. & Weingartner,C..1969.   Teaching as a Subversive
                         Activity.   Harmondsworth, Penguin.

Potgieter,C.   1989.   How can I improve my teaching of
                         Std 5 geography in such a way that I
                         have alert,enthusiastic & interested
                         learners?   Unpublished B.Ed research
                         dissertation.   Cape Town, University of
                         Cape Town.

Poulantzas,N.   1977.   `The new petty bourgeosie'.
                         Hunt,A.(ed)   Class and Class Structure.
                         London, Lawrence & Wishart.

Pring,R.   1975.   `In defence of authority- or how
                         to keep knowledge under control'.
                         Bridges,D. & Scrimshaw,P.(eds)   Values
                         and Authority in Schools.   London,
                         Hodder & Stoughton.

Prinsloo,M.   1987.   Thinking strategies in education:
                         the political limits of Paulo Freire's
                         perspective.   Paper presented at
                         conference of Association of

Sociologists of Southern Africa,
University of Western Cape.

Radley,A.   1980.   'Student learning as social
                         practice'. Salmon,P.(ed) Coming to
                         Know. London, Routledge & Kegan Paul.

Rensburg,I.   1986.   'People's Education: creating a
                         democratic future'. Work in
                         Progress,42.

Republic of South Africa 1983.   Syllabus for Geography.
                         Department of Education and Training.

Ricoeur,P.   1976.   Interpretation Theory: discourse
                         and the surplus of meaning. Texas,
                         Christian Publishers.

Robinson,M.   1989.   Transformation will be tiring: an
                         attempt to put People's Education into
                         practice. Paper presented at Kenton
                         Conference, Magoebaskloof.

Rogers,L.   1979.   'Consequents of our belief'.
                         Readings in mathematical education;
                         selected by Kev Delaney for Association
                         of teachers of Mathematics, Worchester
                         College.

Rose,N.   1979. 'The psychological complex:
                         mental measurement and social
                         administration'. Ideology and
                         Consciousness 5,5-68.

Rosen,C. & Rosen,H.   1973.   The Language of Primary School
                         Children. London, Penguin.

Rossanda,R; Cini,M; Berlinguer,L. 1977. 'Theses on
                         education: a Marxist view'. Karabel,J.&
                         Halsey,A.(eds) Power and Ideology in
                         Education. New York, Oxford University
                         Press.

Rowland,S.   1984a. 'The aims and methods of the
                         research'. Flanagan,W; Breen,C;

Walker,M.(eds) Action Research: justified optimism or wishful thinking? Cape Town, University of Cape Town.

Rowland,S.   1984b. The Enquiring Classroom. East Sussex, Falmer Press.

Rowland,S.   1984c. `Frameworks'. Mathematics Teaching,109:2-9.

Ruddock,J. & Stenhouse,L. 1979. A study in the dissemination of action research results. Norwich, Centre for Applied Research in Education.

Salmon,P.(ed)   1980. Coming to Know. London, Routledge & Kegan Paul.

Sanford,N.   1982. `Whatever happened to action research?' The Action Research Reader. Victoria, Deakin University Press.

Sarason,S.   1982. The Culture of the School and the Problem of Change. Boston, Allyn & Bacon.

Sarup,M.   1978. Marxism and Education. London, Routledge & Kegan Paul.

Sarup,M.   1982. Education, State and Crisis. London, Routledge & Kegan Paul.

Sarup,M.   1984. Marxism, Structuralism, Education. New York, Falmer Press.

Sarup,M.   1986. The Politics of Multiracial Education. London, Routledge & Kegan Paul.

Sharp,R.   1980. Knowledge, Ideology and the Politics of Schooling. London, Routledge & Kegan Paul.

Sharp,R.   1986. `Self-contained ethnography or a science of phenomenal forms and inner relations'. Hammersley,M.(ed)

Controversies in Classroom Research.
Milton Keynes, Open University Press.

Sharp,R. & Green,A.   1975.   Education and Social Control: a
study in progressive primary education.
London, Routledge & Kegan Paul.

Sheridan,A.   1980.   Michel Foucault: the will to
truth.   London, Tavistock Publications.

Simon,B.   1972.   The Radical Tradition in
Education in Britain.   London, Lawrence
& Wishart.

Simon,B.   1981.   `Why no pedagogy in England?'
Simon,B. & Taylor,W.(eds)   Education in
the Eighties.   London, Batsford Academic
& Educational Limited.

Simon,R.   1982.   Gramsci's Political Thought.
London, Lawrence & Wishart.

Simon,R.   1987.   `Empowerment as a pedagogy of
possibility'.   Language Arts,64,4:370-
382.

Sisulu,Z.   1986.   People's education for people's
power.   Paper presented at the NECC
Conference, Durban.

Smith,F.   1978.   Reading.   Cambridge, Cambridge
University Press.

Sockett,H.   1989.   `Research, practice and
professional aspiration within
teaching'.   Journal of Curriculum
Studies,21,2:97-112.

SOMAFCO   1989.   Report on People's Education
Seminar, August.

Soudien,C.   1986.   `Alternative education: where
to?'   Free Azania.

Soudien,C; Gilmour,D; Rivett-Carnac,P; Sieborger,R. 1989.
                The problems of certification and
                People's education. Paper presented at
                Association of Sociologists of Southern
                Africa Conference, University of
                Witwatersrand.

South African Race Relations Survey. 1987. Institute of
                Race Relations in South Africa,
                Johannesburg.

South African Race Relations Survey. 1989. Institute of
                Race Relations in South Africa,
                Johannesburg.

Stenhouse,L.   1975. Introduction to Curriculum
                Research and Development. London,
                Heinemann.

Stenhouse,L.   1978. `Case study and case records:
                towards a contemporary history of
                education'. British Educational
                Research Journal,4,2.

Stenhouse,L.   1981. `What counts as research?'
                British Journal of Educational Studies,
                XX1X,2:103-114.

Stenhouse,L.   1983. Authority, Education and
                Emancipation. London, Heinemann.

Stubbs,M.   1976. Language, Schools and Classrooms.
                London, Methuen.

Stubbs,M.   1980. Language and Literacy: the
                sociolinguistics of reading and writing.
                London, Routledge & Kegan Paul.

Taylor,N; Muller,J; Cloete,N; Narsing,Y. 1989. The first
                and last interpreters. Paper presented
                at Kenton Conference, Makgoebaskloof.

Thompson,J.B.   1984. Studies in the Theory of
                Ideology. Cambridge, Polity Press.

Thompson,J.B. & Held,D.   1982.   Habermas: critical debates.
            London, Macmillan Press.

Toffler,A.   1970.   Future Shock.   New York, Random
                        House.

University of Western Cape & National Education Crisis
            Committee.   1987.   People's Education
            for Teachers.   Proceedings of a
            conference at University of Western
            Cape.

Unterhalter,E.   1990.   Women's education in South Africa
                        and the impact of apartheid.   Paper
                        presented to UNESCO working group on
                        Women, Apartheid and Options for a Post-
                        Apartheid Society, Caracas.

Unterhalter,E. & Wolpe,H.   1989.   The politics of South
                        African education 1960-1988.   Paper
                        presented at RESA Conference, Essex.

van den Berg,O.   1986.   `Power, discourse and the
                        teacher'.   Perspectives in
                        Education,9,1:4-16.

Viljoen,T. & Pienaar,J.   1971.   Fundamental Pedagogics.
                        Durban, Butterworths.

Vygotsky,L.   1928.   `The problem of the cultural
                        development of the child'.   Journal of
                        Genetic Psychology,415-432.

Vygotsky,L.   1962.   Thought and Language.   Cambridge,
                        Mass., M.I.T.Press.

Vygotsky,L.   1978.   Mind in Society.   Cambridge,
                        Mass., Harvard University Press.

Walker,M.   1989.   Action research in South African
                        schools - gilding gutter education or
                        transforming teaching.   Paper presented
                        at RESA Conference, Essex.

Walker,R.   1984.   `The use of case studies in
                             applied research and evaluation'.
                             Flanagan,W; Breen,C; Walker,M.(ed)
                             Action Research: justified optimism or
                             wishful thinking? Cape Town, University
                             of Cape Town.

Walker,R.   1986.   `The conduct of educational case
                             studies: ethics, theory and procedures'.
                             Hammersley,M.(ed) Controversies in
                             Classroom Research. Milton Keynes, Open
                             University Press.

Walker,R. & MacDonald,B.   1977.   `Case-study and the social
                             philosophy of educational research'.
                             Hamiltion,D; Jenkins,D; King,C;
                             MacDonald,B; Parlett,M.(eds) Beyond the
                             Numbers Game. London, Macmillan.

Walkerdine,V.   1984.   `Developmental psychology and the
                             child-centred pedagogy: the insertion of
                             Piaget into early education'.
                             Henriques,J; Holloway,W; Urwin,C;
                             Venn,C; Walkerdine,V.(eds) Changing the
                             Subject. London, Methuen.

Walkerdine,V.   1985.   `On the regulation of speaking
                             and silence: subjectivity, class, and
                             gender in contemporary schooling'.
                             Steedman,C; Urwin,C; Walkerdine,V.(eds)
                             Language, Gender, and Childhood.
                             London, Routledge & Kegan Paul.

Walkerdine,V.   1986.   `Post-structuralist theory and
                             everyday social practices: the family
                             and the school'. Wilkinson,S.(ed)
                             Feminist Social Psychology: developing
                             theory and practice. Milton Keynes,
                             Open University Press.

Walkerdine,V.   1988.   The Mastery of Reason. London,
                             Routledge & Kegan Paul.

Walters,S.   1986.   Education for democratic
                             participation: an analysis of self-
                             education strategies within certain
                             community organisations in Cape Town in

the 1980s. Unpublished doctoral thesis. Cape Town, University of Cape Town

Weber,M.   1961. The Theory of Social and Economic Organisation. New York, The Free Press.

Wells,G.   1986. The Meaning Makers. Portsmouth, Heinemann.

Wertsch,J.   1985a. Vygotsky and the Social Formation of Mind. Cambridge,Mass., Harvard University Press.

Wertsch,J.(ed)   1985b. Culture, Communication and Cognition: Vygotskian perspectives. Cambridge, Cambridge University Press.

White,P.   1986. `Self-respect, self-esteem, and the school: a democratic prospect on authority'. Teachers' College Record,88,1:95-106.

Whitty,G.   1977. `Sociology and the problem of radical educational change'. Young,M. & Whitty,G.(eds) Society, State and Schooling. Sussex, Falmer Press.

Williams,R.   1976. `Base and superstructure in Marxist cultural theory'. Dale,R; Esland,G; MacDonald,M.(eds) Schooling and Capitalism: a sociological reader. London, Routledge & Kegan Paul.

Williams,R.   1983. Keywords. London, Fontana.

Willis,P.   1978. Learning to Labour. Westmead, Saxon House.

Winter,R.   1987. Action-research and the Nature of Social Inquiry. Aldershot, Avebury.

Wolpe,H.   1988. The struggle against apartheid education: towards People's Education in South Africa. Paper Three, RESA, Essex.

Wood,G.   1988. `Democracy and the curriculum'.
Beyer,G. & Apple,M.(eds) The
Curriculum: problems, politics, and
possibilities. New York, State
University New York Press.

Wood,G.H.   1984. `Education in a democracy:
transformation or reproduction?'
Educational Theory,34,3:219-239.

Young,M.(ed)   1971. Knowledge and Control. London,
Collier Macmillan.

Youngman,F.   1986. Adult Education and Socialist
Pedagogy. London, Croom Helm.

Zimbabwe Foundation for Education with Production. 1986.
Education in Zimbabwe: past, present and
future. Harare, ZIMFEP.

Zinchenko,V.P.   1985. `Vygotsky's ideas about units for
the analysis of mind'. Wertsch,J.(ed)
Culture, Communication and Cognition.
Cambridge, Cambridge University Press.

APPENDIX A

Transcription of a task work lesson - Cuisenaire rods and
factors.   26 March 1985.   (The children are in standard
three.)

Worksheet three:

CUISENAIRE RODS - FACTORS.

Place 10 orange rods next to each other,
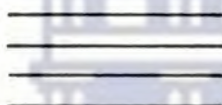
like this ————————   or this

What shape have you made?
Make the same shape, the same size but only using yellow rods.
How many yellow rods did you use?
Do the same using only white rods.
How many white rods did you use?
How many would there be using only red rods?
Give your guess before using the red rods to check yourself.
How many green rods would make up the same shape and size as 10 oranges?
Why is this?
Try with turquoise. What happens? Why?

If we were to make the same shape (but not the same size) with brown rods,
how many would we need?
What other colours could be used to make the same shape **and** size figure to
the brown one? Why?
Investigate with other colours.

Lesson Transcription. Cuisenaire rods.

The lesson is a continuation of a previous session in which these pupils had spent about ten minutes beginning work on worksheet three using cuisenaire rods. They had decided that, if they were still interested, they would continue in this session and that I would audio record.

At the start of the session the group, who wanted to make a turquoise square, decided to first make an orange square again to remind them of size and shape. They would then make the turquoise square having already guessed how many turquoise rods were needed to build a square equal to the orange square in the previous lesson. Yannick had guessed 20 turquoise, Ruald 17, Brandon 20 and Byron 20. The transcript begins after some initial preparation, discussion and building. Byron is busy building a turquoise rectangle.

By	This is all 18 here...
Yan	Ja.
By	and then 2 others makes 19, 20.
Wen	I see. Okay, so you're using 20 turq.
Ru	It's actually 10 ma'm.
By	It's not 10.

[*chatter while building*]

Yan	We need 2 more here.
Wen	Brandon will you check that that's the right size?
Yan	It's 20, I know it's 20. Holy mac!
By	Oh now we've got some problems!
Pup	Wait! Wait! It's not right.
Br	Mauve is 3/4 ma'm. Mauve is 3/4.
Pup	Wait! *[Children building]*
Wen	How many in a row have you got here?
Pup	9.
Pup	10.
Ru	Now we must fit the mauves in.
Br	I think it fits in.
By	I say 20.
Yan	I say 20.
Wen	What have you done now?
Yan	Putting some mauve on ma'm.
Wen	So you've removed one row of turquoise. Oh, I see! And you're replacing with mauve. Why?
Pup	Because..... because...

$$100 \quad \begin{array}{|c|c|c|} \hline \text{10 orange} & \text{10turquoise} & \text{10turquoise} \\ & \text{10turquoise} & \text{10 mauve} \\ \hline \end{array}$$

60

+40

10   (10)

= 10   (6 + 4)
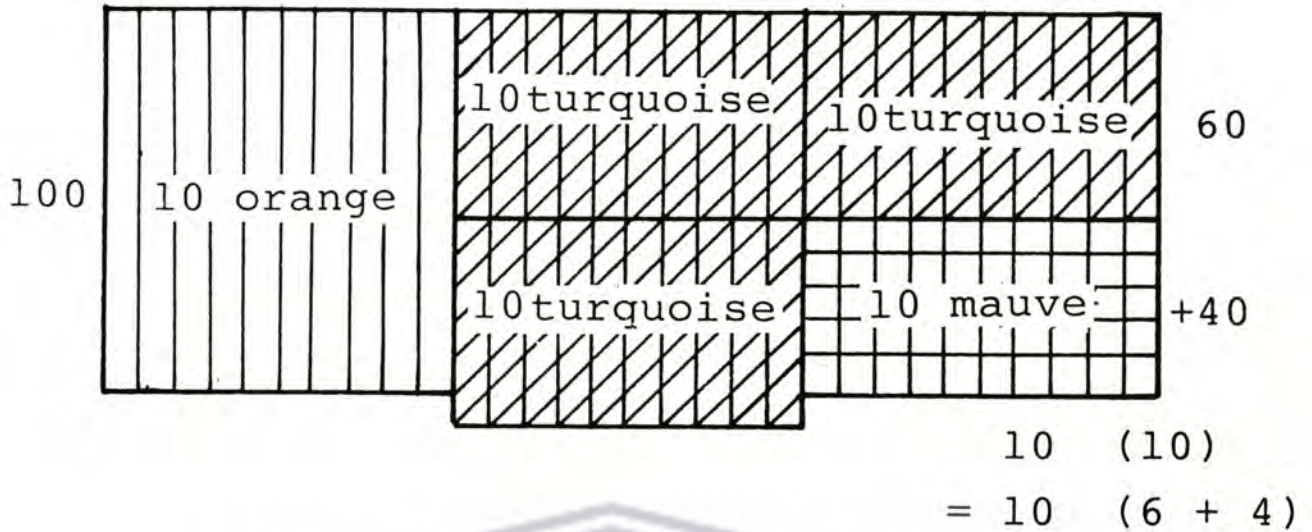
Wen	Why're you replacing with mauve?
By	Because it was too long over there. It was about over here. [All participating in talk & movement of rods.] See? Then it would have been... then it would have been...
Ru	Ma'm, mauve & 2 whites make 1 turq. So it'll be an uneven number.
Pup	Just give me.........Just give me...
Wen	You could be right Ruald. You're the only one who has given an even number guess.
Ru	Odd number.
Wen	I mean an odd.... What did you say.... could be an even number?
Ru	Uneven. Or it could be a fraction ma'm.
Ya	Ja, a fraction ma'm.
By	How many of these?
Wen	Now have you checked that that's the right size?
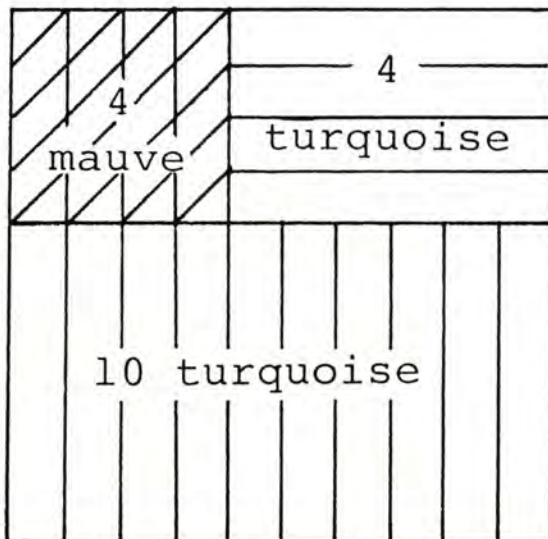
100 = 14 x 6 + 4 x 4

[Children now try to work out 4 mauve = x turq. Then:]

Br	I think it's 15 ma'm. I cut off half of it ma'm.
Wen	You cut off half of that?
Br	Yes ma'm.
Wen	Is mauve equal to half of turq?
Pup	Uh huh! (no)
Yan	That's a whole...But what is this...
By	How many of these fit...
Wen	Yes. Now Byron's suggesting that...Ja, you see. How many whites fit mauve?
Pup	6.
Wen	How many whites fit turq? 6 fit turq. So 4 fit mauve & 6 fit turq.
Pup	Yes.
Ru	5 ma'm.
Wen	You think it's 5. Let's just see. Byron is just going to...

[Byron is matching white rods to 1 turq.]

Yan	I'm taking another guess ma'm.
Wen	Okay.
Yan	I'm going to say it's...it's...14 & ...
Br	16.
Yan	14 and 4 quarters.
Br	16 & 1/4 ma'm.
Ru	16 & 1/4 ma'm.
Yan	I'm saying 14 & 1/4.
Wen	Now remember it's asking how many turq. Now you've replaced turq with mauve which you can't... I mean can you fit some turquoises in here?
Yan	No way ma'm.
By	We take 2 away from this. We take 2 whites away from this.
Wen	So Byron says 6 whites = turq; 4 whites = mauve.

[Byron has been building & matching. Yannick watching & pointing. Brandon wanting to help construct. Ruald observing closely but quietly.]

By	So you take 2 fractions away from ...

[Byron has now shown that 16 whites = 4 mauve, so that he can find x. 4 mauve = x turq.]

Wen	Can you hear what he says? You take 2 fractions away from the top row.
Yan	Ma'm you see. I guess ma'm....this is a quarter ma'm. Now I say it's...
Wen	Hang on. *[attends to other members of the class]*
Yan	Look ma'm.
Br	It's 15 ma'm. I was (?). This was a whole quarter ma'm, so it's 4 ma'm & I counted the others ma'm & they were 5 over here ...4 over here...

[Byron counting through Brandon's remarks. Comments made by the other group members.]

Yan	Ja. So the turq is a sixth.
Wen	A sixth of what?
Yan	Uh!
By	The turq is a sixth ...
Yan	Ja.
By	And then you.... & then that's four sixes
Br	4 sixes
Wen	Yes go on Byron.
By	So... um....
Wen	Listen to .... hang on.... what is Byron trying to say now...you see....
Yan	Hey you guys. Humba! *[to other pupils in the class].*
Wen	He's replaced... you've replaced... you've put in as many turq as you can put in. Alright? Now you have this awkward spot here. But you realise by this arguing that in fact some of these could be a turq in value.
Pup	Ja. Ssh...Ssh... [other members of the class want attention]

[Wendy talks to other members of the class.]

By	This is 4 hey?
Yan	That's a quarter, ja.
By	So this is 4 whites.

[Byron demonstrates 1 mauve = 4 whites.]

By	So this 8, 9 and this is 16 then.
Yan	Ja
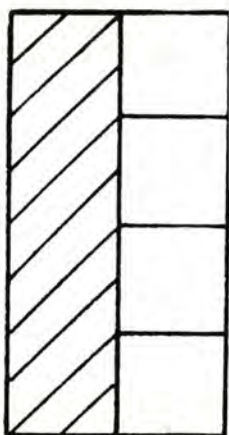
1 mauve = 4 whites

∴ 4 mauve = 16 whites

Pup	So it's...
Pup	6 + 6 = 12.
Wen	So you've got 16 whites there. So Byron is saying 4 mauve = 16 whites.
Pup	And then...
Pup	So then ...
Pup	And then...
Yan	18.

By	18. So this could be white, this could be a mauve & it would have ...
Yan	The value of ...
By	How much of white should it have left in it? So ..
Yan	2
Br	2.
By	2. So that's 4. No. That's a sixth hey?
Yan	Ja.
By	So 4 & another 2 so it would have 4 in, so then a 2 & then another 4 & a 2 so that's ...all...all...(?)...now it's getting all complicated.
Br	I know...it gets more complicated.

[The group know 4 mauve = 16 whites. So now trying to work 4 mauve = x turq. Through matching they see that 1 turq = 1 mauve & 2 whites. Byron now moves the whites trying to find how many mauve = turq. It gets complicated as he tries to hold mentally what he has already counted while trying to manipulate the rest of the rods.]

Wen	You are on the right track though.
Yan	You know the answer ma'm?
Wen	Uh...no! I haven't started to work it out. I'm actually just listening & watching.
By	This is 4 & 2, so that's 1 [1 turq]. 4 & 2, 4 & 2 is...6...
Yan	6.
Br	8.
By	And then we've got another 4 whites left. We've got 3 mauves already in this. Just wait.
Wen	You were trying to find out how many mauves are equal to how many turq.
Yan	Ja, it's 6.
By	6 + 6 is 12...and 18.
Yan	There's 1 mauve & 2 whites ma'm. That equals a sixth.
Wen	Yes, but you've got 4 mauves that fit here.
By	Here's 18, here's 18. So it's equal to here, that's equal to that ...
Wen	Yes, but that's not what you've got there. You've only got that there. [I point to rectangle of 14 turq & 4 mauve.] So indeed you've got how many turq at the moment Ruald?
Ru	14.
Br	And this could make a whole.
Wen	Is that 14? So you've got 14 turq plus 4 mauve. Is that right?
Br	And this could make a whole.
Wen	At the moment your shape is 14 turq & 4 mauve.
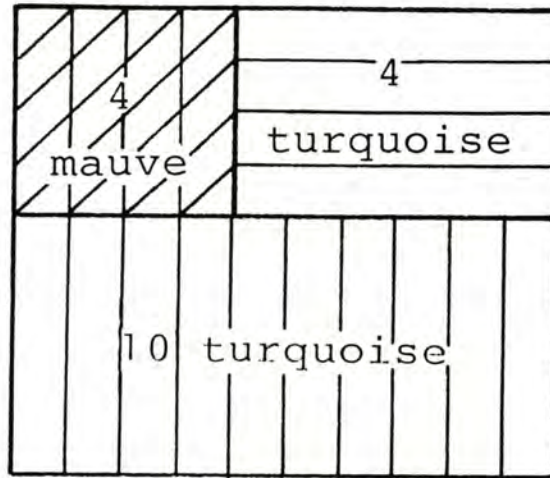
Br	Ma'm, in fact, this is the same ... Remember when we had the greens ma'm, then we made that whole ma'm. This could be a whole again ma'm. And then it could be ...
Wen	Yes, that's what Byron is trying to work out. He's saying that you've got 4 mauves here. Okay? Now what he's trying to do is work out what that's equal to in turq rods.
By	This is getting complicated. *[Pupils comment generally]*.
Wen	Isn't that what you're doing?
By	Ja, this is 4.
Yan	Ja.
By	So you've got to have 4 & add 2.
Wen	And 4 & 2 gives you 1 turq rod.
Pup	Ja.
By	So if you take 2 away it would be 2 there.
Wen	Yes.

 mauve   white   turquoise
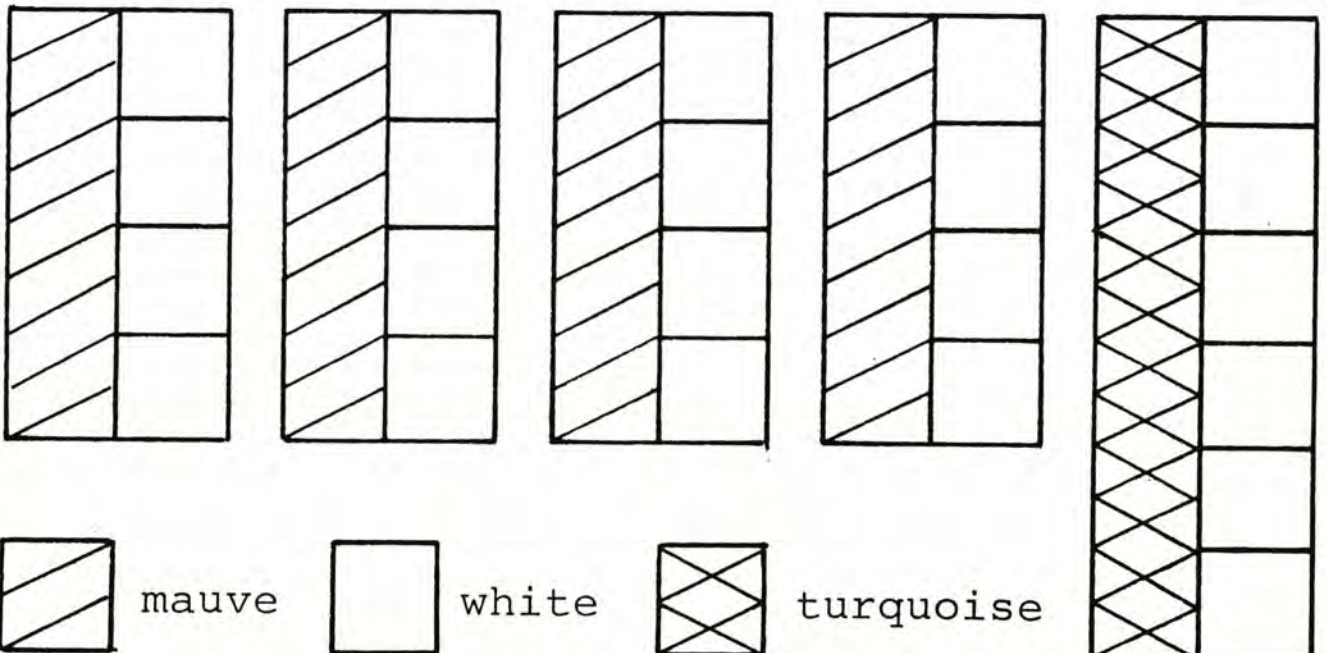
By	And then another 4.
Wen	That's right.
By	It would be 2 sixes.
Wen	So that's 2 turq rods then?
Yan	Ja.
Wen	And what've you got left? and 4 left over. And what would you call that then?
Pup	Uh...
Wen	So you would say 2 um... 2 turq = 3 mauve. Right? 3 mauve = 2 turq.
Pup	Ja.
Wen	... in value. And you've got 4 mauves left over because over here you've got 4 mauves to make it up.
Pup	Ja.
Wen	So in fact this shape is how many turq? All together now? You've worked out that there're 2 turq that could actually go in here if you cut them up.

[Pupils count] 14...ja...

Wen	14. Then you've worked out that there're 2 more.
Yan	Ja. 3 more.
Wen	So you've got ...
By	If you cut those up...
Br	Ma'm it would be...a third.
Ru	No, it would be a quarter.
By	No, it's 2. Just wait, just wait. That's 4 & 2. So then...um... that would be 2 in 3, that would be 2 in 3 [2 turq in 3 mauve]. So if you cut that up... if you cut that up...
Yan	I'm not getting to understand this properly ma'm.
Pup	Ja.
Br	It would be..(?).
Wen	Ja. I think Brandon's getting somewhere. Look, let's go back to where we were before. That's what we made. Okay? But Byron, or one of you, I can't remember, somebody said that some of these are equal in value to some of those. *[Pupils explain.]* So you then said, okay let's try & work out how many turq are equal to these 4 mauves. Now you've only got those 4 mauves, there're no more mauves, because that's your value there, okay? [Pupils saying "ja' etc. throughout this explanation.]
Pup	Ja.
Wen	So you said, Byron ...okay....
Yan	There're 5 mauves now ma'm.
Wen	So you said 4 mauves, because there are how many whites in each one? 4 whites in each one. Is that right? There're 4 whites in each one. But there're

> 6 whites in each of these (turq). So you said...uh...um...one of these... means that there're 2 whites left over..(?).

By   Let's just make a white stack.

Wen   You would do that.

[Pupils talk. Indecipherable.]

Wen   Then you've got 2 left over there.

By   Ja. So put that there and then you put that one there ...

Byron matches 3 mauve to 2 turquoise thus:
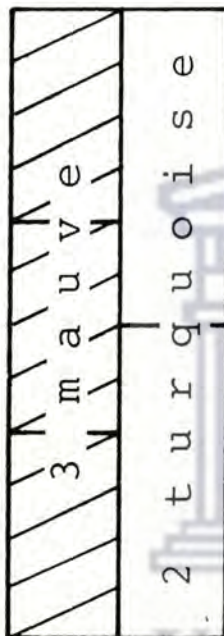
Wen   That's a good idea. That's a good idea. You see.

Yan   Ja, but look it's a bit longer than the other ma'm.

[Yannick notes that the rods are not cut with great precision.]

Wen   Now what you've got is 3 mauves & you're showing that it's equal to 2 turq.

Yan   It's not ma'm.

By   It is.

Wen   Let's see. It's poorly cut. It's poorly cut.

Br   So that means if you had 4 whites that would be 6...would be 6 turq ma'm.

Pup   Yes.

Br   If you had 4 turq...

Wen   No, you've got 4 mauves.

Br   Yes.

Wen   So 4 mauves ...

[Yannick still commenting on badly cut rods.]

Wen   Now you had 4 mauves here. Byron has now said that 3 mauve is equal to 2 turq. He's shown that by balancing the rods here, by putting the one against the other...

Pup	Oh! Ja!
Wen	Okay? So those 4 mauve that you have there, 3 of them are equal to two turq., but you still have one over. So in a sense this shape could take so many turq & one mauve...
Pup	Ja.
Wen	And Brandon was trying to say what fraction that was. What fraction is it Brandon?
Yan	Uh..it's...uh.
Wen	Can (does) anybody know? Ruald, what about you?
Br	3/4 ma'm.
Wen	No, it's 4 of what?
Yan	4 of.. uh..
Wen	It's 4 whites, and these are...?
Yan	Turquoise. Those are sixes.
Wen	Those are sixes.
Pup	Sixth.
By	Here's a white sixth, so you can measure it.
Yan	4 sixes...4 sixes.
Wen	Well done. So in fact you can say that that shape takes how many turq now? Ten and ...
Pup	14.
By	16.
Yan	14.
Wen	16. No, because you replaced, remember you said ...
Yan	Oh ja! Ja!
Wen	So it's 16 and 4/6 turq.
Ru	I was the closest.
Wen	Ja. That's what Yannick said. You see Brandon was on the right track when you started with a fraction. Then Yannick started to work that out.
By	He was just a fraction away ma'm. He was just a fraction away. *[Said with great delight and excitement.]*
Yan	Ja.
By	Beukes said 17.
Wen	Who?
By	Beukes.
Wen	Ruald, you see that? 16 & 4/6. You were 2/6 away from being correct, because you said 17. Well done Byron for noticing that ... you were just a fraction away from right.
Br	Now what's next ma'm. What's next ma'm?
Ru	The blue ma'm. I've been working at it.
Wen	Okay.
By	I've done this thing so we can measure what it is.

Yan   Uh...brown.

Ru   Ma'm, I've been on this blue but look here. You need a set of whites on top to make it the same size.

[The children set out further rods while talking & finishing off the turq. rectangle.]

By   Man, you mustn't do this. You must do that.

[This refers to Ruald placing an orange rod horizontally below the blues, for measuring purposes; whereas Byron wants the orange rod vertically alongside so that they can measure length of one blue rod against that of one orange.]

Wen   Are you looking for how many blue? Let's guess first. Ruald?

Br   Okay, I'll guess that this is... this is ...

Wen   Yeh, but that one looks easy enough to guess now.

[Children are looking at the still incomplete blue rectangle.]

Br   18 ma'm. Guess why ma'm. I counted them. Here's 10 (the rectangle) and I counted 8.

Wen   Um... now we're guessing blues.

Ru   10 and a ...

Wen   Blue guesses please. Blue guesses please. Ruald?

By   Ma'm look at this. Ma'm look at this.

Ru   11.

Yan   11.

By   Ma'm look at this. Look at this.

Wen   You're all going to go 11.

Br   11.

By   12.

Wen   You're just saying

By   Ja.

Wen   No, don't just say. Guess. They've all looked at it, of course. That's why they're saying.

Ru   They're all copying me, ma'm.

Wen   You want 12?

By   10.

Wen   But you had orange making 10. Blue is 9 remember. Orange is 10.

Ru   Ma'm, they must choose some other, I said 11.

Wen   Think about it (to Byron). I mean look at it.

Ru   No ma'm, but I said 10 ... I'm going to say 10 and 8/8.

Br   Then they're all going to.

Wen   You shouldn't have made it (the rect.) you see. Everybody got a tip from seeing it on the carpet. Anyway let Byron say what he thinks.

By   12.

Wen   12. Okay. Make blue & remember it must be the same size as orange.

[General comment by the pupils while they build the rectangle. Yannick gets his logo "camera" and takes a picture of us.]

Wen	Same size as orange, hey.
Pup	Same size.... same size.
Wen	And same length. You know, all round must be the same.
By	[counting] 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
Wen	So now you're going to have to work out ...
Ru	Same size.... same size.
By	And this ... just wait!
Ru	There's 10 already.
Wen	There's 10 blues already.
By	It's one off. It's one off. Um...
Wen	Hang on. At the moment you've got 10 going this way and then...*[Wendy draws the shape on the carpet].*
Yan	Wait, ma'm.
Wen	Is that 10 you've got there? Is that 10 little whites you've got there? How many whites have you got?
By	No ma'm. It's ... it's ...look there ... it's one off.
Yan	Ja.
By	It's one off. *[Byron then demonstrates]*
Wen	How do you mean? No, how many whites have you got there? Isn't it 10 whites that Ruald's put there?
By	1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
Wen	Yes.
Br	But we've put one black in (?).
Wen	So we've got 10 whites. And how many blues have you got down Ruald? 10 blues?
Ru	Yes ma'm.
Wen	10 blues.

[There are now 10 blue rods in a row capped by 10 whites to make the rectangle the same size as a 10 orange.]

Yan	Ja, it's ... it's cut off ma'm.
Wen	Ja, so what're you going to do about those whites?
By	It's not 11. Look here. Look here.
Ru	I mean it was 10 blues.
Wen	No Ruald.
By	Look there. Look there.
Wen	No, Ruald is saying it was an 11 guess. I'm saying how many blues do you need?
Ru	Ma'm, but it must be the size of the orange, ma'm.
By	No ...
Ru	Not the size of the blue.

Wen	Yes.
By	Look here. Look here. Just give me ...
Ru	It must be the size of the orange.
By	Yes I know. It is the size of the orange but what I'm trying to say to you ... you ...
Br	That's 9. [pointing to the blues.]
By	You say this is 10 over here & you think that's an extra blue, but it's not. Look here, you put the blue over there & you've got one extra. You see.

Byron demonstrates thus:
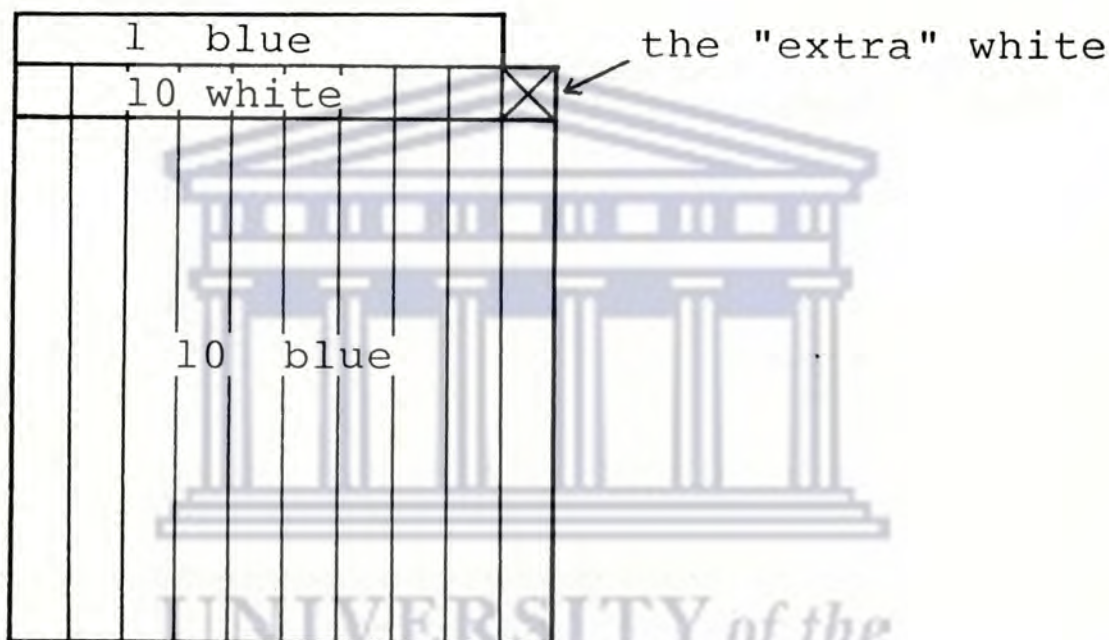
Br	Oh yes ma'm. So it's ... so it's ...
By	It's 11 and whoooo!
Br	And 1/3.
By	No.... it's not ... 11 ...
Wen	Brandon's got the idea of the fractions, but you've got to think ... like ...
By	Just wait. Just wait. Just wait, man! [shouting at Ruald]
Wen	(?) Yannick said it was 1/6. Now where did he get 1/6 from, Ruald?
Ru	10. 10. 10. 10.
By	1, 2, 3, 4, 5, 6, 7, 8, 9. Hang on. Uh...uh...it's 11 and 1/9.
Wen	11 & 1/9.
By	11 & 1/9.
Wen	Byron says it's 11 1/9. Ruald?
Ru	I don't catch this.
Wen	No, but do you want to re-guess?
Ru	Yes.
Yan	I go for Byron's.

Wen	No, you're not even thinking now. You're playing the fool. *[Yannick is asking me to smile for the camera.]*
Br	It is 11.
Wen	Let's see. Just let Ruald make it again. Ruald just make it again.
By	It's 11 & 1/9 ma'm. I did it.
Wen	But you're not convinced (Brandon), and you're not convinced (Ruald) and I don't know yet. So let's ...
Br	Ma'm, how did Byron do it anyway, ma'm?
Wen	No look. Ruald is making a shape that's got to be the same size as 10 orange. Have you got 10 blues there Ruald?
Ru	Yes, ma'm.
Wen	But he notices ...
Yan	It's not the same height.
Wen	It's not the same height. You see, so you've put in 10 whites along the top to make up for it. Right? So put your 10 whites in.
Yan	10 whites is a whole, ma'm.
Wen	Uh... but ... hang on ...
Br	I said 11.
By	Just let me explain.
Wen	Yes, but just let him finish making it.
By	Okay. Make it.
Wen	Make it & then he must move his orange rod [used to keep same size & shape].
Br	Ma'm, Byron said this was 1/3 ma'm, and it's not the same as the blue ...
Wen	Hang on, you've got ... you're missing a white there.
By	You're missing a white.
Br	Byron's right ma'm. Byron's right ma'm. It's ...
Wen	Right, take your orange away because it puts you off. Now you've got a shape that is exactly the same size as your orange. Okay?
By	Now look here ma'm. Look here. They have got 10 over here, hey? Now they ... Ruald thinks this is one blue [10 whites] but ...
Br	It's not ma'm.
By	You see over here. It's one white off the blue. So ... this is equal to 9 whites over here. So ... it's 11 and 1, 2, 3, 4, 5, ... [counts blue rods].
Wen	10.
By	There's 10 over there and 11 over there and then 1/9 over there. See?
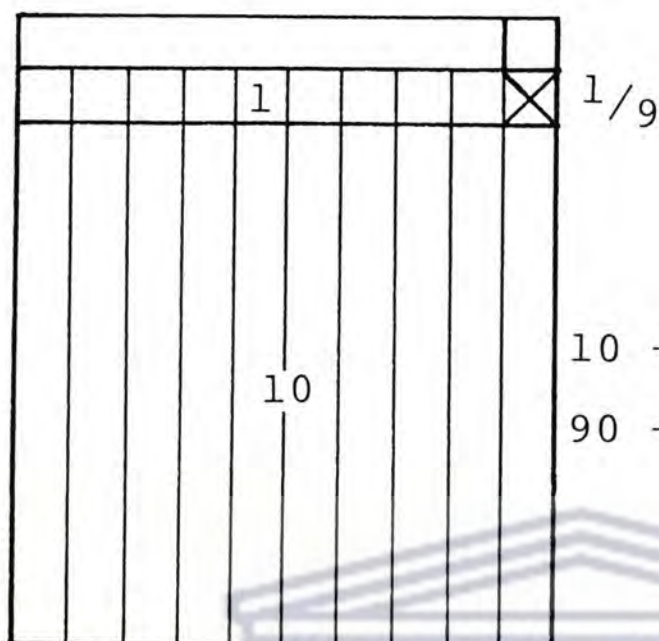
$$10 + 1 + {}^1/_9 = 11{}^1/_9 \text{ blue}$$
$$90 + 9 + 1 = 100$$

Wen	Does that make sense to you?
Br	Yes ma'm.
Wen	Ruald?
Yan	That's obvious ma'm.
Wen	Ruald? What do you feel?
Ru	It's okay. *[conciliatory tone.]*
Wen	So how many blues do you reckon that takes?
Ru	Say about 12.
Wen	12.
By	You agree with me. [laughs]
Wen	Move that blue one away. Move that blue one away. The top one. Where do you get 12 from?
Ru	With you counting ma'm, I don't catch it.
Wen	Okay. Byron, explain again.
By	Okay. Now.
Yan	Oh holy mac!
Wen	Do you understand?
Yan	Yes ma'm.
By	There's 10.
Wen	Watch Brandon.
By	There's 10 over here.
Wen	So that's already 10 blues.
By	Now you thought it would be 11, because this would make another ...
Yan	10.
By	Another ... another blue, but you see, there's one white off ... you see there's a space over there because it's one white off:

one white off
1/9

1

10
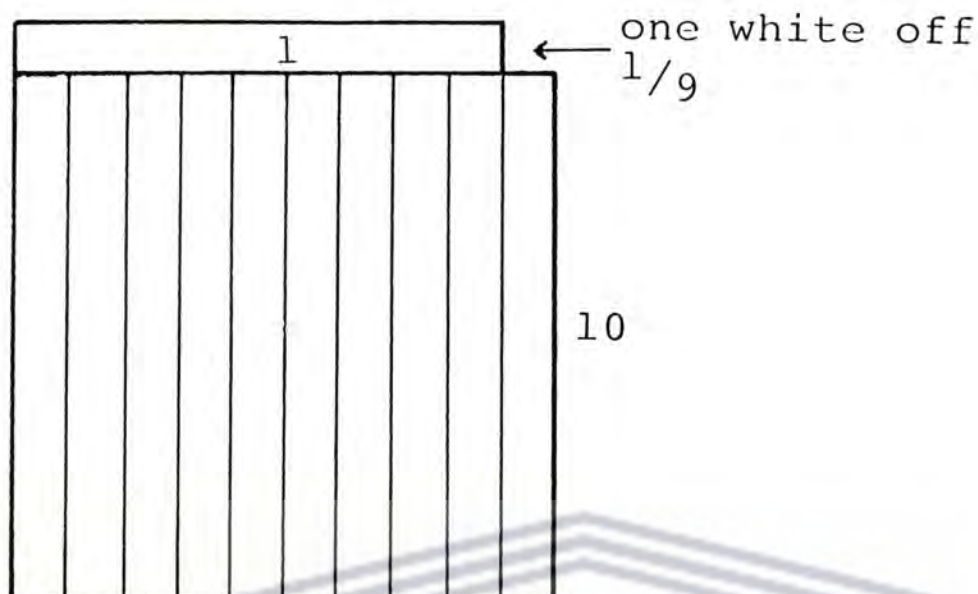
By	So that makes 10, that makes 11 and 1/9, because these ...
Yan	That's 9 not 10. [blue = 9].
By	Ja.
Ru	Ma'm what about this one?
Wen	[to another group] It's magnificent. Well done.
Ru	What about this one?
Yan	Look here ma'm.
Wen	He's counted that. He's counted them Ruald, because he says there are 10 blues there.
Ru	Yes ma'm, but there's one thing ma'm. This 9, it's not 1/9 because ...
By	Ah come on! Please. Don't make it ...
Ru	Because you added this one.
Wen	No. Byron is saying that the one white one left over there is equal to 1/9 of a blue rod.
By	Ja.
Wen	Because it takes 9 whites to make a blue rod.
By	Look here Beukes. 10 and that's 11 because it's all whites making up that one and this little one is equal to 1/9 because, look here ... that is ...
Ru	That is blue.
By	That is 10 altogether. [*demonstrates*] Now this is a ninth, you see? Because there's 9 fits in here. 9 fits in here. Okay? So then that's 11 and then ...

[*Byron demonstrates by matching a blue against 10 whites. He then shows how 1 blue replaces 9 whites in the square. This then shows the square made up of 10+1 blue rods, making 11 blues and the one remaining white rod represents 1/9 of a blue rod, thus making 11 and 1/9. As below:*]
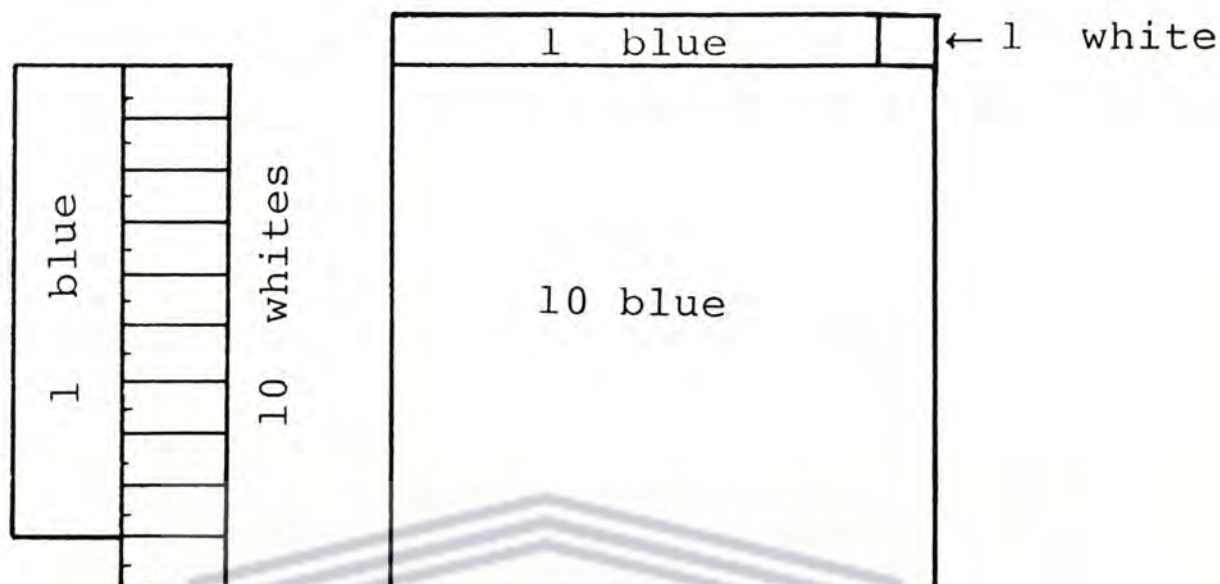
Wen   Are they still confusing you? Hey? What do you think?

Ru   It's getting boooooring!

[Wendy laughs loudly]

Yan   We're on the brown now.

Wen   Ruald you're terrible. You always say it's boring when you decide that it's confusing! Okay, what colour are you going to try now?

Wen   It must be made in front of the group, Yannick. So you must make it over here. (?) Yes it's true. What colour are you going to make Yannick?

Yan   Brown ma'm.

Wen   Right. Yannick wants guesses for brown, please.

Yan   Brown guesses.

Wen   Brown guesses, please.

Yan   Put that away.

By   Oh, brown.

Ru   10 and 1. I must just ...

Wen   How many? Just think about the value of brown. What is the value of brown?

Br   This is an eight.

Wen   That's an eight.

Ru   10 and 1/8 ma'm.

Br   I say 12 ma'm. I say 12 ma'm.

Wen   Brandon says 12.

Yan   10 & 1/8.

Wen   Yannick says 10 & 1/8. Byron?

By   10 & 1/8.

Wen   Byron says ...

By   No just wait. *[laughs]* This is ... Let me see a brown one here.

Wen	Give him a brown rod to see. Here you are. [laughs]
By	Uh ... this over here.
Wen	There're 8 whites. Are there 8 whites, Yannick, to a brown?
Yan	Ja.
By	Let's see now.
Yan	Hey Beukes, you can't work it out.

[Ruald is building a brown rectangle! Byron is matching a brown rod to white rods and an orange rod.]

Wen	No, you've got to guess first. *[in response to the building]*.
By	You've got to guess first.
Wen	Unfair to make it first.
By	1,2,3,4. 1,2,3,4. So it's 8. So..um...
Yan	I'm going to take a different guess ma'm.
By	10 & 2/8.
Wen	How many was blue? 11 & 1/9.
Yan	Ja.
Ru	I said 10.
Wen	11 & 1/9. Now brown is eights.
Ru	I say 10 & 1/8, and next one I'm taking 9 & 1/8.
Wen	Okay, and Brandon says 12.
Ru	How much does this black equal?
Wen	And Yannick says 10 & 1/8. Byron, what are you doing?
By	10 & 1/8.
Yan	I'm sure I'm going to change my mind, ma'm.
Wen	We'll see. Brandon's going to be closest. That's my guess. My guess is that Brandon's going to be closest. I don't think you're right, but I think you're closest.

[*Pupils interject*]

Wen	Yannick, you build it now. Come on.
Yan	10 & 2/8.
Wen	Build in brown. Do you want to change to 10 & 2/8?
Yan	Yes, ma'm.
Ru	Build it Yannick.
Yan	Wait!
Br	Hold it, Yannick.
By	10 & 2/8 ma'm.
Ru	Ma'm, that's ... I'm taking 10 & 1/7.
By	I thought it was less but it's got to be more.
Wen	Let's see. Yannick's going to build it now. Do you want browns from here?
By	I've got it. I've got it! 11 & 2/8.
Yan	I was thinking of that. Score to my name 11 & 2/8, ma'm.
Br	11 & 1/8. 11 & 1/8 ma'm. 11 & 1/8.

Wen	You've got 10 in a row now.
Br	11 & 1/8 ma'm.
Yan	11 & 2/8 for me ma'm. Look ma'm, now this is 10 ma'm, but if I add this on it's 11 ma'm.
Ru	And 1/8.
Wen	Hang on. Wait. Yannick's going to explain.
Yan	And then to make it 10 ma'm, you need 2 here.
Pup	Whoooh!
Wen	Yes. You understand?
Yan	11 & 2/8 for me ma'm.
Wen	So .. well you're muddling it now. Take 2/8. You're saying that 1 eight is equal to 8 & 2 whites to make a 10. But now you've got your 10.
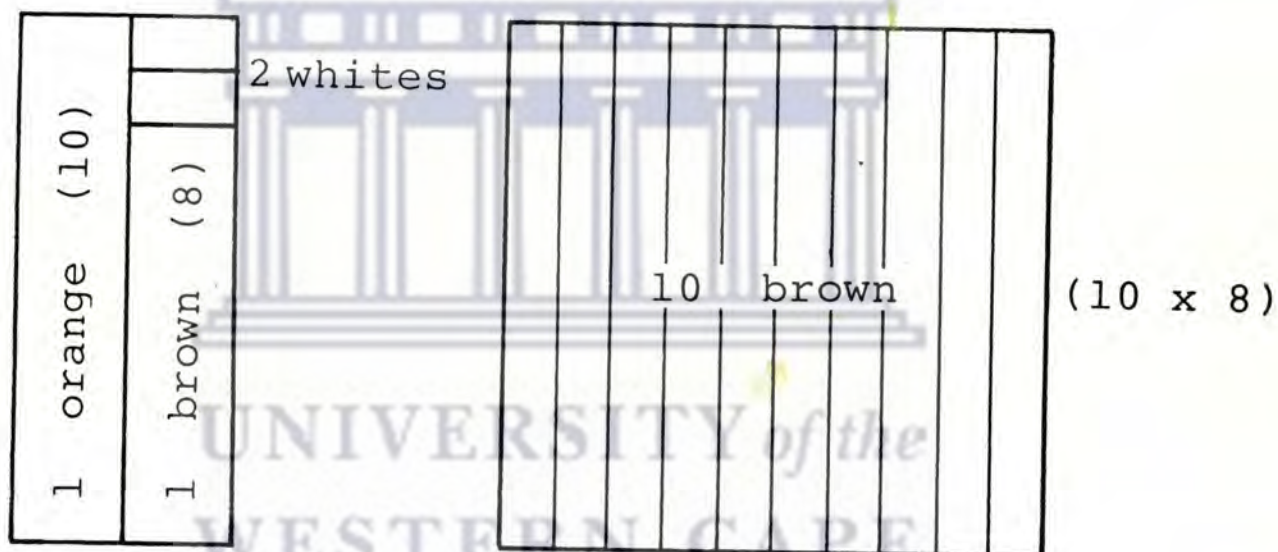
By	Just wait. Just wait!
Wen	Sorry, you've got your 10. That's it. Now put your 2 eights there and then it makes sense. Now you've got the exact same shape as the ... you don't need that other one Byron.
By	Pardon?
Yan	You don't need this one here.
Wen	No, we don't.
By	Oh!
Wen	It's got to be the same length as the orange & the same ... uh ... the other way as the orange.
By	10,11,12, It's 13. It's 13.
Br	Ma'm, I was close ma'm. Just one away ma'm. Just one away. *[with great regret.]*

Wen	Okay. Here we are. Look at it. He's made it. And just to double check ... it's got to be the same. Hang on, something's wrong here.
Yan	No ma'm. It can't, because look ma'm, it can't go from 1 ten to there.
By	Here it's got to ... got to ...
Yan	Look ma'm. It's got to ...
Wen	Something's wrong. It's got to have 10 in a row. *[counts to 10].* Okay, now it's got to be the same height.
By	Build that orange again. Build that orange again.
Yan	Ja.
Wen	No. Look what he's got. Look what he's got.
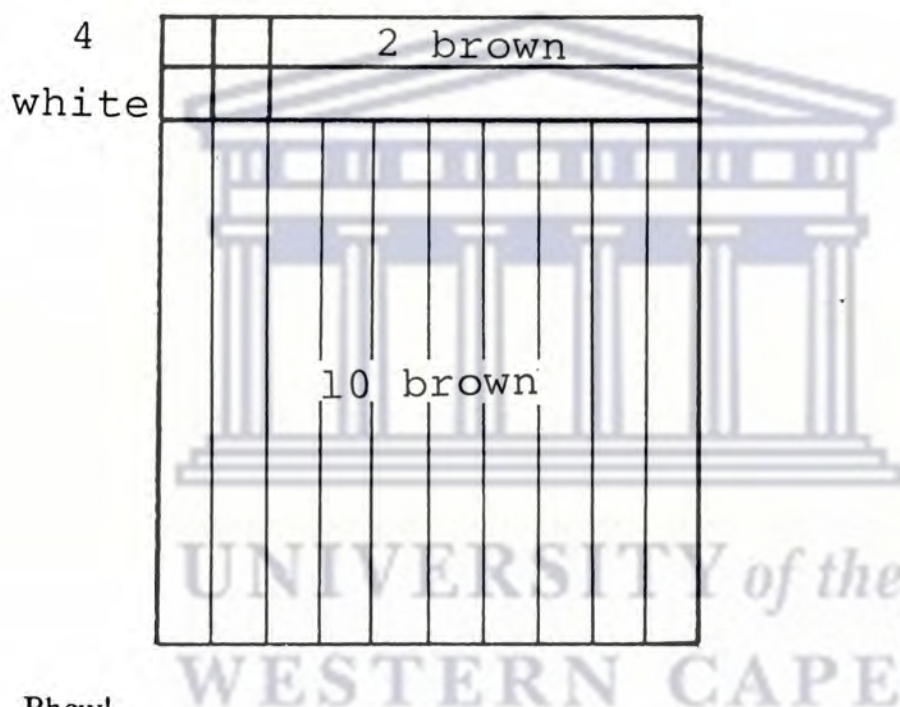
Pup	Phew!
Wen	Look what he's got. How many browns?
Yan	Uh, there're 10, 11, 12.
By	13.
Yan	No, 12 and uh ... a quarter.
Wen	No, 12 and ...?
Yan	um... um...
Wen	4 pieces of ...?
Ru	4 eighths.
Wen	Exactly, Ruald. 4 eighths. So it's 12 and 4/8. Who was closest? So 12 & 4/8. So you've got a shape; let me draw that shape. You've got 10 browns here & you've got 2 browns here, and here ...
By	I was second closest.
Yan	We were both second closest.
By	You were 11 & 1/8 and I was 11 & 2/8.
Yan	That's Ruald's. [referring to the written guesses].

By	Where's yours? Yours was 10 & 2/8 and mine was 11.
Br	I said 12. I said 12.
Wen	Brandon said 12. He was definitely the closest. Now what colour are we doing now?
Yan	I'm taking black.
Wen	Guesses first. Guesses first. Blacks.
Ru	Ma'm, nobody's allowed to copy each other. Okay, ma'm?
Wen	Well you might both be guessing the same thing.
Ru	Okay.
Wen	Ruald what are you guessing? Do you all want to whisper in my ear?
Pup	Oh goodie (?).
Wen	And I wont show anyone what I'm writing.

[Ruald whispers 13 & 3/7; Brandon 14 & 5/7; Yannick 9 & 1/7.]

Br	He made it ma'm.
By	14 and ... um... 14 and ...
Yan	I'm changing mine ma'm.
Ru	You can't change.
By	How many is this black equal to ?
Ru	Sevenths.
Wen	Black equals seven.
By	14 and ... 14 and ... 14 & 5/7.
Br	No, 13 ma'm.
Yan	I'm off track ma'm. I'm off track.
By	This was 13. The brown was 13.
Wen	Do you want to change?
Yan	Yes ma'm.
By	Ma'm, the brown was 13 hey? The brown was 13. The brown was 13 hey ma'm?
Br	12 & 1/8.
Wen	Right. Ruald will you make it please.
By	Ma'm, how much was the brown?
Wen	Brown was 8, black is 7.
By	No, but I mean in the square. How many ...?
Wen	Oh, 12 brown, 12 & 4/8.
Ru	Ma'm, make mine 12 & 3/7. The brown was 12 & 4/8.
By	Yes, I think I may be right.
Ru	Ma'm, I'm making 12 & 3/7. No, 11 & 3/7.
Br	I took another guess, ma'm.
Wen	Are you changing? Do you want to change to that? 11 & 3/7?
Yan	I'm going to change ... 12 & 3/7.
Wen	Brandon, you still happy with your 14?
Br	No, 13 ma'm.

Wen	13 exactly, or 13 and some sevenths?
Br	13 & 1/6, ma'm.
Wen	One sixth?
By	One seventh, you mean.
Br	No, 3/6. 3/6.
By	3/7. How can it be a sixth when it's a seven? How can it be a sixth when it's a seven? *[laughs]*.

[Much arguing. Indecipherable.]

Wen	No, we're not changing any more because you're making it now.

[Ruald's guess goes from 13 & 3/7 to 11 & 3/7. Brandon from 14 & 5/7 to 13 & 3/6. Byron from 12 & 1/8 to 13. And Yannick from 9 & 1/7 to 14 to 12 & 3/7. Pupils argue now about changes and rules and guesses while Brandon makes the shape.]

Wen	You were crazy to change it Ruald. What have you made there? (to Yannick) Okay, let's work it out. How many now?
Ru	13 & 3/7, ma'm.
Wen	You need some blacks.
Yan	No we don't ma'm.
Wen	Let's just see what he's doing.
Ru	It's 13 & 3/7.
By	13. Let's see what I took.
Ru	14. It's 14. You're right.
By	I took 13 and ... No, ma'm, I didn't take 13 ma'm.
Yan	I'm staying on 14 ma'm. I'm staying on 14.

[Yannick takes the paper from me and crosses out his final guess of 12 & 3/7.]

By	I took 14 & 3/7. *[Wendy laughs]*
Ru	I'm getting warm. I'm getting warm.
By	You're getting (killed?)
Br	6,8,9. It's 13 and nine thirds.
Ru	Nine sevenths.
Br	We were all close ma'm. I was the closest.
Wen	What have you got?

[Pupils argue as to who was the closest.]

Wen	Ruald, how many whites have you got there?
By	How can it be an eighth if ... if ...
Wen	3,6,9 whites have been used.
By	Just wait. It's 3,6,8.
Wen	Hang on now. You've got to replace whites with black.

By	Now if that's going to be one hey? If that's going to be one. That's going to be 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13. 13. Just wait. 13 and it's a seventh, hey?
Wen	It's a seventh.

[Pupils arguing and chattering]

By	6,7. So that's 14. That's 1, 2, 3, 4, 5, 6, 7. *[Byron counting the whites.]* 14 & 2/7.
Yan	I was the closest. Yippee!
Wen	It's 14 & 2/7. Brandon look how close you were at one stage [shows written guesses]. You've been the closest each time and then you change your mind.
Yan	And then I changed my mind to the closest.
Ru	We're finished ma'm.
Wen	So it's 14 and ...
By	2/7.
Wen	So actually, black is ... uh ... 14 & 2/7.
By	I always work it out.
Wen	Yes you do. So now you've got...*[Wendy draws the shape on the mat.]* That's right. What's the time? We must stop here now.

APPENDIX B.

<u>Transcription of a 'negotiating the curriculum' lesson.</u>
<u>30.4.85.</u> (The children are in standard three.)

Wendy   My problem is this. I had the feeling to-day that there were many people who actually weren't really learning a great deal. Sometimes when I come I have the feeling that everybody's learning something. Now I don't know because I obviously don't know what kind of learning is going on in your heads, only you know that, and I'd be quite interested for you to comment on my impression. Is my impression reasonably accurate or is it inaccurate? In other words, I mean I realize you must have been learning something in this lesson about something, but I'm ... I'm suggesting how many of you actually learnt anything about maths, about maths investigation, about cuisenaire rods, about calculators, the kinds of things where I have defined the parameters. And how many of you are not really into that to-day? That's my feeling. Am I right or am I wrong? Who feels that they didn't gain a great deal in that area this lesson? Who could sort of comment? Thanks Richard, can you comment why?

[Children intercede and suggest, inaudible]

Wendy   No, let Richard comment why. Don't tell him why. How do you know? I could also make my guesses. It's up to Richard himself. We respect his opinion. What do you think Richard?
[long pause]

Wendy   You'll have to sort of tell us what was going on in your head, for us to understand.

Richard I wasn't always concentrating.

Wendy   Can you tell us why?

Richard I was playing around.

Wendy   You were interested in playing around, so you were concentrating on playing around. What sort of playing around were you concentrating on?

[Richard describes with voice and gesture how Julian was 'hitting' him, as he wanted to know how to do this particular physical 'hold' on another person. Julian demonstrates the hold.]

Wendy	So you were concentrating on this physical movement that Julian knew. Did you learn it in the end?
Richard	No, Ma'm.
Wendy	Why not?
Richard	He didn't teach me. He said first I must (inaudible).
Wendy	And he didn't teach you in the end. Julian are you going to teach him?
Julian [laughter and boos]	No.. I don't know.
Wendy	Julian tends not to share very quickly, hey? When he's got secret codes on the calculator he does the same thing. He hogs them to himself. Who else thought they didn't learn anything about maths to-day? Thank you Richard.
Byron	I learnt not so very much. We were counting then and just saying, `Oh well, just write this, just write that'.. and concentrating so much on what we were writing. (worksheet 4)
Wendy	So in other words you weren't really investigating?
Byron	No.
Wendy	No. I actually appreciate what Byron is saying because remember once when I brought worksheets here. I said once, `What's the use of me bringing worksheets here if they don't really switch you on?'
Pupil	(inaudible) ... boring
Pupil	(inaudible) ... don't use them properly.

[Quite a lot of comment and overlapping of conversation... difficult to transcribe, but can isolate my voice and that of Byron's.]

Wendy	Well it's just exactly what Byron says. Those worksheets ... if you don't do what it suggests on the worksheet, the worksheet becomes boring. You know ... it's just a pointless exercise, and I think that's what you're saying to us.

Byron	Yes, Ma'm.
Wendy	Whereas in fact Curt and Simon I think, felt quite interested and absorbed.
Curt & Simon	Yes, Ma'm.
Wendy	And they were all working on the same worksheet , so it's quite an interesting difference that Simon and Curt were absorbed in a way you were not. Do you think you were absorbed Paul? You were doing the same worksheet.
Paul	Yes, Ma'm. Ma'm um ... I learnt something new about maths Ma'm. I learnt um ... about that green, blue stuff. I was quite interested in that, Ma'm.
Wendy	Can you put that into mathematical language?
Paul	Mathematical language? No, Ma'm.
Wendy	You were sort of using mathematical language when you were talking about the orange rectangle and the green rectangle.
Paul	Yes, Ma'm.
Wendy	And what were you talking about?
Paul	I was talking about ... about ...
Wendy	So you can't ... you're not ready to put that into maths language yet?
Paul	No.
Wendy	You'll get there though, I think. Colin how did you feel, because you were on the same worksheet?
Colin	I didn't learn much. I learnt a few things.
Wendy	What do you think you learnt?
Colin	It's mainly things with patterns and different shapes ... um ...
Wendy	So in a way you're feeling that you're gaining knowledge about numerical patterns and that within that patterning you're seeing number patterns as well, or are you seeing geometrical patterns?
Colin	Mainly ... a bit of both.

Wendy	What did you learn to-day, Alwyn?
Alwyn	Not much, Ma'm. Because you see, there was not much to learn about the calculators.
Wendy	So in fact you aren't pushing yourself into programming yet. You're kind of hanging about the edges there. Other calculator comments? Any other comments anybody wishes to make? I have a question to ask then. Should I keep coming? That's the first thing. Should I come back?
Pupils	Yes, Ma'm.
Wendy	Do you think there is any value to your learning in my coming?
Pupils	Yes, Ma'm.
Byron	If we turn from maths to last year's ones ...
Pupil	Ja, reading.
Pupil	Ja, `Would you rather...'
Wendy	No. I'm not going to do `Would you rather ...' again. I tell you why. I actually don't want to move from maths at the moment. I'm, happy to move from maths when we are all sick of it. But I think what is happening is that every time I come here somebody has done something that I find exciting...
Curt	.... amazing

[other noises of agreement]

Wendy	And I think some of them have found exciting, and as Curt says, `Amazing'. Um ... and I think that justifies us continuing with maths, but I think there is the other aspect that maybe there is some other kind of apparatus that I should bring. In other words, bring the calculators and the rods, but maybe something else as well [chorus of yesses] or perhaps some different kind of activity but within the maths.
Pupils	Yes, Ma'm.
Wendy	Now I know a lot of people are saying `yes, ma'm'. Anthony says, `Yes,Ma'm', Carl says, `Yes,Ma'm'.

You two have not even begun to investigate what others have already been investigating. So you must be careful of just flitting from one thing to another and not learning anything. Carl, you're going to have to watch that because um ... otherwise you're going to wonder yourselves what you have learnt. I don't mind if that's your style of learning, and that's what you must do, but you must be a bit careful of it, because some of you ... I noticed to-day Anthony, Fernando, Mark and Nigel, have quite a lot of problems with this style of learning. You tend to sort of muck about, or it looks like you're mucking about. I don't know if you are, but it looks as though you are. You don't sort of settle to the maths investigation.

Fernando   ... really getting into it and ...

Wendy   Ja. That was my feeling. Do you think I'm right to have that feeling, Fernando?

Fernando   Yes, Ma'm.

Wendy   Do you think it is an accurate impression that I have?

Fernando   Yes, Ma'm..

Wendy   You think so? Ja. I don't know what it is. You'll have to think about it, why is it. Maybe you're very accustomed to having a teacher, remember you're new in this class, maybe you're very accustomed to having a teacher direct you and tell you what to do. Now all of a sudden you find yourselves in a situation where you've got to decide what you have to do, and it's a bit strange, so perhaps you're still feeling your way. I don't mind, but I'm a bit conscious of that, and I think you need to be conscious of that as well, so that you can begin to direct yourselves.

Alright then, I'll look to see if there is anything else that I could bring down. But I would prefer if I come again to maintain these parameters, and say only maths investigation. So on that score I want to negotiate with you. Can I come again as long as it is maths investigation?

Pupils   Yes, Ma'm.

Wendy   Okay.

Byron   But bring something different on maths
           investigation.

Wendy   Ja, okay. Except, of course, you didn't really do
           worksheet four anyway to-day.

Pupils   Yes we did, Ma'm.

Wendy   Yes, but Byron said he didn't think you really
           investigated it. I think you tended to rush
           through it.

Pupils   Yes, Ma'm.

Wendy   I don't know, that was his impression. What was
           your impression?

Yannick   Well we still did do it.
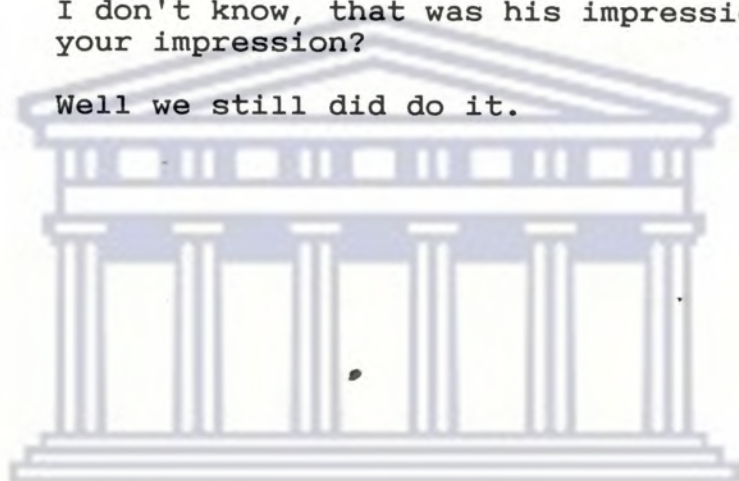
APPENDIX C

Transcription of the final interview. 25 March 1987. (The children are in standard five.)

This interview was video-recorded at UCT in the TV studio one morning during school hours. It was agreed that any child who had at any time participated in the project (the classes were rearranged each year) could join in the interview. Those who did participate all did so at their own discretion, so there were some who had been in the project for three years while there were others who had been in for one or two years. Some children had left the school by this stage. Eighteen children were in the studio, and fourteen of these have been positively identified as contributing to the interview. There had been a full year's interval since I had worked with these children as teacher-researcher. I had, however, seen them on the occasions when they came to UCT (University of Cape Town), e.g. a master's student worked with them for a while evaluating computer programmes in 1986, and they came to UCT for a few days in 1987 for student teachers to teach in microteaching programmes. In my opinion the relationship we had developed was still, to some extent, in existence so that the interview seemed to be carried out in much the same relaxed way as interviews in the final stages of the project itself. Immediately prior to the interview, I showed a video-recording of a maths lesson we had undertaken together in standard two. I hoped that this would remind them of the project that we had undertaken together, set the scene as it were. Watching their reaction during the showing, though, left me with the suspicion that other than for shrieking with laughter at how "babyish" they all were in standard two, the video bored them, they wanted 'to talk, not look', was the suggestion made to me after some way into the video. During the interview the microphone was managed by some of the children, with Fernando taking main responsibility for passing it around. I attempted not to interject verbally between contributions, unless I had something specific to ask or say. I hoped that in this way the interview would run freely, and allow for as much pupil talk as possible. The session lasted about one and a half hours.

WENDY   The very first thing that we have to decide is how
            we are going to run this interview. Who's got
            ideas?

PUPIL   Um ... How do you mean by `running' it Ma'm?

WENDY   Well I mean in the sense that um ... you might
            want to question me, as well as me question you.
            Do you know what I am trying to say? I mean the

interview could go both ways, not just from me to you. It could go both ways. I dunno how you want to run it, so those were just suggestions. I mean I have questions that I would like to ask you.

CURT   I think you should actually ask the questions like, first Ma'm.

RUALD   So you ask first, and we ask last. Or we can mix it Ma'm, like you ask about ten questions and we ...

COLIN   A general debate.

BYRON   Ma'm so you can jog our memories asking us questions then we will remember more so that we can ask you questions afterwards.

WENDY   Alright. So then in other words then let's keep it free and informal and then everybody that's sitting here feel that he can contribute when and if he wants to. Alright? So it's not a case of asking for permission or thinking I better not say it, or something like that. I think it needs to be quite a free thing because we're thinking back now, we are not going forward. We're thinking back on what happened, okay? So then I will start with some questions and then you just come in with your questions that you might have for me. One of my first questions to you is, 'What do you think my time with you was really all about? What do you think my time with you was really all about?'

RUALD   Um ... Ma'm, I think it was about teaching us how to use the computer, how to programme the computer, generally how to use it.

CURT   And like getting us, like, you know, like how to get used ... how to get used to maybe the computer, like this. Telling us Ma'm, or just starting us off, Ma'm.

RONAN   Ma'm, I think to see how we react when we use the computer, Ma'm.

PAUL   Ma'm, to er ... er ...[laughs] getting like I was when I was younger! Ma'm, er ... er ... it was like not just computers, it was also that mathematics thing and everything, like, it also taught me quite a bit about mathematics, as well as computers.

BYRON   I think also 'cause the computer is gonna be,
         like, er ... a future working er ... um ... how
         would you say it ... um ... working instrument.
         And I also agree with Paul with the mathematics
         and er ... taught us quite a bit about computer.
         And like another part of your brain, like, came
         in, like thinking; and with games, if you know
         what I mean, like. It er ... what's the word,
         gave us the oomph to get mathematics into our
         brain Ma'm.

PUPIL   Ja.

BRANDON Um ... Ma'm I think, er ... I agree with Paul
         Ma'm, about the mathematics, Ma'm, and you also
         getting us ready for the computers Ma'm, because,
         in the future generation Ma'm, the computers is
         gonna be like a everyday thing.

RUALD   Ma'm, I think it helped me with my mathematics
         Ma'm, because like that one puzzle Ma'm, where we
         had to put the numbers so it equals ten. Was it
         ten or was it ...? Fifteen in each row Ma'm.
         That helped me a lot in mathematics and in the
         squares how to put them around, that taught me
         about decimals.

BYRON   And the fractions Ma'm. The game with the
         fractions.

PAUL   Well, I think it's like a new way of learning,
         like it's not just like boring old mathematics,
         it's like more of er ...

WENDY   Can I ...

PAUL   ... exciting.

WENDY   Can I push you back in your memories and include
         the whole of standard two here, and standard
         three? Now the reason I'm saying that was, if you
         remember, I didn't work with you in standard four.
         I finished with you in February standard four,
         alright? Because then Ed took over if you
         remember.

PUPILS   Ja.

WENDY   So in a sense, we're really going quite far in
         history now. Because we're looking at you in
         standard two and standard three.

PUPILS   Ja.

WENDY   So certainly you did spend six months on logo.
Just remember we started off with stories and
literature and so on and so forth, if you
remember. `Would you rather...'. Remember all
those things we did in standard two? We moved
from there into maths investigation, and we stayed
in maths investigation at the end of standard two,
and the first half of standard three. We worked
from calculators, through magic stuff, through to
cuisenaire rods and so on. And then in the second
half of standard three you ...

PUPIL   logo.

WENDY   We went up to the university and did logo. So
that was just to remind you about that. So can I
ask my question again? That's what **you** were
doing, but I'm suggesting that you think about
what do you think it was really all about. I will
ask that question again in case there is something
else you want to say.

PUPIL   Phew!

PUPIL   Oh!

WENDY   Ja, I'm just trying it as a question.

YANNICK   I think it was getting to know us better, and
preparing us for further like, er ...,
investigation, which you might do for your own ...

WENDY   I have no answers to the question, incidentally,
I'm just finding out. I'm just asking open
questions. So it's not as though I have an answer
myself as to what you think what this is really
all about. I'm just quite interested in what your
opinions are in what this is all about. Alright,
let's swing that question a bit then, and say, I
want to look at authority. And I want to sort of
say things like, `what do you understand about
authority?' um ... and things like, `what do you
understand about the authority of the teacher?' ..

[Pupils laugh]

WENDY   I don't think you have any comments at all to make
about that question. That's a loaded question.
Because I'm quite interested in looking at
authority, teacher's authority, and finally
getting questions round to myself working with
you, and that kind of authority ... if there was
anything to say.

PAUL Well, er ... I don't think a teacher should actually like, be too much of, like, big boss, or they should, like, get to know their class. They should, like, have a bit of fun, not like strict and er ...

BYRON But I think we should er ... pay them lots of respect, `cause, I mean, they're teaching you, and you're going to use that in your future years, and you're relying on them to get a job when you get out of school, Ma'm. So, ja, I agree with Paul, not like strict, strict, strict. But, I mean, they have to do their job, Ma'm. I mean, they can't play around all day.

BRENDON I think teachers should be strict to teach us more discipline, Ma'm, because when we grow up, Ma'm...

WENDY Discipline for what?

BRENDON Like, er ... how do I say it?

PUPIL Behaviour.

BRENDON Behaviour Ma'm.

WENDY You're perhaps giving in to sorts of things like control - how a teacher should control you. I was looking at authority. I was just wondering what you understand by that concept `authority', if anything. I mean, it might not mean anything to you.

COLIN Er ... what I understand by authority from a teacher Ma'm, is that generally a teacher has the authority over the class so they normally have ..., a teacher should generally be friendly with the class, and the pupils should respect the teacher. But the teacher should also have some discipline, quite a strong hold of discipline over the pupils, to keep them good mannered, and make sure they do their work, and have a very strict amount of authority over what the pupils do and don't do. They should generally stay to ...

WENDY See what Curt has got to say. Sorry.

RONAN Ma'm, I think that a teacher should have the authority over the class and over the pupils, otherwise there would not be co-operation and discipline, Ma'm. Somebody has to be in charge, Ma'm, like have authority over the rest, Ma'm.

	And a teacher should also be, not strict, strict Ma'm, but like fair Ma'm.
WENDY	Alright. If we er ... if I move that question slightly and say things like er ... `what do you sit in classrooms for?' ` You come everyday to school and you sit in classrooms. What on earth are you doing there?' could be a question to ask. Try somebody you haven't asked, you haven't ...[Aside to the child holding the microphone.]
CURT	It's like actually, like prepare, like teaching, er ... like preparing us like for like, like when we getting into the big world, you know Ma'm. [laughter] And actually like teaching us the skills like maybe we will be needing, Ma'm, and all that stuff.
YANNICK	I think we've come to school to learn from teachers, to learn something about other ... other ... subjects, or people, or things that might help us when we get out of school and college or wherever you go, so that you may be well educated, Ma'm.
RICHARD	Ma'm I agree with Yannick Ma'm. When you go, you gotta go to school to learn, Ma'm, too. If you don't learn then you can't get to a higher standard, Ma'm. Say you're in one standard, and you pass, you have to keep going until the end, Ma'm. And when you are in the big world you've got to go to work Ma'm, if you get a job. You must go to work, Ma'm.
WENDY	Let me swing the questions again. I know there are a few other people, but you will have an opportunity now when I swing the question. In standard three and the standard two part that I knew of your standard two, um ... you sat in groups for Miss Sinclair. And in the lessons that I had with you, you sat in whatever groups you formed, in fact you worked singly, couples, groups, you worked as you chose to work. Can you remember that?
PUPILS	Yes.
WENDY	In standard four you went back into rows of desks.

PUPILS   Yes.

WENDY   In standard five you're sitting in rows of desks.

PUPILS   Yes.

WENDY   Alright. What I am quite interested in, is what
          is your ... what are your preferences, and **why**?
          You know. In other words you have experienced
          some differences in teaching styles and learning
          styles. Can you comment in some way about those
          differences, and about your preferences and **why**
          your preferences, if you have any at all. I mean,
          it might just be a shot in the dark question.

PAUL   Well I liked Miss Sinclair's (Ms S.) way of
          teaching because she didn't have a very set
          timetable, and er ... she had much more of a
          creative way of learning and everything. And then
          we went to standard four, with Miss Vella (Ms V.),
          it was still quite creative, but it wasn't, like,
          it was quite a change from, like, creativity to
          boring old school work.

BYRON   I don't think it helped me sitting in groups,
          Ma'm, because, I don't know, I like sitting in
          desks, Ma'm. Like we used to do, like, whole day
          history, and it didn't help me I think. And
          because, like, if I say, like, when we had a times
          table test, like when we learned, like, she'd say
          `learn'. And then there's Colin who answered all
          the questions Ma'm, of the times tables, Ma'm.
          And I don't think it helped me at all. And I like
          sticking to a timetable, Ma'm, `cos then you...
          you get everything in, Ma'm. And like doing all
          day history is quite boring, Ma'm.

WENDY   When you say `get everything in', what do you mean
          by that?

BYRON   Like having a little bit of english, and it's nice
          to have about an hour of maths, and it's nice,
          `cos then, like, we do history all day, then
          science all day, and then we come to maths. And,
          like, you have totally forgotten everything you've
          done, and I think you need to continually have
          that every day Ma'm, just to keep your mind ...

WENDY   Are you suggesting that you learn better when you
          work on your own?

BYRON   Yes, Ma'm.

COLIN   Ma'm, what generally happened was, when you were working in groups, if you had somebody in your group, it tended to work out that the person, if we had a group of, just say, Byron, Paul and I and perhaps Chieh-hwa, and it was a maths group for the day, we would probably give Chieh-hwa all the work and he would do all the answers, and then we wouldn't do anything, so we wouldn't learn anything from that. Whereas if you are learning by yourself you are forced to. If you have a project to do, you have to do that project, or if you're working by yourself, you have to do that.

WENDY   Could I chip in and say that in the lessons that I ran, you were working in groups, did the same thing happen there, that only one person did the work?

COLIN   Sometimes, it depended, it depended. If you had a group of two, generally, or three, generally you had to work together. If it was a group of one or two or three, it was such a small group you had to work together. But as soon as you got a big group, you started finding that ... the ... are only the few, the ones that were ... the ones that wanted to work would work, the others who wanted to take the day off, would just take the day off.

WENDY   Is there anything wrong with taking the day off?

COLIN   Yes, you're not learning. Your parents are actually just wasting their money, actually and ...

PUPIL   And then you fail standards.

COLIN   Ja, and what ...

WENDY   Sorry, try ...

CURT   Ma'm, I think like, it wasn't like, like my opinion of the groups. I think that we actually got lazy Ma'm. Because, if there was, like, a group, and there was a group like Byron and Colin that was like somebody that was more clever, they used to do all the work, Ma'm.

RUALD   Ma'm, like when you worked with Chieh-hwa, Ma'm, you had to be at the same level of intelligence with him, Ma'm, otherwise you wouldn't know what, like, he was doing Ma'm. And like er ...

WENDY   Were you able to learn from him?

RUALD   Yes, Ma'm. Sometimes, Ma'm. But sometimes he went in such complicated ways, Ma'm, you hardly learnt a thing. You don't know what is going on about all of that.

EARL   Ma'm, I prefer Ms S's way of teaching in groups, Ma'm. Because if, if like one person has this opinion, Ma'm, and other person thinks, er ... another one, you can compare your thoughts, Ma'm. And then in the end you can make a final decision. So it's much better working in groups, Ma'm, so that you can compare each other's thoughts, Ma'm.

WENDY   Are ... are you suggesting that you become more of a critical thinker that way?

EARL   Yes, Ma'm.

WENDY   What about some people that we haven't heard from? We seem to be hearing from the three people in front all the time.

[Pupils egg each other on to say something. Nigel is called upon]

WENDY   Colin's desperate.

[laughter]

COLIN   Well, what happened was that in standard three, Ms V. There were two standard three classes. There was Ms S and Ms V. And Ms V, she stuck to the timetable, and she had a strict timetable, and her work was very strict, and a lot of discipline. Whereas, Ms S used a lot of group work, and at the end of the year, when it came to exams, Ms V... Ms V... Ms S often used Ms V's um ... exam sheets. And we always used to get very low marks, because Ms S would let us take it easy while we were in the lessons, and then when it got to exams we had learned nothing. So she would be using Ms V, what we should have learned, but we hadn't, so our marks generally dropped.

WENDY   Are you suggesting that what Ms V was teaching was

more **valuable** than what you were learning in Ms S's class?

COLIN   I'm not saying that the one is better than the other, I'm just saying that ...

WENDY   No, are you suggesting that one is more **valuable** than the other?

COLIN   Yes, probably. Ms V's work would have actually helped us a lot in that exam test, and would have got us better marks.

WENDY   So it would seem then, that some people are commenting about teaching styles, and your comments are resting on exams. Because Byron tends to say things about exams, and Colin's saying things about exams which is diff ... and I think Curt was sort of saying similar things. Which was a different thing to what Earl was saying. I don't think that Earl was talking about the same kinds of learning. Er ... er ... see if I'm right. Let's try somebody else now.

SIMON   Ms V er ... she used a lot of um ... she used to put a lot of pictures ... she used to put a lot of pictures on the board. And she used to um ... she used to, like, for some of the history period, she used to lecture us, lecture us. In the next history period she used to stick in sheets, but Ms S, she just made us, she ... we ... made us work in groups, which wasn't as effective as lectured. And then you know what to do ...

WENDY   Can you say why it wasn't as effective, if it is possible to say so ?

SIMON   Because it wasn't very well explained with Ms S, and you had to sort of figure everything out yourself. But with Ms V she lectured you on, and told you everything you must do, and then you just ... and in the next period, you just knew what to do.

WENDY   Let's unpack what Simon's been saying. He says Ms V told you everything. And Ms S made you think about it yourself. Now that's quite interesting. Two different teaching styles, two different learning styles. Earl comment on that please.

EARL   Well ma'm, Ms S's way Ma'm, she like just gave you the work, and you're supposed to do things on your

own, but you were in groups, Ma'm, like I said, Ma'm. You can compare each other's thoughts, Ma'm, which is quite good. But Ms V's teaching, Ma'm, she was, like, she'd give you everything, Ma'm, and make it so easy when it came to the exams, everything would be easy, Ma'm. But Ms S would, like, to let you compare your thoughts in groups Ma'm, and then when it comes to exams, then you are not in groups, Ma'm, then you have to try and work it out yourself, Ma'm. which is quite good, Ma'm.

WENDY   Richard has been waiting.

RICHARD   Ma'm er ... it is like Simon was saying Ma'm. When I was in standard two with Ms S, it was okay, and then we went to standard three. Half way through the year er ... my mother decided that she was going to put me in Ms V's class, Ma'm, because she didn't think Ms S was teaching well. She didn't give me homework often Ma'm. She didn't teach me well, Ma'm. And then in Ms V's class it was difficulter than it was in Ms S's class. Then it got easier and then I found that Ms V's class was much better, Ma'm.

WENDY   Because she told you what to do?

RICHARD   She explains everything ...

WENDY   So you, in a sense, don't have to do what Earl is saying - you don't have to think for yourself or compare opinions or anything?

RICHARD   No...

WENDY   You doing ... to go back to what Simon was saying, she tells you everything ...

RICHARD   Yes

WENDY   You learn it and you write it for the exam. I think that's sort of what you were saying, Simon. Do you want to add to that?

SIMON   Um ... with Ms S, I remember one of our history tests. She gave us questions and then she gave us, I think it was a picture of a Dutch house and some, a bit of writing. All the answers were there, and that doesn't ... and so all you had to do was just look for it, and that was actually for

a test. And for a test you should think for yourself, and if you don't know the answers, leave it out. But all we had to do was to look in that paper and you would find the answers so you weren't really thinking for yourself.

WENDY   So you didn't have to remember?

SIMON   Yes, Ma'm, you didn't have to remember anything.

WENDY   Is memory necessarily learning. I ask?

SIMON   Well, just that so you know what you've learned and if you don't know the answers you know you haven't learnt that.

WENDY   Could I swing the question and say if there were no exams in school.

[laughter]

WENDY   Just take that, take it as a given that there're no exams in school. Could you comment on learning styles now? I tell you why I'm asking, because everyone of you that has commented, other than for Earl, I think, have commented in an exam frame. Now, if I remove that exam frame, I mean exactly what you have been saying now Simon. Everything was related to tests and exams If you were not doing tests and exams, what would have been your comment?

SIMON   Well, you would have just written everything down and not learned anything.

WENDY   So are you suggesting you didn't learn anything in that class?

SIMON   You wouldn't have learned anything, because you didn't have to learn. You would not have to learn for tests or exams or anything. So nothing would go into your head.

WENDY   Uh huh.

BRANDON Ma'm, and Ms S, Ma'm, we just had to write notes and notes and notes and notes, Ma'm. And we didn't learn anything, and 'cos it's just off the board, Ma'm. And in Ms V's class Ma'm, you, like, you have got these work sheets, typed, like where was, take for example, just a question, Ma'm, 'where was the British killed', Ma'm. And then in your book you would find the answer Ma'm. But you

had to go looking through all these pages, Ma'm. So I felt it was much better in Ms V's class, Ma'm.

WENDY   So in Ms V's class you learned quite a lot of facts?

PUPILS   Yes, Ma'm.

WENDY   You located facts and you wrote them on your worksheets?

PUPILS   Yes, Ma'm.

WENDY   And I think Simon, that was what you're saying, and then you learnt the facts and you wrote them in your exams. Now I want to keep going back to what Earl was saying, because he seems to be the only one offering a different argument. So I'm trying to throw the one against the other. You're speaking about facts. I think most of you ...is that..?

PUPILS   Yes.

WENDY   Can I take that as alright?

PUPILS   Yes, Ma'm.

WENDY   But, I do not think that that's what Earl was speaking about. I don't know if I'm right Earl? Can you comment again?

EARL   Well, Ma'm, from Ms S Ma'm, it was, like, mainly when you were doing your work, Ma'm, for opinion and criticism, Ma'm. Because when you do your work, Ma'm, you can criticize when you are in groups, Ma'm, and when it comes to really criticizing then you, like, know how to criticize, Ma'm. Like, in say exams, Ma'm, when it, like, there's, like, a paper or questions for criticism or opinions, Ma'm, because you have been taught how to, how to compare each other's opinion and criticize each other's work, Ma'm.

WENDY   I think actually what ... Earl is placing importance on different kinds of learning to what some of you others are placing importance on, which is quite interesting. Now, can I move it then and say to you things like, `in the times I was with you, you weren't learning facts'.

PUPILS   No.

WENDY   Alright, you were not doing that. So what were you doing with me besides nothing at all? Because, it would seem that if you weren't learning ... some of you are implying that if you aren't learning facts, then you were doing nothing. Okay? So what I'm trying to say is, then, in all of the time I was with you, you did nothing, that was a long time to do nothing.

[Wendy laughs. Some pupils laugh self-consciously.]

WENDY   I am perfect ... I mean, I am quite happy to accept that as an explanation, because, remember, my very first question was, `What was this really all about?', and maybe it was really all about nothing.

[pupils laugh.]

WENDY   So can I then put the question to you - did you learn anything or nothing, and if so what? Because you weren't examined or tested. There were no exams, there were no tests, and there were some differences in behaviour styles. You agreed there, that you behaved somewhat differently. So what was going on? What were you doing?

EARL   Ma'm, I think mainly, Ma'm, you were, like for the maths, you were trying to teach us different concepts of thinking and learning, Ma'm.

RUALD   Ma'm, with the maths, er ... I agree with Earl, Ma'm, that you also, that you learned concepts.

WENDY   I didn't teach you anything, remember.

RUALD   Yes, Ma'm, but the worksheets, you had to find out, Ma'm. Like that one heap of worksheets you gave us, Ma'm.

YANNICK   Ma'm, I think that we did learn something. We learned how to work, work, like, er ... more thinking. Thinking with other people, like putting an idea together, constructing. And then we also learned to ... to behave properly and to sort of control ourselves to know each other better.

WENDY   Can I push you a bit on that, and say what do you mean by ... er ... er ... control ourselves better?

YANNICK   Alright. If there was something wrong, like there
            was another person that said that this one was
            wrong, and that his was right ... I mean, then you
            could talk about it. And ... instead of getting
            all in a fury and getting angry, and kicking
            about, then you could just talk about it and then
            er ...

WENDY   In a way, I think you are saying something like
            what Earl was saying, where you were pooling
            opinions and ... and knowledge, I think. So I
            think there are some kinds of agreement. So
            you're suggesting that something was happening as
            opposed to nothing?

YANNICK   Yes.

WENDY   And what are you saying, Simon?

SIMON   Well, when we used those rods, you know, what are
            they called? Er ... cuisenaire rods, er ...
            Remember that I made that pattern, and I had to
            write. I wrote instructions on how to make the
            pattern. Now with that pattern you told me that
            when someone tried to make it, it didn't come out
            correctly because my instructions were wrong.
            Maybe that was because they had other ideas that
            were different to mine. But still went with that
            and put it in wrong places and then ...

WENDY   So what are you saying?

SIMON   That ... that other people, that er ... I had
            different ideas than other people.

WENDY   Are you saying that one lot of ideas is better
            than another? Or what are you saying? I'm not
            sure of what you are trying to say.

SIMON   Well, some of them, some people have different
            ideas on ... on the instructions that I gave, and
            some people have got the same idea, and so some
            people gave the right pattern and some of them the
            wrong pattern. And so you ... so that I learned
            that the ... my instructions were a bit er ...,
            were a bit off to other people but not to er ...
            not to um ...

WENDY   The fact is that you had learned something about
            audiences and reading. Readers. That if you're
            writing for other readers, ja, okay.

SIMON   Ja.

WENDY   I think that's something, that is quite important to learn, if we're writing.

BRANDON   Ma'm, I think I tend to agree with Yannick, Ma'm. I think you had to all come together, and you had to construct an idea, Ma'm. When we done it with the cuisenaire rods, Ma'm, like for the patterns, Ma'm, you had to come together. You couldn't, like, one person do that part, and do that part, and do that part, Ma'm. You were in groups. You had to come together and put your heads together and think up an idea, Ma'm.

WENDY   I'm quite fascinated with the way this ... Sorry I'm chipping in. I am quite fascinated with the way the conversation is going. When I moved to my lessons and said was nothing going on, we're getting all these exciting [laughter] contributions here. I mean, really, you know, quite interesting stuff. I mean you're thinking. Now why wasn't this happening when we were talking about Ms V and Ms S? Er ... that seems very ...

BYRON   She gave us low marks.

PUPILS   [giggle] Ja.

WENDY   So is it back to marks again?

PUPILS   Yes, Ma'm. [laugh]

WENDY   So I mean...

BYRON   It's all about marks.

WENDY   Are we saying that you learned something in my lessons because exams and tests weren't involved?

CURT   We learned something mentally, Ma'm.

EARL   We learnt something well, Ma'm.

BYRON   But you see the ...

WENDY   What do you mean, Curt? Just ask Curt what he means there. That was quite fascinating. Curt said we learnt something mentally ... and that would be quite interesting if we explored that.

CURT   I think it is actually, like, er ... was actually, like, er ... learning to think, Ma'm. And ...

WENDY   Would you, if I can push you Curt, would you
          suggest that that is an important thing, valuable
          or worthwhile or useful or whatever, to learn,
          what you have just said?

CURT   I think it would be, Ma'm. Because then, ma'm, er
          ... if, like, if you get a subject, and then you
          would like, think into, like think into that
          period, and like, think, maybe how that happened,
          and that could maybe help you also.

WENDY   So in other words those skills could be used in
          other life situations. I don't know who you are
          going to now, Fernando.

COLIN   Me. Me. Er ... Ma'm, I think that a few of us
          learnt something in those lessons but, what we
          learnt will eventually disappear, Ma'm, because
          we're forgetting it all very fast, Ma'm.

WENDY   Forgetting what?

COLIN   What we learnt, Ma'm.

WENDY   What did you learn?

COLIN   Well, the discussions, ma'm.

WENDY   Because you have decided it was nothing to start
          with.

COLIN   Yes, Ma'm, the discussions. A few of us learnt
          quite a lot in the way of mathematics in standard
          three.

WENDY   I think you are back on facts again. I don't know
          if I am right Colin. I think you saying ... you
          back on the things that Simon was arguing about,
          as well - the facts. What can you show that was
          different to what Earl was saying, and different
          to what Curt has just said? See, Curt was talking
          about skills, not facts. Earl was talking about
          ways of thinking and skills, not facts. Now if
          you have got a way of thinking ... if you have got
          a way of thinking like Curt is saying, how do you
          not ... how do you answer that if you say `oh,
          but you forget it all'? I mean that's a skill he
          has acquired. [pause] I'm asking. I don't know.
          I mean we don't know a lot about learning. I'm
          asking.

COLIN   Well, I guess you start with the useful thing that
          we got out of the lessons. Probably the most

useful one would be the fact that we learnt a lot about debating and the questioning of other people's thoughts.

WENDY   So those would be skills?

COLIN   Those, ja, ja.

WENDY   Debating skills, questioning skills, is that what you mean?

COLIN   Ja.

WENDY   So would you forget that or would you always be able to use that?

COLIN   Er... if you kept it up, if you kept it up by ... if you were using or you were discussing regularly. But if you were not using it a lot, I guess you might forget it, after a while.

WENDY   Go rusty on you.

COLIN   Ja, ma'm.

BYRON   I think we learnt about thinking skills and debating, and thinking with others, and we learnt a lot of that, but ... let's see ... I don't think you could waste a whole standard on that, Ma'm, that is what I think.

WENDY   Why do you use the word `waste'?

BYRON   Well, um ...

WENDY   In other words, I'm saying what is more important. You know, what are you seeing as more important than that?

BYRON   Um ... er ... facts.

WENDY   Okay.

BYRON   Because, like, when we, ja, because, when we... Well, when I got into standard four I fell flat on my face [laughter], because, er ... we had no homework, and all of a sudden we got history, and then sometimes we had weekend er ... homework. And all like that. And we would say `Ma'm, why are we getting this', and all that. And ...

WENDY   So we are back to exams and tests that are pushing you again, aren't we?

BYRON   Yes, Ma'm, because that's what it's all about.

WENDY   That's the pressure ... [some comment by many, inaudible]. Ja, yes, exactly, that is what it is all about. That was a good phrase to use that. That is the pressure on you, in other words, ja. Earl and Ruald are both bursting ... [laughter]

EARL   Ma'm, on, er ... on Curt's point, and on Byron's point, Ma'm. First of all, Ma'm, Curt, Ma'm. For what we have learnt from you we can keep with you for the rest of your life, Ma'm, because when you need those skills again, Ma'm, then you can think back of when **you** taught us, Ma'm. And then you, like, know because you got it into us, ma'm. And on Byron's point, Ma'm, for the homework, Ma'm. Like some people can just learn to adapt to having lots of homework and no homework, ma'm. It is just like a certain thing ...

WENDY   That's a good word `adapt'. Adaptation. You adapt to different teachers according to their style. I am sure you all adapted to your standard five teachers already.

PUPILS   Yes, ma'm.

WENDY   Who are quite different to your standard four teachers.

PUPILS   Ja.

WENDY   I mean, I think ...

CURT   And there is more teachers, Ma'm, like it's different teachers, Ma'm.

EARL   Teacher for high school.

RUALD   Ma'm, like in standard three, ma'm, with Ms S Ma'm, like in the exams, Ma'm, like a day before the exams, Ma'm, all of a sudden you get like two days before, Ma'm, you get, like, the board, you get about five pages of notes. All of a sudden. But with Ms V it changed, like. You get like, notes, like you get sheets, Ma'm, and it's spread out, Ma'm. Not like Ms S when she packs it all out, Ma'm.

WENDY   Thanks Ruald, I'm sorry I chipped in a little bit there, but it just struck me. Can I ask you, er ... school, your understanding of schooling. You are now in standard five. What is your

understanding of schooling, is it actually all about exams and tests and pressure of marks, is that what you could say school is all about?

PUPIL   Yes, Ma'm.

PUPIL   No, Ma'm.

BYRON   You've got to get into standard six, you've got to get into standard seven.

CURT   Like it's pressure, Ma'm.

PUPIL   You don't get enough time...

WENDY   To get to standard ten?

RICHARD   You've got to get to the outside world.

WENDY   You've got to get to the outside world.

CARL   Ma'm, I think standard five, some people in standard five was getting a bit faster. [laughter]

WENDY   Are you feeling the pressure?

CARL   Yes, Ma'm.

WENDY   Are you suggesting that school is all about, that it's pressure at school, and that's all it's all about?

CARL   It's fine, Ma'm, in school, and there's pressure, Ma'm. Like some teachers there like, they've ... (inaudible) ... and if you talk back.

BRENDON   Ma'm, in standard three, Ma'm, like, um ... we did less work, and so then we started to get lazy, then in standard four then we got more work, and then we didn't feel like doing it, and now in standard five we are adapting at ...

WENDY   Can I, can I ask you, can I use the word enjoy, and say to you, which ... which teaching style or learning style did you **enjoy**? I don't mean `have fun', something different from `have fun', I mean enjoy. I'm just asking that because Brendon is using words like `and you don't feel like doing it'. Have you always felt that way at school, or were there times when you didn't mind doing it, or in fact, you did feel like doing it or something like that?

BRANDON	Ma'm, I enjoyed Ms V's way, Ma'm, because she didn't put pressure on you like Ms S, Ma'm. Because as Ruald said, five days ... a day or three days before the exams, Ma'm ...
WENDY	Brandon, are you back on exams again?
BRANDON	No, Ma'm, but I mean, Ma'm, she packed all the notes on you, Ms S, Ma'm, and Ms V will just take it easy.
WENDY	For exam purposes?
BRANDON	Ja, Ma'm.
WENDY	Ja, I'm saying, can ... can you just keep that side out of it? I'm wanting to ask you what kinds of learning styles you enjoy. Alright? For whatever reasons you enjoy them. I mean, that is your own private business. I'm saying, what kind of learning styles do you enjoy? Okay? There are quite a few people that would like to answer.
EARL	Ma'm, I prefer the group, er ... I enjoy that one, Ma'm, because for specific reasons, Ma'm. One, because you can share each other's opinions, Ma'm. And the other one, Ma'm, you can settle to one decision, Ma'm, and then it would be like then, everybody will get it wrong instead of just you getting it wrong, because everybody thought that, Ma'm, in your group, Ma'm. [laughter]
WENDY	There's a sense of community. Yes. Curt was wanting ...
CURT	Er ... Ma'm, I tend to disagree with Earl, Ma'm, because I think in a group there's normally, like, there is one person at the top, like he's the brain, but, in like, Ms V's class it's like you solving your own solutions and your own, like, you're solving it by yourself, Ma'm.
COLIN	Ma'm, I think that ...
WENDY	It's which do you enjoy, that's the question I asked.
COLIN	I enjoy basically, well, at the moment I'm enjoying Ms V's and Mr N's style, rather than Ms S's because, I think Ms S let you off easily, the discipline wasn't very much, er ... she didn't ...

WENDY   No, we're repeating things now, that isn't
           actually my question. At least I was hoping that
           ...

COLIN   Yes, I enjoyed Ms V's class.

WENDY   I'm saying that regardless of ... of the things
           we've talked about. I was just saying if you have
           to get up in the morning and do what you want to
           do, and you had to spend an hour learning that
           day, you had decided `today I am going to spend an
           hour learning something'...

PUPILS   Yes, Ma'm.

WENDY   I'm asking **how** would you choose to learn, and **why**
           would you choose that way? That's what I'm
           asking.

COLIN   Ms V.

WENDY   In other words which would you enjoy? What would
           you choose for the reason of the enjoyment not for
           examination?

PAUL   Well if ... (inaudible) ... allowed to maybe teach
           myself, then I would like, I wouldn't like to work
           with other people just in case I've got different
           ideas to them and they would start arguing with me
           and things like that ...

WENDY   You don't want to be argued with ...

PAUL   Ja, well, I don't really.

WENDY   But Earl was saying that in fact your opinions
           become better by doing that.

PAUL   Ja, well, I'm saying that if somebody had to teach
           me like, as a single pupil, I would actually
           choose him to just not to be like, too strict, and
           to exam me, like a Ms V and Ms S put together.
           Like more of a creative thing ...(inaudible) ...
           er ... not very remote, if you know what I mean.

RICHARD   Ma'm, er ... when ... when I like learning Ms S's
           way a little bit for maths, Ma'm, when I was in
           standard two, Ma'm. Only for the beginning, Ma'm,
           we started off with a sheet. You get a sheet
           maybe every night, Ma'm, and it had a shape, and
           you had to, like, you had to figure out the
           timetable and then draw your lines, and get the
           shapes, and then you find out what it is, and then

the next night you get something different, and you got to use the calculations to find out what it is.

BYRON   Ma'm, I think I prefer Ms V's and the traditional way, Ma'm, because it is ... it is traditional.

WENDY   Are you going to repeat yourself or are you going to say something different?

BYRON   No, Ma'm, I think ... I think Ms S moved too fast, Ma'm, for the other people. She got other people's work, like Curt Adams said ... I just have to repeat that little thing that he was the brain and he did all the work, and he handed it in and she thinks `wow!' the whole class understands, and then she moves on.  And meanwhile the others didn't understand.  And then there's just this guy that's doing all the work.  But with the traditional way, or Ms V's way, then Mr N and Ms V can say `bring in your books', and say, `oh, you got that wrong and you don't understand', then you go over it, Ma'm.

WENDY   That's a valid comment.

SIMON   With Ms V or with Ms S ...

WENDY   But we're not really talking about the teachers, we're trying to sort of say, `what do you enjoy' as opposed to Ms V versus Ms S [laughter]. You see if we got back in that kind of knot again... I was saying if you got up in the morning and, you know, if you wanted to choose a learning style for yourself, and Ms X was available to help ...

PUPIL   Who's that? [giggles]

WENDY   How would you have Ms X teach you, that's really what I'm asking. What do you find enjoyable, because I'm trying to get back to the fact that when I worked with you, you people say you did learn something. But the moment we moved back to Ms S and Ms V it seems that you did not learn anything.

BYRON   It's different.

CURT   Yes, Ma'm.

WENDY   But that's what I'm trying to dig down to. What were those differences and why were there differences?

YANNICK   Different situations, Ma'm.

WENDY   It was a different situation yes, but I want you
           to suspend yourself and judge these different
           situations as **learning** situations.

YANNICK   You are confusing me Ma'm.

[laughter]

WENDY   I'm confusing myself. I'm sorry.

PUPIL   Ma'm, Earl, Ma'm ...

PUPIL   I don't know what you're talking about.

WENDY   Try Earl, he's got his hand up.

EARL   Ma'm, Curt said, Ma'm, for the ... for the ...
           like the one guy in the group is the brain, Ma'm,
           but that's not what I'm saying, Ma'm. I'm saying
           that the **whole** group compares each other's way of
           thinking, Ma'm, and then, then everybody thinks...
           everybody thinks in a group Ma'm, because that's
           the way ...

WENDY   That's what Yannick has just said, the whole group
           is the brain, which is quite ... (inaudible).

EARL   Yes, Ma'm. Because that's the way Ms S was trying
           to explain, Ma'm.

WENDY   Like the whole group is the brain?

EARL   Yes, Ma'm. That's what Ms S was trying to do,
           Ma'm, like everybody think one way, Ma'm.

PUPIL   That's what Ms S was trying to do, Ma'm.

[Many talking, inaudible]

WENDY   Sure, maybe you needed more experience to be able
           to judge it.

EARL   Ma'm, but maybe she didn't get it through, Ma'm,
           she's doing that with experience, Ma'm.

WENDY   Can I move the question a little bit now, and say
           something like this. Let me see if I can word
           this. Um ... the behaviour of a teacher, just ...
           just take that phrase. Now let me try and get
           into a question. We've had different comments
           here about strictness and discipline, and this and

that and the other, which has come popping out in various ways from different people here in the room. I want to ... er ... move it to, back to my lessons with you, where we didn't have the pressure of exams and tests, but you seem to agree that we did something as opposed to nothing, as far as learning is concerned, what **ever** it may be. I don't think we're really too sure. I think Earl and Curt have probably spelled it out more clearly, and perhaps Yannick and Simon a bit. Um ... What I'm trying to say is, in those lessons did you feel over controlled by the teacher? Do you think that the way the teacher behaved, that would be me, the way I behaved, was er ... an acceptable form of behaviour? was there too much authority? too much control? too little authority? too little control? er ... no discipline? everybody going wild throwing cuisenaire rods all over the room [laughter], and yet you're saying you were learning something.

[Many pupils talking. Inaudible.]

WENDY So what I'm trying to do, is get you back to comment then on the teacher, and the way a teacher sets that classroom environment, and what you do in that classroom. Try and comment on the teacher in those times when I was taking you, if that's possible ... (inaudible).

EARL Ma'm, for er ... any teacher, Ma'm?

WENDY Any teacher in relation to the style that I was using.

EARL Ma'm, like Ms S, Ma'm, her behaviour, Ma'm, when she was in class, Ma'm. And then like the class wasn't the, the behaviour wasn't up to standard, Ma'm, but then she just walk out of the class, Ma'm, and stand by the door, Ma'm.

WENDY Sorry, we are back into Ms S and Ms V. I don't know how to get out of this. I asked about my lessons, when I was teaching. Comment on my behaviour, and any teacher who'd behave like me, okay? So we're not talking about Sinclair or Vella, we're talking about XYZ and Flanagan ...

PUPILS Yes, Ma'm.

WENDY Okay? So we're looking at a particular teaching style, presumably other people teach in similar

ways to the way I ran those lessons. I'm saying judge the teacher in those lessons that I ran.

PUPIL   Ma'm ...

WENDY   Try Ruald ...

RUALD   Ma'm, I like your way of teaching, Ma'm, and ...

WENDY   You must say why.

RUALD   Because, like, if you had a problem, Ma'm, you could, like, you can go home, but with other teachers, you have to figure out that problem before the end of the day. But with Ma'm you could of worked it out, and you come back the next day, and you sleep on it, and you work it out finally, Ma'm. Then you come back the next day, and you tell everybody the answer, Ma'm, and see if they agree.

WENDY   You think that was good for learning?

RUALD   Yes, Ma'm.

WENDY   Where's the microphone ... I think there are quite a few people who want to ...

RICHARD   Ma'm I also like you as a teacher, Ma'm, because, er ... you tell us everything about what we're doing, Ma'm, like, but sometimes you didn't tell us like to use computers, I mean the calculators, Ma'm. Well we didn't need much thinking for that, Ma'm. We just had to ...

WENDY   Well you worked those out for yourselves.

PUPIL   Yes, Ma'm.

WENDY   That was part of the learning, of the teaching style, though. As a teacher I was not doing, I was not explaining everything on the board.

RICHARD   No, Ma'm, but ...

WENDY   So you see that was a different style of learning. So why did you like it?

RICHARD   Some of the things we've done, Ma'm. How you explained it well, Ma'm, and things you used to explain it, Ma'm.

WENDY   So the content of the lesson ...

RICHARD   Yes, Ma'm.

WENDY   ... Is what you liked in some way, some of the
           things that you were using in that.

RICHARD   Yes, Ma'm. Like some of the teachers don't
           explain, like Ed. He say, say er ... `Ed, help me
           out on the computers' `No, work it out for
           yourself', and investigation ...

WENDY   (inaudible)

YANNICK   Ma'm, I think your way of teaching was also good,
           Ma'm. We didn't find it boring, because what you
           did Ma'm was interesting to us, because you did
           things that we didn't know, and it was different
           from other teachers' type of working. And it was,
           like, nearly a break, but it was different from a
           break. Like you would do things during that time
           that you wouldn't do in a break. Something that
           would help you learn a little bit more, just that
           little bit more that would help you later on. So,
           like, once I had to explain to you, Ma'm, I drew
           this house, Ma'm, and it was on this piece of
           paper and you said, `You're meant not to be
           joining houses now, you are supposed to be
           working'. So I said, `Well there was this other
           thing for you, you must draw something without
           lifting your pencil off the page, and not going
           over the same line'. So then you said, `oh!', and
           then, I mean, it's just the way you teach, it's a
           good way.

BYRON   Ma'm, I think it works for some people, and it
           doesn't work for some people. Personally I
           couldn't find out all these things that Chieh-hwa
           and Yannick can do, because, or could do. Like
           there's's a whole keyboard and they would say
           `print' in this code word and all this, and you've
           got fifty keys, and you don't know which one to
           press, Ma'm. So partly I liked your lessons, but
           then, the other part, Ma'm, I think it was a bit
           too hard. I think you've got a class of different
           pupils. Ma'm, and you must cater for both of them,
           Ma'm.

COLIN   Er ... previously Richard said that, er ... Ed er
           ..., if you had to go to Ed and ask him for some
           help in the computer and something, Ed wouldn't
           give him the help, but I disagree there. And I
           think Ed was actually doing the right thing
           because what generally happened was that, if
           somebody didn't understand something in that

computer working out, there was generally er ...
use, you had to use your mind. And the people
like, even I, well we didn't use our mind enough
towards these computers. So Ed would not tell us
what to do.

WENDY   Are you trying, are you saying that Ed was doing
something similar to me, or are you speaking about
Ed cold?

COLIN   Um ...

WENDY   Because our question was me.

COLIN   Ja it's, it's ... But there's a link ... It's er
... you would generally help us if we had a help
whereas ...

WENDY   I mean, I knew nothing about computers at all. So
I certainly didn't help anybody on the computers.

COLIN   Yes, but whereas Ed would leave it up to us. So
generally it helped half-half. Ed would, made us
use our minds er ... much more in the way of
logic. We had to sort out logic with those
computers whereas with you ...

WENDY   Pass it to ...(inaudible).

PUPIL   (inaudible)

EARL   Ma'm, your way of teaching, Ma'm, your authority,
Ma'm, was just right, Ma'm. You had, like, you
could control everybody properly, Ma'm. Not like
you could only control this lot and have to shout
to get them quiet and then just say okay, and you
say ... You could, like, just say, `Can I have
your attention, please', and everybody would be
quiet, Ma'm. Er ... so I think your way was a
good way of teaching, Ma'm.

PUPIL   She also used a gong.

PAUL   Well something I can say is some people know it
all. It's like some people know quite a lot about
this, and some people, like, haven't got the
slightest idea even what a computer looks like,
and they don't ... don't get into it, because ...
and they are not interested in it, so some people
... some people are different to others, and the
teachers assume `Ag, they know it all'. Like some
people do, and they move on and other people
think, `Oh well, we better, like think, we pretend

that we know it all, because otherwise we would, like, give a bad impression to the teacher', and things like that.

WENDY   One last question, and I'm hoping that some more people will contribute. In the lessons which I ran, eventually you were choosing entirely what you did in those lessons, if you remember. I had no control over what you did in those lessons. I used to say as long as it was maths, I didn't much care what you did. So we did a whole heap of domino .. what did you call it?

PUPILS   Domino rallies.

WENDY   Domino rallies, which was not my suggestion, it came from you. And a lot of things you did on the calculators was your own work. Now what I'm trying to say is that you were controlling ... you were choosing the content, and you were controlling what you did with that content.

PUPILS   Yes (and other inaudible comment).

WENDY   Now I'm asking you, I ask you then, 'what is your opinion of that kind of thing?' Where you're choosing your content, and you're controlling what you do with it. To some extent even on the computers, of course, you were doing the same thing, although it was logo, you chose what you did with logo. And I would quite like ... (inaudible) Nigel you, have you got anything to say? You've been so quiet.

PUPIL   Ma'm, he hasn't said anything, Ma'm.

PUPIL   We didn't know what to say.

WENDY   You don't have to say anything.

PUPIL   (inaudible)

WENDY   You don't have to say something. I just suddenly realized that Nigel has said nothing. And Julian you haven't said anything. I don't know if you feel like saying something, and Mark and Kurt maybe? If you don't feel like ... fine, ... but I was just, you know ...

PUPILS   (inaudible)

WENDY   My question is 'what is your considered opinion of that kind of lesson'? It is called, if you want

to use the terminology, you had control of the curriculum, that's the actual word that is used, you had the control of the curriculum, because you chose the content of that curriculum and you chose the style of learning within that curriculum. That's what you were doing in those lessons. What's your opinion of it?

BYRON   Ma'm, I think ... I think er ... it's okay for some people, because, like, if you know what you're doing with that thing, but then, if you don't know what you gonna do, you start getting bored ... and, like, writing words on the calculator and throwing the sticks around, and like, and like, and um ... So if you didn't know what was happening you wouldn't ...

FERNANDO   Comprehend.

BYRON   Ja, comprehend as Fernando says [laughter], and also ...

WENDY   [laughs] Did you suck that word out of your thumb or what? (to Fernando)

BYRON   No, it was ... and then I disagree with Paul on that other question, Ma'm.

WENDY   No wait, we're on this question now, because we've got a whole queue of people ... quickly, what was your opinion?

COLIN   My opinion was that the dominoes ... and when you let us choose our own item, I think in that section of the dominoes, people started taking it off, and ... dominoes. [Pupils laugh] They were just playing around and weren't actually learning anything in that section.

CURT   Ma'm, with the logo, Ma'm, or like any kind of teacher, Ma'm, asking that, like with the logo ... that you needed actually like a topic, Ma'm, ... like in the logo. to do something with the logo, like draw a house, that you actually need a topic, Ma'm.

WENDY   But you chose your own topics remember. In fact I can ... one of them ... it was a house or something.

CURT   Yes, Ma'm, it was a house, Ma'm. I mean ... But actually, you need actually, like a teacher to,

like, tell you something to do, Ma'm, or give you an idea on how to do it, Ma'm.

EARL   Well, Ma'm, I think your way of teaching was a very good way of teaching, Ma'm, because like I said earlier on, Ma'm ... the things that you taught us we will remember, ma'm. We can use it further ... later on in our lives, Ma'm.

WENDY   You actually are a strong supporter of controlling your own learning, and being a critical thinker, because that is what you have been supporting right through this interview. It is quite interesting. Some of you are not supporting that, and yet if I said to you, `Would you like to be a critical thinker?', you would probably all say `yes'. If I said to you, `Do you want to be in control of your own learning?', you would probably say `yes'. Earl is the only one that seems to be favouring that all the way through this interview. It is quite fascinating to see the way you change, but yes, I know, I'm generalizing a bit there. Carl has got something to say about that.

CARL   Ma'm, I think it's best, because the majority of the class felt that, like, if you gave us calculators to choose from, worksheets, and those dominoes, Ma'm [laughter], and most cuisenaire rods. And most of the people chose er ... the majority of the people chose cuisenaire rods and calculators, ma'm, because they found it interesting. And er ... I ...

WENDY   Are you saying that you think that's a good idea?

CARL   Yes, Ma'm.

WENDY   You'd like to be in control of your own learning?

CARL   Ja.

WENDY   Why?

CARL   Ma'm, it is quite interesting, that you can make your own pattern, and you can think of your own stuff, Ma'm, anything you would like to do.

WENDY   So you are saying that it actually gets you thinking?

CARL   Yes, Ma'm.

WENDY   Last one, Yannick.

YANNICK   Ma'm, I would like to say that controlling our own
            work is a good idea, but, I think, the teacher
            should also give us, like, a subject as well,
            because otherwise, if we just have to control our
            work without any subject ...

WENDY   Actually, what you are saying is, you do want a
            teacher in the classroom with you, that you
            wouldn't actually like a classroom without any
            teacher at all.

YANNICK   That will be a total chaos. And then ...

PUPIL   (inaudible).

WENDY   I'm going to use that now. Sorry Yannick, are you
            finished?

YANNICK   Yes, I think so. [laughter]

WENDY   Can we move it now and just say. Are there any
            questions you would like to ask? We've been here
            a long time. I've got to ... Byron was first I
            think.

BYRON   M'am, ma'm. I want to ask you, 'What made you do
            this, M'am?'.

[laughter]

WENDY   Okay, the reason why I asked to come and work as
            St Joseph's, and to work with you was because I
            was interested in seeing whether young children
            could take control of their own learning, and what
            happens if and when they do take control of their
            own learning. And how does a teacher behave in
            order for children to take control of their own
            learning. Because, I knew I couldn't behave in a
            traditional way.

PUPIL   No, Ma'm.

WENDY   Does that answer your question?

BYRON   Yes, Ma'm.

COLIN   Er ... I'm not sure you know it, Ma'm, but Sue and
            Ed, what were they doing with us with the
            computer, Ma'm?

WENDY   Ed was a research student writing up a master's
            degree. And he wanted to research with children
            on computers.

COLIN   And Sue?

WENDY   And he wanted to look at certain programmes, and what children did with those programmes. Sue was merely an assistant.

PAUL   Er ... why was it specifically at our school, Ma'm?

WENDY   Because St Joseph's was close, because it was a non-racial school. Er ... because it was a private school, and therefore I didn't have to get government permission to work there.

CURT   Was there any connection with Ms S, Ma'm?

WENDY   No, because she wasn't there initially when I got permission, and then she came to ... if you remember, she came in the second term in standard two. And that was very convenient for me, because, yes, it made it very easy for me to move into her classroom and work. Ja, absolutely.

BRANDON   Ma'm, my question was, 'What did you find most exciting when you worked with us, Ma'm?'

WENDY   The way in which you all learned to co-operate in the learning situation. I think you were doing what Earl has been explaining all the way through here. I think many of you, in fact including Byron, who seems to feel that it wasn't so, although I know what you are saying, because you voiced it quite often over the period of time. For me, what was exciting was the way in which you learnt to work as a community in social groups and to collaborate with each other. That I found very exciting. The other thing I found very exciting was learning to adjust my behaviour, and change the way I behaved with children. As you were learning, you were teaching me, and I was learning, and now I explain it to the students.

CURT   So it was, like, changing from ...

WENDY   I changed from a bossy, authoritarian, do as I tell you ...

PUPIL   Big head.

WENDY   No choice, big head, er ... moving from that to much more 'what is your opinion?', more what you ..., and learning how to say it and how to behave that way.

CURT   Did you not have any problems, like students, like, they are like, they are a bit different, or,

I would like to say they are bigger and maybe more er ...

WENDY   No, because I think if you respecting ... what I was trying to do was learn to respect the way people think whatever their age is. So whether it is a twenty year old student or, at that time, a nine year old standard two pupil, it is actually immaterial. People have potential, and how does one work with people so that everybody's potential develops. And that you don't sit there as an expert, the know all, or, which a lot of teachers ... which is a role a lot of teachers play, and I didn't want to play it any more. I wanted to learn something else.

PAUL   Ma'm, why don't you carry on doing this, ma'm?

WENDY   Because, what I am doing now is ... um ... having worked, that is the whole of standard two, and the whole of standard three with you, and that little piece in the beginning of standard four. What I'm doing now is reading a whole lot of books to try and understand what I was doing with you. In other words, I'm reading theory about learning, theory about teaching, theory about behaviour, and I'm wanting to do now is write it up um ... write up for a doctoral degree.

PAUL   Are you writing your ... a book thing?

PUPIL   Dr Flanagan. [laughter]

WENDY   That's a thesis, it's called a thesis. So, what I'm busy doing now, that's why I'm on leave. I'm on what is called study leave, and I'm actually, that's what I'm doing. I'm busy reading, and I'm beginning to write it up now, and what I'm gonna do is write up and it will look like a book because it would be, like five hundred pages. So it will be a book about that thick. I'll send one to St Joseph's because you will see yourselves in it. You know, not see yourselves but your names. You know what I mean, your names, not your pictures.

BYRON   Two and half years for a doctorate?

WENDY   Yes, five, because I will only finish it next year. It takes a long time to read and write, because I'm working at the same time. If I wasn't working it would be different. So what I'm doing is writing up what I understand about schooling,

and then what happened at St Joseph's with the children at St Joseph's. And therefore what should happen in schools kind of thing. So I'm hoping to argue in fact that the behaviour of teachers and the way you learn in classrooms should change.

EARL   Ma'm, on Byron's question, Ma'm. You said you have done this because you wanted to learn about how to control what children do when they control their own learning. But why did you want to know, Ma'm?

WENDY   Because I was interested in being more democratic. Because I do believe that everybody has potential. And I do believe that in schools children are kept in a situation in which the don't develop that potential, that they are doing fairly easy routine traditional things which aren't really difficult. Memory is difficult. I mean memory in the sense that `I must remember everything for my exams' might seem hard, but the rest of it actually isn't. And for me there is a lot of boredom at school, and people are actually waiting for break to go out and play, which is very much nicer [giggles], and that seems a pity. So I would have thought there was ... there was that kind of thing. So I was interested in ways of learning that one takes into adulthood. I'm much more interested in things like you were saying, that learning about other people's opinions, learning to refine your own thinking, because I think those are important things, therefore how do you do them in the classroom. So that is what I set out to find out.

[general interjections. Inaudible.]

WENDY   School is not like that now, I know, it doesn't mean to say that things can't change.

BYRON   But I'm saying, it's not like that, being bored and that ...

WENDY   You're interested in it, but there were others that weren't.

YANNICK Ma'm, why did you choose our class, Ma'm? You could have chosen other classes as well.

WENDY   I wanted a standard two class. I wanted young ... young people, that is, the youngest of the senior primary section. You know, because you get junior

primary, senior primary ... I wanted then a
standard two, because I wanted to watch your
development as you went, because it was such a
super opportunity. And Mr Taylor said to me, `Go
ahead, please yourself'. I mean I was given ...
grand permission which was nice.

PUPIL   Ma'm was well honoured.

WENDY   One more question.

CARL   Ma'm, when will you be coming to play the
            computers, Ma'm?

PUPIL   Oh, what a good question.

WENDY   No, that's a nice question, but there is no need
            to work with you this year.

CARL   Oh, so we won't be able to work with you.

WENDY   If I wasn't busy with the writing up and so on, I
            could have helped you with something like that,
            but no, there's a limit.

CARL   Ma'm, and the 26th of April or the 13th of April?

WENDY   You're coming for the microteaching.

CARL   Microteaching, is it gonna be also computers?
            Will it also be computers, Ma'm?

WENDY   I would like to keep contact with you all the way
            up to matric, even if it is just to say hello.
[General chatter.]