Discussing the importance of ontology and epistemology awareness in practitioner research

Seán Bracken
University of Worcester
(s.bracken@worc.ac.uk)

Abstract
This paper uses the focus of identity and acculturation within schools as the basis for a reflection on the ways in which researchers ground their investigations. It identifies the necessity for researchers to ensure that their own ontological perceptions, epistemological stances and methods for data gathering and interpretation are closely aligned. By investigating the ways in which a diversity of methodological approaches are used to address the issue of identity formation, as reflected in three school-based studies (Houlette et al, 2004; Gillbourn, 2006; Nasir et al, 2009), the paper facilitates a teasing out of ontological and epistemological issues. The practical implications are that, through a deeper awareness of the ontological substructures informing their studies, researchers will be more clearly positioned to iteratively reflect upon, and define how best to engage with, their research projects.

Introduction
Central to an exploration of the ways in which schools navigate pathways through consistently changing circumstances, are the variables of policy, power and identity (Cummins, 1994). These variables can be experienced differently according to the perspectives of stakeholders. Within school sites, differing perspectives are most clearly articulated in the views of teachers and those of students. They may also be evidenced in how schools externalize practices reflecting the inner zeitgeist or institutional ethos which in turn may reflect wider societal ways of thinking. Recognition, status, respect and inclusion are bestowed or withdrawn according to contrastive analyses which are made about particular individuals and groups and the ways in which these groups are compared with others (Cremin & Thomas, 2005: 440). The great puzzle for educational researchers, is how one should go about determining the changing natures of identities, how these multiple identities influence teaching and learning, and how one might go about the business of determining the factors which contribute to a formation of cultural identities.

The development of a conceptual framework to orient the research of multiple identities adopted during acculturation, must of necessity explore how actors' attitudes, values and practices influence the ways in which children define and reinterpret themselves as social beings and learners. Such a framework should also acknowledge that wider societal issues of power and the rhetorical peculiarities of curriculum, as discussed by Andrews (2009), contribute to the context and help to shape specific research questions worthy of exploration. Research which is concerned with identity and acculturation, whether it is focused upon teachers or students, is *ipso facto* situated in particular socio-cultural and historical contexts. Thus, there is a necessity to clearly reflect upon their own ontological and epistemological perspectives and to reflect upon the ways in which these may inform development of appropriate research paradigms.

The nature of being: A brief examination of ontology

If, as Beck (1979) contends, 'the purpose for social science is to understand the social reality as different people see it and to demonstrate how their views shape the action which they take within that reality' (quoted in Anderson et al, 2003: 153), then investigating ontological distinctions is a critical facet of the research process because it enables the researcher to uncover how their perceptions of human nature impact on the approach they consciously adopt to reveal social truths (David & Sutton, 2004). Doubtless as argued by Cohen et al, (2000: 3) here are at least more than tenuous links between the ways in which one might view socially constructed realities and the choices one might make in regards to methodological considerations.

As a researcher, I may adopt differing ontological perspectives, or ways of viewing social reality. On the one hand, this might involve my adopting the belief that the world of social interactions exists independently of what I perceive it to be, it is a rational, external entity and responsive to scientific and positivist modes of inquiry. This tradition has informed the ontological foundations of research for some time, particularly in the domain of the physical sciences (Bitter-Davis & Parker, 1997; Gallagher, 2008). Alternatively, as researcher, I may view social reality as being co-constructed by individuals who interact and make meaning of their world in an active way, and as researcher, I can approach the search for truth in people's lived experiences through rigorous interpretation (Graue & Walsh, 1998; Byrne-Armstrong et al 2001). As Pring argues (2000a: 90), both of these ways of coming to the research are informed by historical, cultural and philosophical backgrounds which have to be addressed explicitly. Without such an examination, as researcher, I may not become aware of the philosophical premises on which arguments are based to justify my research processes and findings.

How knowledge is shared: a review of epistemological considerations.

The Stanford dictionary of philosophy (2009) explains that 'epistemology is about issues having to do with the creation and dissemination of knowledge in particular areas of inquiry'. Historically, the social sciences inherited its epistemological orientation from the scientific research methods associated with the physical sciences. Scientific methods were believed to provide the 'factual certainties of the physical sciences and the deductive certainties of logic and pure mathematics' (Lee-Kelley, 1929:1). According to this tradition, once external conditions are controlled and monitored systematically, they may be subjected to experimental testing to reveal truths not only about the nature of atoms, mathematical concepts and mechanics, but also about the nature of human behaviour. This epistemology is firmly grounded in the ontological belief that the behaviour of human subjects is manifest of an ordered and rule governed external reality. Accordingly, there is a conceptual perspective that human behaviors and actions are largely determined by stimuli which are not of their own making.

Logical positivism continues to inform much of the research in education, and has had a significant impact on the ways in which knowledge about education is gathered and disseminated. In the USA, the American Association for Education Research has noted an increasing orientation within federal initiatives to fund research design based primarily 'on the accumulation of scientific evidence in education that rely on randomized controlled trials' (Schneider at al, 2008: 16). The stated rationale for this approach is that policy makers require access to relevant research revealing unambiguous links in the causality of events associated with large-scale educational interventions. Yet the strict nature of this

form of research means it cannot address, still less reveal, causal links. It can only establish correlations. Additionally, the ontological and epistemological perspectives which inform this approach have been contested (Giroux, 1981; Lemesianou & Grinberg, 2006; Hyslop-Margison & Naseem, 2008). The logical positivist epistemology, and the form of research methodology which it generates, has defined limitations. Most notably, it fails to take into consideration the clear epistemological distinctions between knowledge about humans and knowledge about things. In essence, the positivist approach to the social sciences negates the role of human agency, or trivializes it to such an extent that it becomes meaningless.

Social scientists concerned with exploring the historically bound, and culturally contextualised, meaning of human interactions share the belief that a focus upon the actors themselves, the persons who are responsible for their actions, should be a critical aspect of research (Cohen et al, 2000). A rationale for this epistemological approach as it pertains to identity and education is provided by Ladson-Billings (2003). She argues that there is nothing wrong with the positivist perspective, as long as it is recognized for what it is namely, a cultural manifestation of one mode of research, which is not universal or transcendent, but grounded in the Judeo-Christian tradition of the enlightenment. In Larson-Billing's view (2003: 12), the socio-cultural approach to research calls for 'deeply contextualized understandings of social phenomena'. An alternative to scientism as a basis for a robust inquire into social phenomena may be exemplified in the interpretative tradition, which is grounded on the epistemological belief that issues of power and the replication of structural inequalities in society are manifest in both curriculum content and teaching processes (Sleeter & McLaren, 1995).

Additional important alternatives to the positivist paradigm for exploring social realities may include critical realism which is described by Luke as an approach which 'enlists the full range of educational research tools to generate as broad an empirical picture of educational practices, patterns, and institutional outcomes as possible' (2009: 173). It aims to provide a critical hermeneutic for reading and interpreting data and to bridge the traditional binary divide between positivist and interpretative traditions, and to situate this debate also in an historical context. The discussion above identifies that assumptions about social reality give rise to different research concerns and inform different ways of conducting research.

Examples of different research paradigms to investigate cultural identity

The question remains as to which research tradition and methodology might satisfactorily address how to investigate concepts of student identity and belonging. I have specifically chosen to use only three pieces of research (Houlette et al, 2004; Gillbourn, 2006; Nasir et al, 2009) to exemplify how the concept of student identity is problematised using differing research paradigms. By adopting this approach, there is a danger that the discussion essentializes perspectives and consequentially it has the potential to minimise due recognition to the generality that research may be posited along a continuum between being significantly positivist or interpretative. However, while remaining cognisant of these concerns, I am mindful that given the confines of space, there is a strong rationale for using a limited number of research articles which act as wider typologies and assist in facilitating the exploration of differing paradigms in greater depth.

Implications of using a logical-positivist approach

In the scientific tradition, Houlette et al (2004) used a quantitative methodology to determine the effectiveness of an intervention programme designed to enhance student receptiveness to those who were either culturally or racially different from themselves. The research design involved a pre and post test analysis of data gathered from a survey conducted on a total of 830 elementary school children who were provided with the 'Green Circle Program'. This programme was aimed at altering children's perceptions towards others and, through discussions, it was hoped to enculturate a 'conceptual' expanding of children's circle of friends. The hypothesis was that over time the programme would result in positive changes in the inclusiveness of their preferences for playing and sharing (Houlette et al, 2004: 42).

The study utilized a pictographic response questionnaire to adjudge the effects of the programme. Children were asked to respond to a series of prompt questions and to tick faces which may have accorded to how they felt before and following the intervention. The results of the intervention were disappointing for the researchers with reports that, 'none of our analysis….. revealed evidence supporting the expectation that Green Circle would increase the inclusiveness of children's play preferences' (Houlette et al, 2004: 45).

The researchers identified several possible explanations for their disappointing findings. In the first instance, at issue was the pictoral scale which was used to illicit information from the children. According to the authors, the grid 'was too complicated for children this age to be completely sensitive to subtle changes in their preferences' because, as the authors explained, 'first and second graders are limited in their use of symbolic language' (Houlette et al, 2004:51). The researchers also questioned whether the use of 'sociometric ratings' representing actual students in different classes as visual stimuli might not have been more effective than drawings of unknown children.

What is problematic in this explanation is that the authors have not questioned whether the research design itself may have been faulty. None of the researchers actually sought to find out directly from the children concerned how they felt about the programme, nor have the authors engaged critically with the content or delivery of the programme. Rather, what is deemed to be at fault is the children's capacity to engage with the stimuli in a way that is congruent with the researchers' desires. Another possible explanation provided for the disappointing research findings was that tests were described as taking place in 'an elementary school setting, which is much less controlled than laboratory settings' (Houlette et al, 2004: 51). There is a sense that if children's behaviour could have been more controlled, or subjected to more rigorous testing, then the experiment might have been more effective. In effect, in terms of the extent to which agency or volition are visible in this study, the school children involved might just as equally have been blood cells under the gaze of the scientific microscopes.

On the basis of critiquing one piece of empirical research, it would be unprofessional to maintain that all positivist approaches are inappropriate as a means of accessing and sharing insights about how children's identities are developed and interpreted. Nevertheless, shortcomings in the logical positivist approach have been identified. In particular, this approach has a tendency to minimise the complexity of social interactions and fails to capture the lived socio-cultural nature of humanity. An alternative epistemology may prove more rewarding in terms of uncovering how children are authors of their own identities and in elucidating how these identities may be scripted by others.

Implications of using critical theory

A radical social constructivist alternative to the logical positivist epistemology is adopted by critical social theorists. While considering the impact which race and racism have on students' experiences in schools, Gillborn (2006: 18) adopts a socially critical perspective insisting that anti-racism needs to retain and extend a 'radical, critical edge'.

In order to support his viewpoint that the levels of institutional racism are systematically unacceptable within UK schools and educational institutions, Gillborn (2006) quotes extensively from quantitative research data made available by Schneider-Ross (2003). Gillborn (2006) also encourages researchers to adopt alternative forms of research approaches including, story-telling and counter stories, interest convergence and critical white studies to illuminate how structural inequalities are exemplified in the educational setting (Gillborn, 2006: 20). Despite the fact that some of these approaches are likely to be localized and school based, the article, while recognizing the need for such research, states that 'in isolation, (*this research*) may have the unintended consequence of limiting our vision to what seems possible' (Gillborn, 2006: 18). Gillborn calls for a envisioning of the traditional binary research paradigm, suggesting that what is required is a capacity to reveal structural inequalities as evidenced in national or local data sets, while also realising how these are manifested within classroom contexts.

While critical social theory has provided important evidence regarding the nature of structural inequalities within education systems (Giroux, 1981; Apple, 1986; Parker et al, 1999; Delgado & Stefancic, 2001; Apple 2004), there is clearly a necessity for researchers to clarify any potential for research bias and to highlight how the adoption of ideological perspectives may impact on research findings. As observed by Morrison (1995), a danger in adopting an 'uncritical' critical theorist approach to research is that the focus may become conflated with polemics. The ideological position of researcher is problematic in all research traditions, but within interpretative approaches it is afforded particular significance.

Implications of using a mixed methods approach

In a recent study investigating ways in which African-American students in a public high school developed their identities, Nasir et al (2009), used a mixed methods approach. The methodology was employed in the belief that both ethnographic and survey data would provide depth and breath to the study. The research, which was conducted over a two year period, was firmly based on socio-cultural (Rogoff, 2003) and ecological theories regarding identity formation (Ogbu, 2008). The epistemological premise informing the research was that students are conscious and creative participants in the development of their own identities, while they are simultaneously responsive to the complex interactions between local, regional and global forces informing the ways in which identities, and the adoption of societal stereotypes, may be developed.

The research provided a rigorous ethnographic description of a case study school in terms of its dual orientation, on the one hand identifying potentially successful students while on the other, relegating those in opposition to school cultural norms to low expectations and pathways of academic failure. In total, twenty pages of the article are devoted to discussion of the ethnographic data, while just four pages focus on the feedback from a survey instrument which was used to elicit information from the students concerned. The authors identified that one of the most significant limitations in the research process was in the design and usefulness of the survey instrumentation (Nadir et al, 2009: 107). Whilst the methodology of mixed methods itself is not critiqued by the authors, in this instance I

would question whether and to what extent the rigor of the research was advanced with the use of a mixed methods approach. Nevertheless, the existence of an external reality as reflected in the critical realist paradigm, may be accessed through the use of research tools associated with quantitative methods as long as these are not the only mechanisms used to illustrate how the complexity of identity formation is actualised on the ground.

Developing a rationale for differing research approaches
In light of the review of the literature associated with differing methodologies, there is an understanding that research methodologies used by researcher prompt them to elicit differing sets of data, and to focus upon findings in differing ways depending upon their ontological and epistemological positioning. In a comprehensive review of the literature, Banks (2006: 789) identified that research pertaining to culturally responsive pedagogy and identity formation was overwhelmingly adopted from either ethnographic or case-study approaches. Nevertheless, recent arguments, for example as voiced by Chirkov (2009: 94) and Luke (2009), have focused upon the necessity for intellectual flexibility, and a willingness to critically analyze achieved results and obtained knowledge as core skills required to understand the complex nature of the acculturation. This involves situating the learning from qualitative engagements at classroom level with a capacity to interpret data sets which reflect more national and regional factors. To some extent, this is the approach which Gillborn (2008) adopts in his critical interpretation of racism and exclusion as forming the basis for systematic and structural inequalities in educational engagement and attainment. As described by Brenner (2006), this epistemological view necessitates the use of methodologies which allow for a tension in the research processes between inductive and deductive research strategies. Tools should be developed to elucidate the subjective world of the informants leading to a representation of their conceptual understandings while also facilitating an exploration of theoretical constructs such as critical race theory and examples of institutional racism and the ways in which these phenomena may inform and constrain identity construction.

As discussed earlier in the context of critical theory, a consideration of the ideological positioning inherent in all research can be addressed so that, 'by identifying one's biases, one can see easily where the questions that guide the study are crafted' (Janesick, 1994: 212). But there is a question as to whether it is sufficient to be aware only of the ideological constructions which may potentially impact on research design and development.

In a context where concepts of identity and culture are the focus of the research, it is imperative that one's own socially and culturally constructed identities as researcher and educator are interrogated throughout all phases of the research process. This point is also made by Mazzi (2006), who comments that, 'whiteness colours the ways in which whites, and in this case white teachers, view themselves and their students as "different" just as blackness or brownness colours the way that students of "colour" view themselves and their white teachers as different'. Such a critical awareness is not only essential to developing culturally competent teachers, it is also essential for researchers investigating ideas of race, ethnicity and identity formation. It is imperative that as a researcher, I am critically aware that just as my perceptions of the world are determined by the concepts available to me, it follows that people with differing sets of concepts will tend to view the 'same' objective reality differently. For this reason, as advised by Brenner (2006: 368), I as researcher should aim to describe not only who I am as part of the study, but also, as accurately as possible, to provide insights regarding how informants may have perceived me as well.

Conclusion

This paper has articulated the importance for educational researchers concerned with notions of identity and culture to explicitly investigate the philosophical foundations on which their research is developed (Cohen et al 2000: 3). The paper briefly investigated the differing research traditions and illustrated how the adoption of specific traditions had a significant bearing on the types of questions which were posed, the approaches which were taken to address those questions, and the ways in which findings were presented.

The quantitative approach adopted by Houlette et al (2004) was explored. While this paradigm may have provided a useful strategy for evaluating the effectiveness of a particular intervention, it was found to be mechanistic and lacking in a depth and thus unsuited for providing insights into how individuals might co-author their identities. On the other hand, despite the fact that critical race theory has a significant contribution to make in relation to identity studies, the work of Gillborn (2006) was questioned as a result of the overt political situatedness of the paper. The socially critical research tradition has made a valuable contribution to our concept of educational theory and practice because it problematises the 'everyday reality', particularly as experienced by those from cultural or ethnic minorities Prig (2000b). As recognised by Burrell and Morgan (1979 p.2), 'whilst there are social theories which adhere to each of these extremes, the assumptions of many social scientists are pitched somewhere in the range between'. To some extent, this 'middle range' was identified in the work of Nasir et al (2009) in their study of identity formation among African-American students in an American high school.

Lessons learned from an engagement with the literature were used to further the thesis that the researchers who are focusing upon issues of identity formation, should consistently self-reflect regarding their positioning in relation to ontology, epistemology, methodology and data gathering. This is an iterative process and one which should ensure that research actions are constructed from a clearer understanding of the (sometimes opaque) philosophical suppositions which underpin the research process.

Research concerned with concepts of ethnic and cultural identity, religious and linguistic diversity are matters of growing importance in our increasingly globalized world. This is particularly the case in rural or isolated areas where few teachers share the cultural heritages of students from ethnic minority backgrounds who they teach. Providing teachers and researchers with the tools to critically interpret how to generate greater cross-cultural knowledge and skills will assist practitioners to plan positively for diversity and to enhance the educational experiences of all concerned.

References

Anderson, L. Bennett. N (2003), *Developing educational leadership: using evidence for policy and practice*, British Educational Management and Administration Society, London: Sage.

Andrews, P. (2009) Identity, rhetoric and culture, *Cambridge Journal of Education*, **39**(2).

Apple, M. Ed. (1986) *Cultural and Economic Reproduction in Education: Essays on Class, Ideology and the State*. London: Routledge.

Apple, M. (2004) *Ideology and Curriculum*, 3rd Edition. London: Routledge.

Banks, J. A. (2006). Researching Race Culture and Difference: Epistemological Challenges and Possibilities, in Green, J., Camilli, G., Elmore, P., Skukauskaite (Eds) *Complementary Methods in Education Research*. London: Laurence Erlbaum Associates.

Banks, J. A. (2004). Multicultural education: Historical development, dimensions, and practice. In J. A. Banks & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (2nd ed., pp. 3–29), San Francisco: Jossey-Bass.

Bitter Davis, G., Parker, C. A., (1997) *Writing the doctoral dissertation: a systematic approach Edition: 2* Barron's Educational Series,

Bourdieu, P., & Wacquant, L., (1992) *An invitation to reflexive sociology*, Cambridge: Polity Press.

Brenner, M., (2006) Interviewing in Educational Research. In, Green, J., Camilli, G., Elmore, P., Skukauskaite (Eds) *Complementary Methods in Education Research*. London: Laurence Erlbaum Associates.

Byrne-Armstrong, H., Higgs, J., Horsfall D. (2001) *Critical Moments in Qualitative Research*, London: Elsevier Health Sciences.

Chirkov, V., (2009) Critical psychology of acculturation: What do we study and how do we study it, when we investigate acculturation? *International Journal of Intercultural Relations* **33** (10).

Cohen, L., Manion, L. and Morrison, K. (2000) *Research Methods in Education*, (5th edn.) London: Routledge.

Cohen, L. and Manion, L. (1994) Surveys, in Bennett, N., Glatter, R., and Levacic, R, (Eds*) Improving Educational Management through Research and Consultancy*, London: Paul Chapman Publishing.

Cremin, H. & Thomas, G. (2005) Maintaining underclasses via contrastive judgement: can inclusive education ever happen? *British Journal of Educational Studies*, **53**(4)

Cummins, J. (1994). Knowledge, power and identity in teaching English as a second language, in Genesee F. (Ed) *Educating Second Language Children*. Cambridge: Cambridge University Press.

David, M., and Sutton, C., (2004) *Social research: the basics*, Thousand Oaks, CA: Sage.

Delgado, R., and Stefancic, J. (2001) *Critical Race Theory: An Introduction*. New York: NYU Press.

Gallagher, K. (2008) *The Methodological Dilemma: Creative, critical, collaborative and post-positivist*, London: Rutledge.

Gillborn, D. (2008) Racism and Education, coincidence or conspiracy? Oxon: Routledge.

Gillborn, D. (2006) Critical Race Theory and Education: Racism and anti-racism in educational theory and praxis, *Discourse: Studies in the Cultural Politics of Education*, **27**(1).

Giroux., H. A., (1981) *Ideology, culture and the process of schooling,* London: Routledge.

Graue., E and Walsh, J., (1998) *Studying children in context: theories, methods, and ethics*, London: SAGE.

Hyslop-Margison, E. J., and. Ayaz Naseem., M, (2008). *Scientism and Education: Empirical Research as Neo-liberal Ideology*, New York: Springer.

Houlette, A., Gaertner, S., Johnson, K., Banker, B. and Riek, B. (2004) Developing a More Inclusive Social Identity: An Elementary School Intervention, *Journal of Social Issues* **60** (1).

Janesick, V. J. (1994). The dance of qualitative research design: Metaphor, methodology, and meaning, in N. K. Denzin & Y. S. Lincoln (eds.) Handbook of qualitative research (pp. 209-235). Thousand Oaks, CA: Sage.

Ladson-Billings G. (2003) It's Your World I'm Just Trying to Explain it, *Qualitative Inquiry,* **9** (5).

Lee-Kelley, T., (1929) *Scientific Method: Its Function in Research and in Education*, Ohio: Ohio State University Press.

Lemesianou, C., Grinberg, (2006) J. Criticality in Education Research in Tobin, K. and Kincheloe, J. (Ed.s) *Doing educational research,* Boston MA: Sense Publishers.

Luke, A., (2009) Critical Realism, Policy, and Educational Research. In, Ercikan, K. & Roth, W-M., (eds) Generalizing from educational research:beyond qualitative and quantitative, Oxon: Routledge.

Mazzei, L. A. (2006) We Can't Teach What We Don't Know: White Teachers, Multiracial Schools *Teachers College Record*, Date Published: July 05, 2006 http://www.tcrecord.org Online, accessed 04/18/2009.

Morrison, K. (1995). Dewey, Habermas and Reflective practice, *Curriculum* **16**.

Nasir, S. N., McLaughlin, M.W., Jones, A. (2009) What does it Mean to Be African American? Constructions of Race and Academic Identify in an Urban Public High School, *American Educational Research* **46** (1).

Ogbu, J., (2008) *Minority Status, Oppositional Culture and Schooling*, New York: Taylor and Francis.

Parker, L. Deyhle, D., Villenas., S. (1999) *Critical Race Theory and qualitative studies in education*, Jackson TN: Westview Press.

Pring, R. (2000a) *Philosophy of Educational Research*, London: Continuum.

Pring, R. (2000b) The 'False Dualism' of Educational Research, *Journal of Philosophy of Education*, **34** (2), 247 – 260.

Rogoff, B., (2003) *The cultural nature of human development*, Oxford: Oxford University Press.

Schneider, B., Carnoy, M., Kilpatrick, J., Schmidt, W. H., & Shavelson, R. J. (2007). *Estimating causal effects using experimental and observational designs (report from the Governing Board of the American Educational Research Association Grants Program)*. Washington, DC: American Educational Research Association.

Schneider-Ross (Consultancy) (2003) *Towards racial equality: An evaluation of the public duty to promote race equality and good race relations in England & Wales*, London: Commission for Racial Equality.

Sleeter, C., McLaren, P. (1995) *Multicultural Education, Critical Pedagogy and the Politics of Difference*, New Your: SUNY Press.

Stanford Encyclopedia (2009) Stanford Encyclopedia, Zalta, E. N. Ed http://plato.stanford.edu/ Online, accessed 10/03/09.