



**Education  
Policy  
Consortium**  
TRANSFORMING EDUCATION

# OCCASIONAL PAPER

## **Knowledge through deep and systematic study and by engaging with communities**

*Enver Motala: Nelson Mandela Institute for Education and Rural  
Development, University of Fort Hare  
19 August 2014*

### **Introduction**

Whether the knowledge we seek is academic or not, especially in regard to important social issues, good understanding can be augmented by respectful scholarly engagements with communities, especially those communities that are directly implicated in such social issues. In this regard some basic principles to inform thinking and action should be considered. What are these?



## higher education & training

Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA

This publication was produced with the financial assistance of the Department of Higher Education and Training (DHET). The views expressed in these publication are those of the authors. In quoting from this publication, readers are advised to attribute the source of the information to the author/s concerned and not to the Department.

### **CEPD**

The Centre for Education Policy Development

### **CERT**

The Centre for Education Rights and Transformation at the University of Johannesburg

### **CIPSET**

The Centre for Integrated Post-School Education and Training at the Nelson Mandela Metropolitan University

### **NMI**

The Nelson Mandela Institute for Rural Education and Development at the University of Fort Hare

### **REAL**

Researching Education and Labour at the University of the Witwatersrand

### **EPC**

The Education Policy Consortium has received support from the Department of Higher Education and Training (DHET)

Design and layout: Mudney Halim (CERT)

Cover design and EPC logo: Nomalizo Ngwenya



**Education  
Policy  
Consortium**  
TRANSFORMING EDUCATION



Centre for Education  
Policy Development



Centre for Post-School Education & Training (CIPSET)



centre for researching  
education and labour



NELSON MANDELA  
INSTITUTE FOR  
EDUCATION AND  
RURAL DEVELOPMENT



Centre for  
Education Rights  
and Transformation



UNIVERSITY  
OF  
JOHANNESBURG

**Firstly**, one of the conditions for producing useful knowledge has to be that it is based on deep and systematic analysis and study. The idea that we need to study things deeply and systematically is not only applicable to academic knowledge. Especially when studying societies, superficial knowledge is almost useless and can actually be harmful. There are many good reasons why deep study is important in understanding societies, or communities within them. Superficial studies generally examine one or other aspect of a social or community issue. For example, in relation to the schooling system a great deal of attention is paid to the matriculation examination at the end of each year. There is considerable media coverage about the examinations and the results achieved. The general picture we get from the media is about the poor results achieved in a number of provinces, the low passes especially in mathematics and the sciences, the wonderful symbols obtained by a small number of high performing students, 'good' and 'bad' schools and such similar information. And academic researchers who follow these results dwell on the data and are called upon as experts to make judgments and pronouncements about the examinations, the education system, and governments' role in the schooling system and other such issues. And sometimes they are even called upon to make comparisons between different schools, parts of the system or in 'comparative international studies'. Too often this is done without any real and systematic understanding of many of the complex factors that have to be taken into account. In effect, except for a few serious researchers, very little attention is paid to the deeper underlying reasons which could enable us to understand why students perform in the way they do in their *various learning contexts*.

To understand schooling (and other social) issues we have to understand not only the matriculation results themselves but a whole range of related social, economic, historical, and contextual issues. Ultimately, even issues relating to the personal circumstances of individual learners, their emotional and psychological states need understanding. Comparisons must be avoided unless we are absolutely clear about what is comparable and why. For instance, making comparisons between the matriculation

results obtained in well resourced, stable, urban, middle and upper middle class schools where, in addition, the language of teaching and learning is the same as the language used at home, and schools in rural poor communities with no or little educational resources and where the language of teaching and learning and the home language are not the same, and that home is not 'print rich' as it might be in middle class homes, is

simply untenable and seriously blighted. Similarly learning in a general environment provided by a social democratic political regime cannot easily be compared with that provided in a dictatorial political system – indeed these comparisons cannot be made with ease even across seemingly similar political systems without reckoning with the specifics of each context and history.

Good research and useful understanding requires much deeper analysis and the recognition of the complex issues which affect education. These include the socio-economic environment in which schooling takes place, the language of teaching and learning in relation to the language used in the homes of learners the resources that exist in the home, the in-class strategies used by teachers, the resources available for learning, classroom sizes, the competencies and availability of good teachers and administrators, the stability of the school and even the habits, attitudes, culture and histories of the communities in which the research is located and other factors. And very importantly, the policy and political environment that frames the educational system as a whole at any particular period in the history of a society is critical. Without such deeper understanding only a superficial picture will be obtained. Such superficial understanding invariably gives rise to superficial ‘solutions’ which are not likely to have any beneficial effects and might actually worsen social problems. This means that good social knowledge can only be constructed by deeper and more thoughtful study in which a wide range of factors and fields of understanding are used.

**Secondly**, useful and systematic knowledge can be produced by engaging with and recognizing the direct experience of individuals and their communities. And there are many ways of ensuring that the knowledge that has been developed by communities over many generations can be understood and used. This knowledge can hugely enhance our understanding of the kinds of issues that affect communities. This has to be done carefully and thoughtfully so that the knowledge which communities have is properly understood, acknowledged and not abused. Above all, this requires careful attention to the modes and purposes of such engagement so that the underlying issues and assumptions implied in the scholarly engagement are made explicit and has mutual value. Too much of social science research violates the rights and dignity of the communities which have been researched. Too many communities have simply been used as *objects* for study without any consideration of the interests and perspectives, ideas and experiences of such communities.<sup>1</sup>

Engaging meaningfully with communities can enhance our understanding of social phenomena and of society hugely. Communities are a valuable source of knowledge based on their direct experience, their attempts to solve the problems facing them and the struggles which they have faced over the years. Think of the communities that have endured and survived apartheid and it is obvious that they survived through finding ways to deal with its ravages and used their social, cultural and historical knowledge to do so. This knowledge will remain important for many communities given the continuity of the problems that have not been resolved even now.

That is how scholars who are socially engaged do their work – by being engaged with and in the issues that affect the communities they are a part of, by paying attention to the knowledge that such communities have developed over many years through their direct experience of the social issues. And even that is a complex process as we have argued elsewhere.<sup>2</sup>

Associated with the idea of local knowledges, there is now an increasing body of critical thinking and writing arguing that a great deal of academic knowledge produced even in ‘post-colonial’ institutions exclude other and

---

<sup>1</sup> For a discussion of this issue see Vally S, Motala E, and Ramadiro B, (2009) From “Abjectivity” to Subjectivity: Education Research and Resistance in South Africa, In Hill D and Rosskam E, (2009), *The Developing World and State Education*, Routledge, New York 179-196

<sup>2</sup> Motala E, 2014 August, Public Scholarship, Democracy and scholarly engagement, Website EPC and [emotala@lantic.net](mailto:emotala@lantic.net)

particularly local or indigenous ways of knowing. Ignoring the knowledges of local communities [and whole 'nations' and continents] has been the experience of many peoples of the world resulting from the violence of colonialism and conquest. This violence has mostly been written and talked about in relation to its political, economic and social effects experienced through economic exploitation, poverty, the denial of political and social rights, etc. But what is not often referred to, is the tremendously negative impact of western colonialism on the knowledge systems, ideas, languages and traditions of communities and civilizations throughout the world and particularly in Latin America, Asia and Africa. The effect of this 'epistemic' violence, that is, on the systems of knowledge of local communities, has been written about (now) quite extensively by many writers like Dani Nabudere, Odora Hoppers, Shiv Visvanath, Howard Richards, V. Y. Mudimbe and many others<sup>3</sup>.

Also the argument or view that only people who are university trained can produce knowledge which is deep and thoughtful is highly contestable. Several justifiable criticisms can be made about this view. We think that it is very important to produce all kinds of knowledge and to be curious even though sometimes we might not know the immediate implications, meaning and effects of the knowledge we produce. Curiosity is very much a part of human life and it is strongly related to human imagination. Throughout human history many things have been learnt through the curiosity of ordinary people and these have inspired our best minds. Through it many great discoveries have been made and some of these have been accidental – i.e. without deliberately intending to make those discoveries.

In societies like ours where we have so many difficult social challenges to meet, so much to learn about what can be done about these social

---

<sup>3</sup> Prof. Dani Wadada Nabudere 2005, Towards an Afrikology of Knowledge Production and African Regeneration, Email: [mpai2005@yahoo.co.uk](mailto:mpai2005@yahoo.co.uk), Mbale, Uganda, Odora Hoppers, C.A. 2002. Indigenous Knowledge and the Integration of Knowledge Systems. In Indigenous Knowledge and the Integration of Knowledge Systems: Towards a Philosophy of Articulation, edited by C.A. Odora Hoppers. Cape Town: New Africa Books, Visvanathan S. 2014. A Moment of Forgiveness Asian Age. Delhi. 06th Mar 2014, Mudimbe V.Y. 1988. The Invention of Africa. Gnosis, Philosophy and the Order of Knowledge. James Currey. London, Richards H. 2004. On the Concept of Peacemaking. The Danish Peace Academy. November 2004. <http://www.fredsakademiet.dk/library/peacemaking.htm> retrieved 26<sup>th</sup> January 2006.

challenges and such urgency to solve these issues because of their effects on so many people, it is vitally important that we also rely on the curiosity, creativity, imagination and experience of communities to produce directly useful social knowledge. We cannot only be pre-occupied with our own 'curiosities' and regard them as superior to other knowledge. Minding our own 'curiosities' alone would mean that we remain uninterested in the many challenge which society placers before us as academics and scholars. Can we really be indifferent to the condition of life of so many who are unable to exercise their basic human rights and can we be uncaring about the plight of so many in our societies who simply do not have the basic necessities of life? Regardless of whether we are called scholars or not we cannot. Indeed if we are true scholars *in and of* society we will not avoid these issues and use our scholarship to address them. We know that there are many sources of good and reliable knowledge and that these could produce very useful ideas. We know also that we should be skillful and serious if we are to produce such useful knowledge because such knowledge must be produced with thoroughness, with careful attention to detail, with creativity and concentration and through the help of others in a collective process. Often the best social knowledge is produced collectively and through collaboration since the world is a complex place and many heads are better than one.

**Thirdly**, all knowledge is related even though for some academics it does not appear to be so. And so even though some might be regarded as ‘social and human’ knowledge and others as ‘natural’ and physical’, it is in reality *relational knowledge* since it relates to issues affecting human societies as part of the planetary ecological system. However the way in which we enquire into the issues that are defined in these different ways can differ quite considerably. The rules of research and scientific knowledge production cannot apply in the same way to nature and physical objects as to human beings and their communities. There are real differences, for instance, in understanding galaxies, the stars and planets, the chemical composition of these bodies, gravity, electromagnetism and atomic particles as compared with how you understand human beings and their societies. These differences speak not only to the specific methods of research and enquiry but also to the technologies –social and scientific – available for the purposes of such enquiry. For instance while telescopes are essential to the study of space they are not necessary for understanding human behavior. Unfortunately many researchers who are interested in human beings and their societies attempt to emulate the methods of research used in doing research in the *natural sciences*. Bernt Flyvberg rightly calls this ‘physics envy’ and explains how unproductive this approach is to the social sciences since we should understand that it is impossible to attain the direct causal relationships and certainty about social and human phenomena that the natural sciences [often aided by mathematics] seeks to achieve. And even there it is now accepted by many physicists that the kind of certainty which was aspired to earlier is simply not achievable as this passage below suggests

*The claim of P.S Laplace at the beginning of our period - that anybody knowing the position and velocity of every particle in the universe would know the past and the future - becomes empty: nobody in principle could know these things<sup>4</sup>.*

Steven Rose, world renowned Professor of Biology and Neurobiology at the Open University and a co-founder member of the Society for Social Responsibility in Science, in the period when biological and chemical weapons were used in Indo-China, has written extensively about bad science in the service of bad politics and especially that, “You can’t solve

---

<sup>4</sup> . Rom Harré (ed.) 1986. *The Physical Sciences since Antiquity*, Croom Helm, London, page 113. For an explanation of the ‘Uncertainty Principle see Feynman R P, (1998) *Six Easy Pieces*, Penguin Books, USA pages 136 et seq..

unemployment with gene therapy or targeted drugs. The causes of misery are not predominantly biological.”

Generalizations which may be possible in the natural sciences – e.g. about the effects of gravity all over the universe cannot be made in *the social sciences* because societies are so different in the histories, contexts, traditions, social structure and other characteristics as compared to the characteristics of the cosmos. What is useful in examining natural phenomena is not automatically applicable to the study of analyzing social systems and issues.

Knowledge which is produced through controlled experiments done in laboratories is very useful for understanding some phenomena but the forms of experimentation useful in the natural and biological sciences cannot be applied in the same way in the study of societies. Moreover *scientific experimentation* is not the only means of acquiring knowledge used by scientists since we also use hypotheses, careful observation, make deductions based on these observations, and develop theories from them to produce useful explanations about phenomena. In fact, the use of mathematical techniques to identify specific causes has considerably increased the volume of *non-experimental empirical studies* (studies based on observation) conducted in recent times.<sup>5</sup> That means that we should not be fixated on any particular method of study as different methods and techniques are more or less useful depending on the particular situation.

We need to understand many approaches to any idea or issue that is relevant to society. Careful attention has therefore be paid to the variety of ways of understanding scientific issues across the divide of scientific disciplines so that these different methods of enquiry can make them complementary and useful more widely. Too much of science is done without a clear understanding of both the differences and the potential complementarities of the various fields of knowledge and this has meant that usefully integrated understandings of science and society remains difficult to attain.

It is also true that particular fields of study only ask questions and examine issues from the perspective of those fields of study and leave out other perspectives and fields of knowledge and the direct experience of individuals and communities. Since all social issues relate to complex questions in society, knowledge of a particular field of study is never

---

<sup>5</sup> Dunbar R, 1995, *The Trouble with Science*, Faber and Faber, London

enough even if it is produced carefully and thoughtfully, and structured according to the rules and traditions of that field of study.

Academics, who insist on the pre-eminence of their own fields of study, without understanding how it is connected to other fields of *knowledge and to human experience*, can only produce partial knowledge. Although deeper study within any field is very important it is even more important to understand the connections between the various fields of study to understand human and social systems, their systems of thought as they evolve. It means that we have to transcend the limits of academic knowledge and its ways of theorizing by also paying attention to the value of such human experience to augment theoretical knowledge. While theoretical knowledge is critically important it does not constitute all of knowledge. Moreover even theoretical knowledge is dependent on a variety of strategies which include careful experimentation, observation and even logical deduction which sometimes relies on mathematical approaches. More encompassing knowledge is therefore obtained by using a wider variety of sources of knowledge than what is required for theory building alone. A critical source of such wider knowledge lies in the experiences, traditions, activities, languages and histories of communities. In other words the knowledge developed by communities – sometimes over many generations is a key source of knowledge. Ignored, it impoverishes us all. Used properly it empowers society and researchers too.

Similarly the idea that only specialized academic knowledge is useful is also problematic. This may be useful in some cases such as the study of a particular drug and its application to particular medical conditions or in the study of the chemical properties of plant matter for medicinal usages. <sup>6</sup>It is useful in studying animals in a laboratory to see how they react to certain stimuli or to a study of weather patterns over a period of time. Through using these very examples it is also possible to show the deep store of social knowledge obtained through direct experience, 'ordinary' observation and social learning over time. But it is not the same as the study of social issues which are made complex by the behavior of social beings acting on their own or as organized communities. For instance the study of educational issues in our society requires knowledge of our society, the history of education in it, the nature of our society, value systems and issues which affect learning in and out of the classroom.

---

<sup>6</sup> Though even in that regard it has been shown that wider approaches to 'healing' cannot be ignored.

Having specialist knowledge in a particular field is useful but not enough. The idea of specialist knowledge also places strong limits on whose knowledge is regarded as important and excludes those who fall outside its boundaries, excluding some very important insights especially on social questions.

To be frank, there far too many university trained academics whose knowledge, even of their own subjects, is extremely limited, superficial and untested. There are some academics that have very little understanding of the relationship between their special areas of study and social and human issues more generally and who believe that that their discipline or area of study should be privileged relative to other areas of study. This false idea has a longer history than many academics realize. In the Middle Ages for instance, (the period up to the 15th century) four of the seven liberal arts subjects taught in medieval universities, were considered more important than others. These were arithmetic, geometry, music, and astronomy and were called the *quadrivium*. They were seen as more important than grammar, logic and rhetoric which were called the *trivium*. In the same way a raging debate about the relative importance of the natural and social sciences and humanities was started by the English physical chemist and novelist C. P. Snow in his 1959 lecture on these areas of study as the 'two cultures' which he saw as quite separate. His arguments were also interpreted to mean that the natural sciences were more 'scientific' than the knowledge produced by social scientists and in the humanities. And aspects of this debate were reproduced in the 1990s in what has come to be known as the 'Sokal' affair. Today similar debates continue amongst some academics. These are informed largely by the prejudices and self-interest of those academics that argue the primacy of their own fields of study and research and are problematic since all of human knowledge can have value if it is understood and used in particular ways.

**Fourthly**, some academics – more often in the natural and physical sciences think that science is a ‘neutral’ pursuit; that it is unrelated to historical development or moral questions; it is ‘objective’ in relation to social questions and cannot be assailed because of its ‘abuse’ by some scientists and political leaders. Moreover it is simply about gathering data using processes which have integrity and which are not ideologically slanted. This view is simply naïve. Academics and others who argue this view are disingenuous because they do not understand the nature of the social and political choices that inform their work and the sometimes catastrophic consequences of it. This recognition prompted Einstein to declare that the one great mistake in his life was to suggest to Roosevelt that the atomic bomb could be made. He had no idea about its devastating effects. Especially natural scientists – who regard their endeavors as value neutral and whether they know it or not – are deeply implicated in social choices because they pursue the forms of scientific endeavour (regardless of its content) which express the power of the dominant social and other relations. In addition, individual scientists even if they are not aware of it come to science with perspectives informed by their social settings, history, prejudices and the choices ingrained and developed in them throughout their lives.

Perhaps the best historical illustration of this is the development of the motor car in favour of more public forms of transport at the behest of the most powerful engines of economic growth and profitability in the US at the turn of the 20th century. We can see how this has affected the possibilities for cheap and available forms of public transport for all the citizens of a country. And so what is funded and what not illustrates more than anything else the important role of political choice in scientific work and the funding of scientists who continue to believe in scientific ‘objectivity’.

Different kinds of knowledge are therefore connected even though some scientists don’t make the connections. More than this, in fact, philosophers and griots in many societies understood the relationship between knowledge, culture, social systems and spirituality. This is better known as a characteristic of African knowledge and social systems as it is often assumed that ‘Western Scientists’ had little concern for these connections. This is not entirely true because many of the great Western natural philosophers too - the philosophers who spoke about the purposes of science, including Descartes, Galileo, Kepler, Newton, Bronowski and Einstein, had no illusions about the role of science. They claimed social (or

spiritual) purposes for it and pursued their work on that basis. The fragmenting of scientific endeavour and its attempts to remove it from socio-cultural and political life has obscured what was once the norm. There are debates about the relationship between science and morality and there are critics such as Sean M. Carroll, who argue that morality cannot be part of science.<sup>7</sup> They base their arguments on the distinction between 'values' and 'facts' and the idea that science does not resolve moral questions. Yet there is also the view that the separations between the values that underlie scientific enquiry (together with their assumptions) are inseparable from the factual 'discoveries' of science.

**Finally**, knowledge is cumulative; it is produced over many generations and continues to have use in human societies. It is cumulative because each generation builds on the knowledge of previous ones, each community relies on and builds the knowledge of other communities and that is how knowledge is developed all over the world. We are hugely interdependent in the way in which knowledge is produced. Just look at how over the last few decades the internet has spread worldwide. But the spread and sharing of knowledge is one of the oldest characteristics of humanity. Without it there would be no humanity as we know it. In particular if the societies that inhabited this continent for tens of thousands of years before human beings populated other parts of the world, had not ‘transferred’ and carried their knowledge to other continents and other parts of the world, the world would have been very different. If earlier human societies had not found ways of hunting, gathering, planting and ploughing, herding and increasing animal stocks thousands of years ago we would not have the civilizations we have today. If the ancient mariners had not understood how stars are related to the seasons and not observed the stars for sea travel over many millennia we would not have the advanced astronomy of today. If the Nubians of present day Sudan and Egypt had not built the pyramids we would most likely not have knowledge of the engineering and mathematics we now have. If the early craftsmen and women had not understood how to smelt iron and other minerals and potters not teach us how to create pottery, we would most likely not have the advanced manufacturing industries of today. And if families did not know how to use the wide range of herbs and grains they have used for thousands of years we certainly would not have all the fast-food outlets you see everywhere.

In fact the great body of human knowledge which we now have was developed and accumulated over tens of thousands of years by people in many parts of the world in many cultures, societies, languages and traditions. It was developed through a wide range of strategies. It has been both written and unwritten, book knowledge and oral/verbal knowledge. It is based on experience and intuition, deep thinking and practical application. Thinking and applying moreover come from the same source, the human brain and body and so are very closely related. We know for instance that there is a close relationship between the practices of people and many discoveries made by scientists through the ages. We know that scientific discoveries would not be possible without practical knowledge and that both these forms of knowledge are inextricable from each other. The greatest scientific discoveries of the ages have all arisen from the

practical day-to-day challenges that have faced human beings even though the individuals who first make these discoveries might not be aware of their implications. In fact even the toys made by people for their children have sometimes given rise to marvelous and unexpected discoveries. For instance the great Italian scientist Galileo Galilee used a toy-like spyglass (a toy telescope), pointed it at the moon and was surprised at what he could see. This gave impetus to his interest in astronomy and led to many great advances in our knowledge about the cosmos and space in the years that followed. Benjamin Franklin used a child's toy, a kite, to prove that lightning is really a stream of electrified air, known today as plasma. And the kite has also come to be used in understanding weather patterns better.

Human knowledge has been produced for many thousands of years before the existence of universities and academics. It is now accepted by some academics at least that publicly engaged science is now attaining increased recognition and has been produced by citizens for some time now as in the case of the People's Science Movement of Kerala, India which has seen successful partnerships between citizens and scientists in regard to important issues affecting rural communities in Kerala, India and elsewhere. Such citizen-based science or 'public science,' often based on participatory and action research, can actively combine academic science with local and contextual knowledge.

Academics need to take cognizance of the importance of the knowledge that can be learnt from the deepest historical cultures and experiences of 'ordinary' people. It remains important to relate to local forms of knowing to other forms of enquiry and to evaluate all of these together. Scientific theories cannot provide all the answers to the complex problems of societies and can sometimes appear to be dismissive of socially derived understanding and analysis. This means that all knowledge – however derived, must be examined critically. Human beings have also learnt from past experience about what knowledge is misleading and dangerous and there are also examples of 'scientific' knowledge which has proved to be socially destructive and dangerous. We know of a number of instances where widely acknowledged scientists have been responsible for unconscionable actions; for defending ideas which have had negative social and planetary consequences and for misleading societies. For all these reasons, we should judge all knowledge, social or scientific, critically and examine it through diligent and systematic study.



**Education  
Policy  
Consortium**  
TRANSFORMING EDUCATION

**Telephone:** +27 11 482 3060

**Email:** [info@educationpolicyconsortium.org.za](mailto:info@educationpolicyconsortium.org.za)

**Website:** [www.educationpolicyconsortium.org.za](http://www.educationpolicyconsortium.org.za)

