Beyond Positivism: Embracing complexity for social and educational change

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ABSTRACT: This article argues that broader, more open and inclusive scientific and educational discourses are necessary to achieve social justice through the provision of public education. Paradoxically, research and policy trends over the last two decades have constituted a "narrowing" of educational focus, educational response, and educational possibilities in many Western countries. Simplistic, adversarial and exclusionary paradigms serve to perpetuate the apparent impotence of public education to address social inequities, and serve only to limit potential collaboration between educators, researchers, policy-makers and other stakeholders in education (not least, students and families themselves). There is a need to step beyond the binaries and oppositions that characterise standardised and monolithic approaches to education and research, to negotiate shared "spaces of inquiry" in order to understand the complexities of schools as dynamic institutional settings, in order to bring about a more effective and equitable public education system.

KEYWORDS: Complexity, diversity, education research, equity, inclusion, policy

INTRODUCTION

Over the past two decades many Western countries have witnessed a "narrowing" of policy discourse and government response to the complexity and diversity of modern schooling. The world has changed radically since the 1990s, especially in regard to the way in which our lives are increasingly mediated by communications technology. Yet in many ways public education in "the West" has remained bound to simplistic, standardised and large-scale approaches to schooling and educational research, unable to comprehend and cater for human diversity and complexity, and thus unable to address the very social inequities it claims to want to change. Political and economic imperatives continue to have detrimental influences on public education, undermining the social justice aims of schooling, the work of educators and researchers, and the learning and welfare of many students and families. However, it is not only policy-makers who are trapped within contemporary positivist and dualist discourses, but researchers, commentators and educators themselves (see Allington, 1999; Hayward & Hedge, 2005; Sloan, 2006; Doecke, Howie & Sawyer, 2006; Lather, 2006a). An adversarial educational paradigm has developed – characterised by binary, either-or, "all-good/all-bad" discourses (Sloan, 2006) – which undermines the potential for creative collaboration between stakeholders.

This article is not intended to play a "blame game", but to promote self-critical ("reflexive") and empathetic approaches to education, research and policy-making; approaches in which stakeholders examine their own perspectives, biases and assumptions, and try to understand the perspectives of others. This is not to suggest

that critique, debate and even disagreement are undesirable, but to argue that respectful, inclusive, open and honest dialogue is needed if we are to comprehend and address educational and social problems. As Connell (1993) reminds us, *everyone* in society has a stake in equitable and effective public education. Simplistic, adversarial and exclusionary paradigms perpetuate the apparent impotence of public education to address social inequities, and limit potential collaboration between educators, researchers, policy-makers and other stakeholders in education (not least, students and families themselves). In order to achieve universal educational goals, complexity and diversity must be accounted for in contemporary education, research and policy-making.

REJECTING THE "NEW ORTHODOXY"

While contemporary education reforms have been driven ostensibly by a desire to "leave no child behind" – that is, a desire to effect genuinely "universal" education systems which are capable of addressing social justice aims and delivering equitable educational outcomes – a "new orthodoxy" has arisen concerning the nature of valid education research which threatens to undermine this aim. Lather describes this as a "new positivism" (Lather, 2006a, 2006b) which seeks generalisable, "absolute" answers, but which actually precludes more sophisticated considerations of schools and the ways they relate to their communities. This "resurgent positivism" in education is closely associated with an "incursion into the space of research methods" by governments (Lather, 2006a, p. 35). Standardised, statistical, test-based paradigms have come to dominate educational policy discourses in some countries, underpinned by the selective use of research and narrow conceptualisations of "science" and "evidence" (Comber, 1998, 2007; Delandshere, 2006; Lather, 2006a, 2006b).

Delandshere (2006, p. 72) observes a "recurring opposition" in educational discourses between "scientific, objective and accurate vs ideal, ideological and value-based" research. This typically means an opposition between quantitative and qualitative research approaches, rather than any recognition of how they might work together. This binary opposition (of "good" versus "bad" research) creates a simplistic dichotomy in which, by definition, "cost-effective" and "evidence-based" research is perceived as superior to its implied opposite – "wasteful" and "non-scientific" research. In a positivist *milieu*, randomised controlled experiments and quantitative/statistical data can appear to offer concrete and reliable "results", while qualitative research can be dismissed as soft-centred, localised in time and space, and unable to provide more generalisable "answers". Drawing on Hodkinson's work, Lather (2006a) writes:

> Phil Hodkinson (2004) has noted that the "new orthodoxy" in educational research has arisen as if the postmodern debates never took place although he posits the resurgence of positivism as, at least in part, a reaction to those debates, particularly the anxieties that follow the collapse of foundations. The imposition of neo-positivism and its "gold standard" of experimental design entails "a rejection of the complex ideas and language of postmodernism…the reassertion of objective truth and value-neutral facts as unproblematic research ideals" [p. 16] (2006a, p. 52).

Although post-modernist and post-structuralist arguments are often complex and confronting – calling into question our ability to "know" and the very notion of human "identity" – the "variability of meaning" (Ninnes & Burnett, 2003, p. 280) in human stories and social systems, and the complexities of real life, cannot simply be wished away. In fact, as Fullan (2000, 2003) argues, complexity can be *harnessed* to facilitate positive educational and social outcomes. Yet rejecting the mantle of "positivist" does not mean adopting the label of "relativist". Freeman et al. (2007) argue that it is "fruitless" to embark on a quest for "objective knowledge" (in the absolute, positivist sense), but they are careful to point out that this is not an excuse for relativism. Embracing complexity does not mean accepting that everything is "just a matter of opinion" (p. 30). Rather, "truth" is contextual, ever-evolving with the social and psychological worlds of the "knowers" of truth – that is, humans beings caught up in the social and historical moment in which they find themselves.

Patti Lather argues that we must confront our own human "lust for absolutes" (Lather, 1991, p. 6) in order to perceive the deeper truths which come through "an awareness of complexity" (Lather, 1991, p. 7). Positivist definitions of science and "truth" ignore contemporary understandings of research and policy (and "knowledge" itself) as being "constructed" by humans in social contexts. No scientific paradigm is "innocent" (Lather, 2006a, p. 49). Whether qualitative or quantitative, all research is embedded with human values and agendas. Research is not valid simply because it involves a particular approach, whether qualitative or quantitative (or so-called "mixed-methods"). Validity is inextricably bound up with taking an ethical, rigorous and reflexive approach to research (Patton, 2002; Smith, 2005; Silverman, 2006). Narrow conceptions of "science" and "evidence" have tended to exclude post-modernist and sociocultural thinking around knowledge, as well as discouraging historical, philosophical and literary approaches to education research (Delandshere, 2006). A broader, more inclusive definition of research is necessary to comprehend and account for the nature of human experience and the complexities, ambiguities and contradictions of "real life" in the 21st century.

To understand the "truth" about education – what "works" in different contexts, and the effects of policies, processes and practices on students – requires an embracing of complexity, open communications and *trust between stakeholders* (see Sachs, 2000; Bottery, 2003; Lasky, 2005; Goleman, 2006). A genuinely "universal" public education system must, by definition, be inclusive, respectful and collaborative, flexible and "reflexive" (that is, self-aware and critical). Educators, researchers and policy-makers must take into account the diversity of local contexts and different people's lives, and how these intersect with a dynamic, ever-changing socio-economic system. Complexity must be accepted as a necessary part of research, policy-development, school management, teaching and learning, not something to be diminished or ignored.

However, many government policy responses to perceived problems (or what are often constructed as "crises") in contemporary Western education have been standardised and "monolithic" (Bottery & Wright, 2000; Delandshere, 2006) rather than flexible and targeted, and many contemporary reforms have been driven by a "rage for accountability" conceptualised within a particular ideological framework (Lather, 2006b, p. 784). Although constructivist discourses have continued to evolve in research and education, "policy analysis has been dominated by positivism" (Lather,

2006b, p. 783). Ideals for "universal" education appear to have become conflated with a neo-liberal emphasis on the need for "efficiencies" (in an economic sense), standardisation (of curriculum and pedagogies), and "the marketisation of education" (see McWilliam & Perry, 2006; Watkins, 2007). This emphasis precludes more sophisticated, targeted and equitable responses to diverse and complex educational needs.

EMBRACING COMPLEXITY

A binary logic – things are either good or bad, true or false, successful or unsuccessful – and a positivistic conception of scientific research interfere with ideals for equitable and effective public education. A narrowly "scientific" paradigm does not adequately capture the complexities of human experience (Gardner, 2006; Noddings, 2003, 2005; Zembylas, 2003, 2005, 2007a, 2007b, 2007c), and a science of education that does not take into account the psycho-social, political and emotional aspects of schooling, teaching and learning, is unable to offer a sophisticated framework for understanding educational processes and policy outcomes, or for achieving universal education ideals.

In the context of "new capitalism" (see Fairclough, 2003; Doecke, Howie & Sawyer, 2006; Hamilton, 2006) and the "new schooling market", with its sharp focus on *standards and accountability*, the quest for "efficient" education has been criticised for invoking narrow, simplistic visions of the aims of schooling (Lingard & Douglas, 1999; Noddings, 2005; Armstrong, 2007; Tomlinson & Germundson, 2007), and for "demoralising" teachers in particular (Bottery & Wright, 2000; Noddings, 2005). As McWilliam and Perry (2006) observe:

> [In] a new schooling market with its vulnerability to accusations of student failure, of wastage of resources, of decline of standards, the push to risk minimization is a much stronger and more demanding imperative than its counter – the pull to autonomy, experiment, and creativity. This is both understandable and problematic. It is understandable given a post-welfare climate in which public funds must be accounted for and in which individual parents and students are increasingly informed as potential consumers of educational services. It is problematic because any retreat from risk-taking is potentially a retreat from powerful learning… (p. 106).

Education and society are inextricably bound up with one another, and so the focus in contemporary Western societies on economic productivity, accountability and the minimisation of "risk" has perhaps inevitably become a focus in education (see also Colby, 1999; Bottery & Wright, 2000; Elliot & Lemert, 2006; Goertz & Duffy, 2001; Bottery, 2003; Gambell, 2003; Lather, 2006a, 2006b; Zembylas 2007c). In this sense, neo-conservative and "neo-positivist" (Lather, 2006a) agendas and discourses have constituted a "narrowing" of policy focus and government response in some Western societies, a "retreat from risk" that represents a retreat from the possibility of human fulfilment and the creation of a better society.

But although contemporary large-scale reforms in Western education cannot be dissociated from market-based neo-conservative political agendas, it is not only policy-makers who are implicated in neo-positivist trends. Hayward and Hedge (2005)

make the point that "much educational research…has failed to serve education" (p. 56), and Sloan (2006) similarly rebukes educational researchers for contributing to simplistic and "polarised" (p. 120) public and political discourses around education. Instead of explaining and clarifying the complexities of modern education and helping to define productive and equitable future policy directions, it seems that many educators and researchers have contributed to simplistic and politicised educational discourses. Contradictions and ambiguities are inherent to the complex nature of education (Allington, 1999), and so simplistic dichotomies and either-or definitions (of "good policy", "right pedagogy", "successful learning", and so on) cannot easily be generalised.

In his critique of the *Journal of Literacy Research (JLR)*, Allington (1999) found that research literature has propounded and promoted two "basic notions about educational policy making" which are "overly simplistic and largely wrong" (p. 458): 1) that policy-making is a "rational activity"; and 2) that educational researchers "have a potentially important and relatively straightforward role to play in policy making" (p. 458). Allington (1999) argues that these two inter-related assumptions wrongly imply that "research" is a homogeneous and non-contradictory body of knowledge which merely has to be "read" to be understood, and that all researchers need to do is to transform it into "pragmatic, plain-language advice" (p. 458) for policy-makers to use it. Allington (1999) argues that these assumptions ignore the nature of human discourse: that research, like policy, "must always be interpreted" (p. 459), and that interpretations vary according to values and agendas. Sloan (2006) makes a similar point:

> …Researchers interested in better understanding teachers' experiences and responses to accountability policies need to more openly acknowledge that by the time national or State accountability policies reach the classroom the meanings and significance of these policies have been significantly altered (p. 146).

This fact needs to be understood by all stakeholders in education, because, as Fullan (2000) argues, it is "impossible" to achieve "better education" through policies seeking "tighter control" (p. 25). Rather, more inclusive, more effective and more equitable education policies can only be developed in collaboration with stakeholders (Comber, 1998, 2007; Smith, 2005, 2006), by acknowledging and *harnessing* the complexities of local contexts (Fullan, 2000, 2003; Hayward & Hedge, 2005), by "beginning where the teachers are" (Hayward & Hedge, 2005, p. 57), and gathering both quantitative and qualitative data on-site, in classrooms, "where it matters most" (Freebody, 2005, p. 177). If policy-makers, educators and researchers take a conventionally defined view of "science" and education, decisions may be made based on a circumscribed range of norms and averages rather than sophisticated analyses of local and individual needs and values. Policies and practices may be generalised inappropriately across diverse communities; and miscommunication and mistrust may arise between stakeholders.

Unfortunately, there is mounting evidence of just such "dissonance" (Blackmore, 2004) between expectations and priorities at government and local school levels, a mis-match between "school cultures" and the "demands of school authorities" (Flett & Wallace, 2005, p. 189). Lather (1991) describes the symptoms of a toxic relationship

between educational stakeholders and "wordless authorities" (p. 61) which arise when meanings are not shared and the reasons for decisions are not effectively communicated. Similarly, Gambell (2003) argues that positive educational results are more likely to flow from policy decisions in which teachers themselves have a "voice" and in contexts of reform that are less coercive.

In order to ensure that diverse perspectives are included in research and policy-making, different stakeholders must be able to come together in an atmosphere of mutual trust and collaboration, to negotiate shared spaces of inquiry. Public education requires "spaces of freedom" (Comber, 1998) where alternatives can be considered and stakeholders in education can engage with and contribute to research, critical reflection and solution-building. Such a project might also be conceptualized as providing a "hybrid space" (Lather, 2006a, p. 41) where different ways of thinking about education and research can be used mutually to construct a comprehensive and useful science of education. Stakeholders in education must move beyond simplistic, binary and oppositional "all-good/all-bad" discourses (Sloan, 2006). In reality, policies and practices are rarely "all good" or "all bad". In order to construct more sophisticated and inclusive discourses around human realities, shared visions and local contexts, we must all accept that what is effective and appropriate in some contexts will not be so in others, and what is hopelessly inappropriate in some circumstances may be exactly suited to others. Just as effective teachers choose and use different strategies in different contexts for different learners (Rivalland, 2000; Louden et al, 2005), and valid and effective research methods are guided by their purpose and context (Patton, 2002; Silverman, 2005), so effective policy-making must rely on flexibility and creativity to address human complexity and diversity.

To understand the complex "truths" of education, and to achieve equitable and effective educational reform, we must "investigate further the social relations of schooling" (Comber, 2007, p. 12). This means more than simply taking qualitative as well as quantitative research approaches to education, but including educational stakeholders as *contributors* to research and policy-making. Comber (2007) argues for a "democratising" of research in which teachers (and, by inference, any participant in research, including students) are included as "subjects" in research, not just "objects" (p. 20). However, because this is a "subversive" agenda (which deliberately sets out to critique the status quo and the "mainstream"), this is no easy task, especially in the context of a "resurgent positivism" (Lather, 2006a) in education. Comber (2007) writes:

> Democratising research is not simple, nor easily achieved, and it is incredibly difficult to find the resources to sustain it. In addition there are many leading literacy academics who simply do not see this work as real research and certainly do not quote it or cite it. However it is my very strong belief that making a difference to young people's learning by changing schools requires building genuine reciprocal relations between those who work in schools and those who work in universities, policy, curriculum and assessment institutions. Designing and implementing more inclusive, more rigorous and more workable pedagogies must be done across these sites and beyond. Yet the funding for such collaborations is hard to find and difficult to sustain. And doing research is not part of the working conditions of teachers' lives, excepting where supplementary funds can be found (pp. 13-14).

While it may not be easy or simple (or cheap), equitable and effective public education can only be imagined and realised as something that involves the inclusion of all stakeholders and effective collaboration between them. This requires not only government funding of diverse forms of research and inter-disciplinary approaches, but, as mentioned, trust, open communications and shared visions between stakeholders.

However, despite a growing body of evidence showing the drawbacks and limitations of standardised, "top-down" approaches to education (see Fullan, 2000, 2003), educational reform policies over the past two decades in many Western nations have emphasised consistency and accountability above creativity and autonomy, with a particular focus on the work of teachers. While it is undeniable that teachers play a vital role in education, such a focus often seems to treat teachers as though they must accept individual responsibility for the success or failure of their students rather than comprehending their work as part of larger dynamic and inter-institutional processes. This focus ignores broader systemic and social issues and the roles of other "gatekeepers" in education, such as policy-makers and researchers. Such a focus does not take account of the complex system of overlapping "worlds" (Sloan, 2006) of which teachers are but one part, and of which "teaching quality" is but one important variable. As Castleton (2000) argues:

> [We must] examine closely *a system* that has allowed, and continues to allow, some groups of students to be marginalised, and to carry the effects of that marginalisation into their adult lives (p. 37 [italics added]).

Focusing on the work of teachers (and the grades and test results of their students) does not allow for critical investigation of various factors which determine the "quality" of education for different people. It sets up an accusatory and prescriptive paradigm which undermines the potential for creativity and collaboration. Alexander (2004, p. 7) describes "the tide of educational centralism" which has risen since the 1990s in order to "prescribe" teachers' professional practices. Sloan (2006) describes this kind of prescriptive policy agenda as an attempt to make policy and curriculum "teacher-proof" (p. 123). Similarly, Gambell (2003) found that the issue of state control over teachers' professional practice was at the heart of concerns about new policy directions. But, again, it is not only policy-makers who are implicated in "monolithic" and ideologically driven approaches to education. Watkins (2007), for example, found that the work (and job satisfaction) of some teachers was being undermined by contemporary ideas being "pushed" by educators and experts, namely those to do with child-centered learning and the desirability of group work. It seems that simplistic ideas and generalisations about the nature of "good education" (and how it can be "delivered" and "measured") exist at all levels of education, in research, policy and practice.

In order to ensure that *all* children receive a good education, some people reason, we must identify and define what "good teaching" is and then make sure every child "gets it". While this argument may have appeal, its apparent simplicity is its greatest flaw. There is no single "right pedagogy" (Rivalland, 2000), and teachers do *not* work in isolation, but exist as part of dynamic social and institutional relationships. They need

appropriate systemic supports in order to deliver desired educational outcomes. Standardised models in which everyone is treated the same *cannot* lead to equity because, in "the real world", people have different needs and knowledges, and varying degrees of power, social status, wealth, and so on (Germov, 2001). Connell (1993) made the point fifteen years ago that simply giving students "more" of the same kind of (middle class) education does not lead to social justice outcomes, but serves only to perpetuate an inequitable status quo, thus actually undermining the quality of education for our whole society. Positivist thinking and a belief in "absolute" (generalisable) answers may be "reassuring" in times of great social change, but it constitutes gross over-simplification of complex human issues, and a "narrowing" of response to diversity.

A NARROWING EDUCATION?

Over the past two decades, Western nations such as Australia have witnessed a "narrowing" of educational – and life – opportunities for many people. Education is inter-connected with social and personal factors, health and wealth and class, and disadvantage has become "inter-generational" for many families (Vinson, 2007). While those promoting neo-conservative reform agendas in education argue that "choice" is of central importance (Apple, 1993; McWilliam & Perry, 2006), in reality only some people have the social and capital resources to "choose" where they live or which schools they attend (see also Connell, 1993; Fairclough, 2003; Vinson, 2007). Education systems are inherently biased towards the "culture of power" (Malin, 1997), and "the school system…tends to reinforce inequalities" (Giddens, 1989, p. 17) which continue through school and through life (see also Castleton, 2000; Jamrozik, 2001). It is particularly disturbing that the "hidden curriculum" of schools (Giddens, 1989) (ways of doing things and implicit, but often un-explained and/or un-justified assumptions about what a "good learner" looks like) continues to disadvantage children from certain backgrounds.

If we are to find solutions to such inequities, and use education to "transform" societies – an immensely complex task by any measure – *all* stakeholders in education must come together, in a spirit of critical collaboration, to co-construct spaces of inquiry in which "problems" can be honestly assessed, ideas challenged, alternatives imagined, and solutions negotiated. Part of this entails embracing more inclusive and sophisticated understandings of identity, family, community, education, research and government as inter-related and dynamic socio-political *systems* (they are inter-related social *processes* more than "things"). Yet, while there has been an embracing of complexity and a "proliferation of paradigms" in qualitative research (Lather, 2006a), many educational policy discourses are still dominated by (and "trapped" within) paradigms that provide only a partial impression of human realities and which thus limits one's ability to address diverse human needs. Narrowly defined, quantitatively-based definitions of "scientific research" and "evidence" have even been written into law in America (see Smith et al, 2004; Delandshere, 2006; Lather, 2006a). Delandshere (2006) comments on the scene in the United States:

> In an unprecedented move, the US federal government has in effect mandated what constitutes educational research worthy of public funding. Many government requests for research proposals in education, or for evaluation of federally funded programs in

general, explicitly require the use of randomised controlled trials. In addition, and consistent with this mandate, states and school districts which receive federal education funds are also required to use these monies on programs for which there exist scientifically-based evidence (p. 71).

Nobody could question the importance of quantitative research approaches – indeed, they are integral to sophisticated understandings, upon which good education, research and policy rely. Lather (2006a, pp. 48-49) points out that statistics are an *indispensable* part of feminist research which can be used to both expose what "is" and work towards what might be. But numbers only make sense when put into a context with words, and psychological models only make sense within sociological frameworks. The power of statistics is also its weakness because population outliers are disregarded in the processes of statistical analyses; "regularities" are sought at the expense of "the unique, the irregular [and] the extreme" (Delandshere, 2006, p. 74); the natural diversity of human life is reified in numbers.

It is paradoxical, if not tragic, that a century of sociology, a "revolt against dualism" (Newman & Holzman, 1993, pp. 14-15), and "an unprecedented cross-disciplinary fertilisation of ideas" (Lather, 1991, p. 9) seems to have failed to embed more sophisticated, collaborative, multi-disciplinary approaches to educational research and policy development. Over a century ago Emile Durkheim opined that a useful "science of education" could not be "reductionist" (Durkheim, 1956, p. 16) and that it must involve collaboration between psychological and sociological approaches:

> …Psychology is only one of the two possible approaches [to the *science of education*]. Whoever follows it exclusively exposes [them]self to approaching the fact, education, through only one of its two aspects. For psychology is obviously inadequate, with respect to saying not what the child is, who is educated, [their] manner of assimilating it and reacting to it, but the very nature of the civilisation that education transmits and of the mechanisms that it employs to transmit it (Durkheim, 1956, p. 35).

Similarly, the panel of Australian education and research experts who contributed to the 2005 monograph edition of the *Australian Journal of Language and Literacy* reached a consensus that "classroom life… …warrants sophisticated combinations of quantitative and qualitative [research] approaches" (Freebody, 2005, p. 175). In this sense, different forms of evidence are mutually dependent: one cannot understand the psychology of the individual without considering the *milieu* of which they are a part; one cannot understand dynamic social systems without considering the psychologies of individuals; one cannot describe and analyse patterns, trends and probabilities within social systems without quantitative analyses; yet one cannot interpret statistics without a qualitative context. Despite this, however, qualitative research still occupies a marginalised role in policy-making, acting "within and against" dominant discourses, as Lather (1991, 2006a) puts it.

If we seek equitable and effective public education, we need to find ways to support teachers and learners, to encourage creativity and innovation in education and research, and to help stakeholders collaborate to reach shared goals. A science of education that can help facilitate positive educational and social reform in the 21st Century must embrace sophisticated multidisciplinary and collaborative approaches to education and education research. Genuinely equitable and effective public education

will, by definition, be based on inclusion, creativity and flexibility in research, policy and pedagogy.

CONCLUSION

A positivist outlook and a narrowly quantitative focus preclude any sophisticated and inclusive inquiry into human experiences and needs, thus dulling one's ability to cater for complexity and diversity. If public education in the Western world is to cater for *all* children – to "leave no child behind" – education systems, research and policy-making must recognize that societies are complexly mediated and diverse. There is hope in collaboration and hybridity, as they might be facilitated through modern communications technology. Lather writes about "a thousand tiny paradigms" (Lather, 2006a, p. 43) that act apart but which might be brought together to subvert the status quo. And this is not for the sake of being disruptive, but because the status quo is unacceptable. We need to find a way of moving forward, to make possible the conditions for achieving the as-yet unrealised ideals of universal education. This requires cross-institutional and cross-disciplinary approaches to the study of dynamic social systems – the families, schools and "worlds" people live and work in, including the overlapping worlds of classrooms, educational research and politics. By stepping beyond the binary and the oppositional, in order to negotiate as a community shared "spaces of inquiry", the complexities of dynamic social systems such as schools might be comprehended, and a more effective and equitable public education might be realised.

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