Reconceptualizing TVET and development: a human capability and social justice approach

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Contents

1 Introduction

This paper considers the relevance of a human capability and social justice approach for understanding the role of technical and vocational education and training (TVET) in relation to development. The paper starts out by reviewing existing, dominant approaches towards conceptualizing TVET in relation to human development, namely the human capital approach and a sustainable development approach. Each is considered in relation to its underlying view of human development; how TVET is defined and understood in relation to its role in development; and key policy issues and priorities for national governments and donors. It is argued that while the two approaches offer valuable insights into TVET's role in relation to different aspects of human development, they are also partial in addressing key issues facing the TVET sector. The paper then outlines a human capability approach based on the work of Amartya Sen and Martha Nussbaum. It is argued that such an approach has the potential to develop and extend existing approaches, while addressing some of their limitations.

TVET has historically played a key part in UNESCO's mandate for education. Other organizations including the World Bank have begun to place a greater priority than has previously been the case on the skills agenda (World Bank, 2011). These organizations often provide overlapping but different rationales for investing in TVET. In the case of financial institutions such as the World Bank, for example, policies to promote TVET are principally seen as an investment in human capital and as a means for supporting economic growth. The underlying view of development in operation is an economic one in which 'progress' is measured in relation to levels of economic growth and prosperity. UNESCO's long-standing interest in TVET on the other hand has been linked to a more human-centred view of TVET as a means for supporting sustainable development.

These underlying views are, however, rarely made explicit. The aim of this paper is to consider different perspectives for understanding the role of TVET in relation to human development. It should be emphasized that each perspective is considered as an 'ideal type' and that in reality key policy documents of organizations such as the

World Bank and of UNESCO, including for example the Bonn Declaration (UNESCO, 2004), are informed by elements of both approaches, albeit with differing degrees of emphasis.

It is argued that while both approaches offer valuable insights, they also have limitations. Thus, while human capital approaches emphasize the instrumental role of skills in relation to economic growth they often lack a normative basis and do not take account of the environmental, social or cultural dimensions of skills. The sustainable development approach on the other hand has been key in addressing some of these omissions through emphasizing the role of skills to support economic, social and environmental sustainability.

More recently, new concerns have begun to dominate the debate about TVET. These include a recognition of an increasing skills gap within and between countries as an aspect of globalization, and a growing recognition of different forms of marginalization based for example on social class, rurality, gender and ethnicity. These in turn highlight the importance of context in overcoming disadvantage and in defining the nature of valued skills.

Building on the work of Sen and Nussbaum, the paper outlines an alternative approach that builds on and extends existing approaches but is based on the concept of human capabilities and informed by principles of social justice. In this approach TVET is seen as a means for supporting the development of a range of capabilities that are conceived as opportunities to develop functionings that individuals, their communities and society at large have reason to value. Rather than being universal in nature, capabilities are defined in relation to context, and can potentially contribute to economic, social, political, environmental and cultural development. Indeed, the development of valued capabilities and functionings is seen as a good for human development in itself. Crucially, capabilities need to be defined through processes of informed public debate, and it is this democratic dimension that is seen to underpin the capability approach. It is argued, however, that if public debate is to serve the interests of marginalized groups then it needs to be read against an understanding of the structural, institutional and cultural barriers that prevent marginalized groups from having their voices heard in policy debate.

2 TVET and human capital

Anderson (2009) argues that TVET first emerged in the context of the industrial revolution in Europe and North America as part of a philosophy of 'productivism'. He argues that the quest for efficiency and profit was the principal dynamic of the new industrial mode, and that in this context TVET was perceived to have a fundamentally instrumental function in providing the necessary human capital required by industry. Human capital theory has been the dominant approach adopted by global financial institutions such as the World Bank, the International Monetary Fund (IMF), the International Labour Organization (ILO) and by national governments, although human capital theory has changed in form and emphasis over time (see for example Anderson, 2009; Ilon, 1994; King, 2009; King and Palmer, 2008; Robertson et al., 2007; Tikly, 2004; Unterhalter, 2007). The central rationale for investing in education including TVET within a human capital framework has remained the same, however, and lies in the contribution that different kinds of skill can make to economic growth (DfID, 2008; World Bank, 2011).

In this approach gross domestic product (GDP) is understood as the most significant indicator of development. The perceived role of education and skills in relation to economic growth, however, has shifted over the years. The very first World Bank loan for education, granted in 1963, was for TVET, which accounted for about 40 per cent of all educational loans in sub-Saharan Africa up until the early 1980s (Maclean, 2011). At that time investment in TVET was considered to be a crucial component of labour force planning.

The early prioritization of TVET was criticized on a number of grounds. Some pointed to the 'vocational school fallacy' (Foster, 1965). Based on studies in the Gold Coast in Ghana, Foster questioned the link between the vocationalization of education and the needs of the labour market. He argued that the academic/vocational divide created under colonialism remained intact in the post-independence period, and that academic qualifications were perceived to lead to more and better opportunities in the labour market. There was a disjuncture between the needs dictated by labour force planning and the realities of labour markets. Economists working in the World

Bank also began to question the cost-effectiveness of vocational education and the rate of return to investments in TVET (Psacharopoulos, 1991; Psacharopoulos and Woodhall, 1985). It was argued that unless the policy environment for TVET was reformed, further investment would be an inefficient use of scarce resources (Middleton et al., 1991). It was argued that investment in basic education provided a much higher rate of return than did investment in secondary (including vocational) and post-basic education, and this shift in emphasis provided an economic rationale for emphasizing primary education in the Millennium Development Goals (MDGs). As a consequence of these criticisms funding for TVET dried up, with TVET now accounting for just 8 to 9 per cent of World Bank educational spending (Maclean, 2011).

More recently, and in the context of the shift from the Washington to the post-Washington consensus (see Robertson et al., 2007), proponents of human capital theory have begun to complement a continued interest in rates of return with an interest in education's role in alleviating poverty and promoting social welfare, including women's welfare, as a basis for promoting growth and human security. There has also been recognition of the need to prepare workers for participation in the 'global knowledge economy' and to address the growing skills dividend (incomes differential) between skilled and unskilled workers. As the world moves towards a post-2015 educational agenda, there is an increasing emphasis on learning rather than simply access to basic education. For example, Vegas and Petrow (2008), writing about Latin America, argue that 'expansion of educational opportunities has not markedly reduced income inequality, underdevelopment and poverty, possibly because of the poor quality of education'. Hanushek and Wößmann (2007) conclude that there is a statistically and economically positive effect of the quality of education on economic growth which is far larger than the association between quantity of education and growth. They suggest that quality, as measured by student achievement on standardized tests, correlates more strongly with economic growth than simply years spent in education.

Priorities are also currently widening to include secondary and post-basic levels of education and training, in order to equip the populations of low- and middle-income countries with skills for participation in the 'global knowledge economy'. These shifts are also linked to recognition of demographic changes that have seen

unemployed youth make up a growing proportion of the population. Reflecting this shift in emphasis, the latest World Bank education strategy (2011), suitably subtitled *Investing in People's Knowledge and Skills to Promote Development*, argues that 'growth, development, and poverty reduction depend on the knowledge and skills that people acquire, not the number of years that they sit in a classroom' (World Bank, 2011, p. vii). In a similar vein, the UK Department for International Development (DfID) has recently argued that:

> The evidence is strong. In the technology literature, microeconomic case studies have identified the critical role of educated workers in the innovation process, and industry-level studies have found new technology to be complementary with the education of the workforce. Human capital studies have also shown that educated farmers and workers are more productive in a rapidly changing environment, and thus earn higher incomes.

> (DfID, 2008, p. 8)

The new emphasis on skills for growth has led exponents of human capital theory to suggest different kinds of policy solutions. These are summarized in the latest World Bank strategy. In keeping with the findings of previous reports, there is an emphasis on supporting system reform through system assessments, impact evaluations and assessments of learning and skills (including not only basic literacy and numeracy but also a range of further skills including information and communications technology (ICT), critical thinking, problem-solving and team skills). The Bank has expanded its definition of education systems to include not just public schools, universities and training programmes but:

> The full range of learning opportunities available in a country, whether they are provided or financed by the public or private sector (including religious, non-profit, and for-profit organizations). An education system thus includes formal and non-formal programs, plus the full range of beneficiaries of and stakeholders in these programs: teachers, trainers, administrators, employees, students and their families, and employers.

> (World Bank, 2011, p. ix)

The Bank is also committed to supporting a multi-sectoral approach including the health and social protection sectors. This expanded definition of an education system and of cross-sectoral working is significant because it has the potential to encompass a range of contexts within which skills training is potentially delivered, and reflects the significance of a number of sectors for supporting skills acquisition and learning.

The Bank is committed to supporting greater accountability. According to human capital theory, increased accountability within a more diversified and market-led system is perceived as a means to improve the overall efficiency of the system (Anderson, 2008). Accountability will be achieved through not only more careful monitoring of learning outcomes at different stages of the expanded education and training system to better trace the development of learning and of skills, but an emphasis on support for institutional governance. At a system level, national governments will be held more accountable through the use of results-oriented financing, with different sets of performance indicators used to monitor progress of countries at different stages of development.

Box 1

The human capital approach in practice: a tale of two countries

The human capital approach has been influential at the level of government policy. Singapore and Ghana provide contrasting examples of how a broad human capital approach has informed policy in relation to TVET and serve to illustrate its strengths but also some of its limitations.

Singapore

Law has provided an excellent account of the development of TVET in Singapore (Law, 2010). He argues that a major factor behind Singapore's economic success has been the ability to align policy shifts in TVET with economic development. This is in keeping with the successful approach adopted by other South East Asian 'tiger' economies (Green et al., 2007). The system of TVET has been able to respond to sometimes rapid changes in the direction of economic policy. For example, following independence the first vocational institute along with the industrial training board were established specifically to meet the

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manpower planning needs of a rapidly industrializing society. But during the 1970s, as the government sought to attract Multi-national Corporations (MNCs), the emphasis shifted towards meeting the needs of the MNCs through the establishment of Joint Government Training Centres and 'science parks' for fostering knowledge exchange and innovation. In 1979, the government embarked on major economic restructuring towards higher value-added, high technology and more capital-intensive industries including petrochemicals, biotechnology, information technology and manufacturing services. Once again TVET was expanded and restructured to respond to the needs of the more capital-intensive industries. A Continuing Education and Training system was introduced focusing on reskilling those members of the workforce with lower education and skills. With the introduction of the Economic Plan in 1991, a component of the strategy was to introduce a minimum of ten years of basic general education as it was felt that a primary school education was no longer sufficient for those who were to pursue vocational skills. The Institute of Technical Education (ITE) was also introduced. This laid the basis for the move to a knowledge-intensive economy during the 2000s based on new growth sectors including Biomedical Sciences, Info-Communications, Creativity Technology, Integrated Resorts and High-Value Engineering. To meet these challenges the ITE has effectively rebuilt and transformed the system of vocational institutes into regional colleges. It is held up by the Education Minister as the 'shining jewel' in the education system. Law argues that behind Singapore's success was the ability of the government to shift public perceptions of TVET - through the work of the ITE. As in many former colonised countries the colonial system had been academically biased and there was little attention paid to TVET before Singapore's independence in 1965. Vocational subjects have until quite recently been held in lower esteem than academic ones but this perception is rapidly changing as a result of the government's sustained efforts.

Despite its obvious successes in supporting economic growth, a criticism that has often been levelled at Singapore's education system is that it is too specialized, rigid and elitist. A consequence is that whilst, Singapore does

exceptionally well in international assessment exercises such as TIMS, this success has often been attributed to an emphasis on rote learning. It is claimed that graduates of the system are not taught to think creatively and critically and this can potentially stifle both innovation and the potential for democratic citizenship in the context of an authoritarian state (Tan & Gopinathan, 2000). More recently, the government has introduced a range of initiatives to stimulate creativity in the curriculum, in line with, for example, the World Bank highlighting the importance of team building, problem solving and communication skills. It will be instructive to see how these initiatives develop and the impact of these on Singapore's longer term ability to innovate.

Ghana

As was the case in Singapore, the system of education inherited by the post-independent government of Ghana was biased towards academic subjects. Since the 1950s Ghana has made a number of attempts to reform the education system put in place by the British colonial administration, driven by the desire to make it more relevant to its needs as a developing economy (Akyeampong, 2002). Under colonialism there had developed a system of trade schools that were linked to providing skills for the global economy. Following independence from Britain in 1957, the Government of Ghana's strong commitment to developing human resources was consolidated by the 1961 Education Act that made education free and compulsory at the basic level and by 1970 Ghana had one of the most highly developed education systems in West Africa. The late 1970s and early 1980s, however, saw a sharp economic decline with a dramatic fall in the real value of government financing for education, resulting in near collapse of the education system. As a key component of its plan for economic recovery, the government initiated the 1987 Education Reform Program (ERP). A key feature of the 1987 ERP was the diversification of the secondary school curriculum to include technical and vocational subjects. Under the 1987 education reforms Ghana's basic education cycle was changed to six years of primary and three years of junior secondary schooling, followed by a three-year senior secondary cycle and

a tertiary sub-sector comprising polytechnics, universities and professional training institutions such as Teacher Training Colleges. At the junior secondary school (JSS) level, the reforms introduced pre-vocational skills programmes that all JSS students were expected to study. The diversification of the secondary curriculum was much more extensive at the Senior Secondary School (SSS) level than JSS. A significant feature of the diversified SSS curriculum is the opportunity it offers students studying different programs to select from a menu of general education subjects considered foundational in their programme.

There have been several criticisms directed at Ghana's system of TVET. Part of the problem has been an historic lack of resources devoted to basic infrastructure and materials and qualified teachers to support such an ambitious approach to TVET expansion. In general, vocational education continues to be perceived to be of a lower status than academically-oriented education, a phenomenon that has not changed much since Foster's original work in Ghana on the 'vocational school fallacy' (King & Martin, 2002). Linked to this phenomenon is that universities have often not recognized vocational qualifications achieved from SSS. Akyeampong argues that one possible reason for the fact that public perceptions of TVET have not markedly changed is that there has been a tendency in the past for the government not to consult with stakeholders such as teachers, schools and parents as to the nature and objectives of vocational secondary education reform (Akyeampong, 2010).

A second major criticism is that Ghana's system has historically been more supply- rather than demand-driven with the implication that the relevance and quality of vocational education has often been questioned. For example, although most of the employment opportunities for young people lie in the informal sector the government has not prioritized the development of this sector including the development of skills that can support micro-enterprises. As Akyeampong (2010: vii) notes, today global and local economies are much more dynamic and competitive with the informal and private sectors playing important roles. The challenge for the future of TVET in Ghana is how it can

respond to markets that are highly competitive and dynamic, and how it can produce graduates with skills that can respond to demands of the local and global networks of production, technology, and trade.

There are also related issues of access in Ghana, particularly for girls in some areas of TVET (Palmer, 2009). Evidence suggests that overall, most informal apprentices are males training in traditionally male trades (e.g. carpentry, auto-mechanics and welding), while young women have fewer opportunities in apprenticeship; those opportunities that do exist for women are usually in traditionally female trade areas for which the market demand is often limited. The educational and gender fragmentation of informal apprenticeship training suggests that the poor, and especially poor women, are less able (either through cost, education level or gender) to access the more dynamic and, potentially, more lucrative trade areas under the present status quo.

There are several criticisms that have been levelled at a human capital approach to TVET, some of which are highlighted in the above examples. Firstly, the underlying view of development is a limited one. As exponents of sustainable development and of capability theory approaches argue, whilst economic growth is important it is not an end in itself and human centred development needs to be conceptualized more holistically than simply in terms of increases in GDP and in a way that incorporates environmental, social and cultural factors. Singapore is an example of a country that despite doing very well in linking TVET to a developmental pathway, has focused up until quite recently on developing a rather narrow set of instrumentalist skills. Related to this criticism is that rather than see education and skills as a good in themselves, exponents of human capital theory prefer to see them as an objective factor in production.

There is often a positivistic bias in human capital inspired writing and research and the lack of an overt normative framework for engaging with issues such as inequality and marginalisation. Thus although human capital theorists do recognise forms of inequality in relation to education and skills this is perceived a as problem only in so far as it impacts on national growth rates (Wils et al., 2005). As we have seen in relation to Ghana, some groups including girls have not had equal access to TVET

opportunities. This may indeed impact on economic growth more broadly because a potentially highly productive sector of the workforce is not being adequately developed. The issue, however, is more than simply about the negative implications for productivity. The denial of equal opportunities to participate in TVET also impacts on the ability of women to maintain independent and sustainable livelihoods. In this sense issues of poverty, disadvantage and marginalisation from opportunities to develop skills should not simply be seen simply as an obstacle to growth but normatively, in terms of the rights and entitlements that are being denied through lack of equal access to quality vocational education and training.

It is easy to read off from human capital theory a simplistic and linear understanding of the relationship between skills, employment and economic growth. A common assumption in the past was that provided the supply side of the skills equation is right, then employment and growth will follow. In this regard there is growing recognition within human capital theory itself of the significance of demand-side issues, of the rapidly changing nature of labour markets and the limited opportunities that exist for skilled as well as unskilled workers in many low- and middle-income countries (DfID, 2008; Hanushek and Wößmann, 2007). Other critics have highlighted the cyclical rather than linear nature of economic development and the impact of global economic crisis on labour markets, employment and poverty reduction in the global era (King, 2009; Tikly and Barrett, 2009). Critics have also argued the need for skills training to be much more closely integrated into an overall skills development and growth strategy, including different areas of economic and social policy and straddling government departments (Green et al., 2007; Tikly et al., 2003).

Finally, human capital theory often assumes a 'one size fits all' approach to education and skills. For example, many of the policy prescriptions and conditionalities imposed by the Bank as part of structural adjustment and poverty reduction strategies in the 1980s and 1990s involved a common set of policy prescriptions regardless of context (Robertson et al., 2007). Similarly, there is often the assumption that integration into the global knowledge economy requires similar kinds of skill sets. This is not necessarily the case. Countries pursue different growth paths in relation to development. Thus even two countries at a similar stage in development may have quite different needs in terms of skills development. For example, a comparative study of Rwanda and of Tanzania revealed overlapping but different skills needs

linked to different development priorities (Tikly et al., 2003). A further driver for the new emphasis on skills has been the growing recognition of the informal sector for supporting livelihoods and growth (Adams, 2011; King and Martin, 2002, for example). Studies of the informal sector in different African countries, however, reveal diverse skills needs and modes of delivery linked to context (Adams, 2011; King and McGrath, 2002; McGrath, 2002).

Finally, the over-reliance on standardized assessments of cognitive learning within the human capital approach can also be problematic (see Barrett, 2011 for a fuller critique of this). Readily measurable cognitive outcomes shift from being privileged indicators of learning to defining what skills are required in development. This is potentially damaging for the development of TVET because of the range of cognitive, affective and practical skills that are involved. When this happens, qualitative indicators and scrutiny of processes can also be overlooked (Alexander, 2008).

3 TVET and sustainable development

The sustainable development approach is the dominant approach of UNESCO. Like the human capital approach it has evolved over time. The notion of sustainable development dates back some twenty years to the Brundtland Commission, which used it to connote an approach to development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, p. 43). A key driver for the concept of sustainable development is to develop a human-centred response to globalization that is based on principles of environmental, economic and social sustainability. According to Fien and Wilson, and in contrast to the economic approach, sustainable development is more of a 'moral precept than a scientific concept' (2005, p. 274). It is a:

> Culturally-directed search for a dynamic balance in the relationships between social, economic and natural systems – a balance that seeks to promote equity between the present and the future, and equity between countries,

races, social classes and genders. The interdependence of people and the environment requires that no single development or environmental objective shall be pursued to the detriment of others. The environment cannot be protected in a way that leaves half of humanity in poverty. Likewise, there can be no long-term development on a depleted planet.

(Fien and Wilson, 2005, p. 274)

Sustainable development became part of a new paradigm for TVET that was adopted at the International Conference on TVET in Seoul, Korea in April 1999. It is a central plank of the Bonn Declaration on TVET (UNESCO, 2004) and there has been discussion about adding TVET to the UNESCO Education for Sustainable Development Initiative (Maclean, 2011).

According to Fien and Wilson (2005), there are a number of ways to reorient TVET to address the sustainability of the economy, the environment and society in the global era. Competencies in economic literacy, sustainable consumption and managing small enterprises are emphasized in relation to the economic aspects, while using resources wisely and minimizing waste and pollution are considered central to ensuring environmental sustainability. As both a consumer and a producer of resources, and as the focus of training for resource-intensive industries, such as agriculture, mining, forestry, construction, manufacturing and tourism, TVET is considered to have multiple responsibilities in the area of environmental sustainability, including developing an understanding through the TVET curriculum of a range of environmental concepts, encouraging reflection on the effects of personal values and lifestyle choices, and promoting critical thinking and relevant practical skills.

Preparation for sustainable livelihoods is considered a particular responsibility of TVET, while social sustainability involves the development of an ethic of social responsibility in firms and organizations, as well as in the actions of individual workers. According to Fien and Wilson, promoting such an ethic requires TVET to 'attend to issues of gender and ethnic equality in the workplace, the development of team and group skills, the ability to explain, justify and negotiate ideas and plans, and the promotion of practical citizenship in the wider community' (2005, p. 277) (see also Fien et al., 2009a; Fien et al., 2009b; Majumdar, 2007, 2009).

However, it is acknowledged that efforts to define exactly what sustainable development is must reflect the varying conditions in different parts of the world and their impact on national and cultural priorities and values. For example, for an individual living in rural poverty in the developing world, 'sustainable development', if it is to make any sense, must mean increased consumption and a higher living standard. By contrast, to an individual in a wealthy country, with a closet full of clothes, a pantry full of food and a garage full of cars, 'sustainable development' could mean more modest and carefully considered consumption (UNESCO in Fien and Wilson, 2005, pp. 274–77).

The concept of sustainable development has been linked over the years with a variety of issues and concerns with implications for TVET. For example, since the Seoul conference sustainable development has been linked with the concept of lifelong learning, which is perceived as a means to promote sustainable economies and livelihoods in the context of the advent of the information age and knowledge economy. Further, in the context of concern about growing youth unemployment, the growth of the informal sector and the failure of basic education to impact even basic skills, there have been calls for TVET to be included in a conception of education for all (Hughes, 2005). More recently, the sustainable development approach has been linked to issues of human security (Alkire, 2003; Paris, 2001).

For example, basic adult literacy for women is seen as a way of promoting children's health and well-being and reducing mortality rates (Scott-Goldman, 2001; Sen, 2002). Imparting life skills through basic education is a means for preventing HIV and AIDS and for peace building in post-conflict societies (Barrett et al., 2007; Maclean, 2010). There has also been a growing concern in UNESCO over the marginalization of women and girls from TVET to support sustainable livelihoods (Maclean, 2010; Maclean and Wilson, 2011)[1]. There are many examples of projects that have been sponsored by UNESCO and other agencies and national governments linked to differing aspects of education and sustainable development (see e.g. contributions to Fien et al., 2009b; Maclean, 2010).

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[1] See for example the gender issues and TVET website at www.unevoc.unesco.org/tvetipedia.0.html?&tx_drwiki_pi1%5Bkeyword%5D=Gender%20issues%20and%20TVET

It is clear that the sustainable development approach links to key priorities and concerns for UNESCO. It is presented as a human-centred alternative to the narrow instrumentalism of human capital approaches. It provides a valuable normative lens through which to perceive TVET's contribution to development. It has also proved enduring and flexible in its ability to frame debates about TVET in relation to a range of emerging issues and concerns. Nonetheless, it is possible to criticize aspects of the approach.

To begin with, the concept of sustainable development is rather vague. It appears to be all things to all people, and is therefore difficult to pin down and to quantify. Linked to this, despite the concern with understanding sustainability in relation to the interests of different individuals and groups living in different contexts, the process underlying how this might be achieved is not specified. As a consequence there is a danger that policy can appear top-down and prescriptive rather than inclusive and context-sensitive. Further, as King has remarked (2009), there are tensions between the idea of TVET for sustainability, and creating the wider macroeconomic conditions of growth under which TVET itself can become sustainable, in the current global financial context in which TVET remains underfunded. There appears little in the debate about TVET and sustainable development that addresses this tension. Finally, although there has been an increased concern with issues of gender, this appears at the margins rather than integral to the way that the sustainable development approach has been developed thus far. The implications of other forms of disadvantage, based for example on social class, rurality, ethnicity, language, religion and disability, are also not given the focus that they deserve.

4 Sen, Nussbaum and human capabilities

The capability approach has been developed by Sen (e.g. 1999, 2009) and Nussbaum (e.g. 2000, 2006) as a means for reconceptualising human development. Although still in its infancy compared with the approaches outlined above, it has already

achieved a degree of influence, for example through Sen's contribution to the United Nations Human Development Index. Sen starts with an alternative view of the goals of human development from that suggested by human capital theory. For Sen, it is the realization of human capabilities and well-being rather than the pursuit of wealth that should underpin development. Thus while prosperity and growth are important, their significance lies in the extent to which they can contribute to the realization of valued capabilities. Capabilities are the opportunities that individuals have to realize different 'functionings' that they may have reason to value (Sen, 1999, 2009).

Expanding this understanding, Walker argues that:

> A capability is a potential functioning; the list of functionings is endless. It might include doings and beings such as being well nourished, having shelter and access to clean water, being mobile, being well-educated, having paid work, being safe, being respected, taking part in discussions with your peers, and so on. The difference between a capability and functioning is like one between an opportunity to achieve and the actual achievement, between potential and outcome.

(Walker, 2006, p. 165)[2]

While Sen and Nussbaum identify education and skills as having an instrumental value in terms of supporting livelihoods, generating income and reducing human insecurity, they are also seen as having a great deal of intrinsic worth as capabilities in their own right[3]. Thus the capabilities developed through TVET may include literacy and numeracy and the ability to apply basic scientific knowledge, but they are not reducible to these and may relate to a wider range of cognitive, affective and practical outcomes.

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[2] Walker goes on to give some useful examples that assist in distinguishing capabilities from functionings. Thus she distinguishes mobility (a capability) from actually being able to move around (a functioning). Similarly she separates the capability of literacy from the function of actually reading, and the capability of being well educated from acting and being a well-educated person.

[3] Thus one of Nussbaum's ten core capabilities is 'senses, imagination and thought' – 'being able to use the senses, to imagine, think, and reason – and to do these things in a truly "human" way, in a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training' (2000, pp. 78–79).

Central to the concept of capabilities is the idea of 'agency freedom': that individuals can act to bring about changes they value. Thus although the development of capabilities through TVET might involve the provision of basic resources, including for example food to meet nutritional needs, suitably prepared and motivated educators, appropriate learning materials, a relevant curriculum and an accessible built environment, capabilities also imply the freedom and opportunities that individuals are provided with through TVET to convert whatever resources they may have at their disposal into achievements or outcomes of different kinds. The view of agency freedom has implications for the way that TVET is potentially understood and evaluated, because a key role for TVET is then to support the development of autonomy and the ability to make choices rather than simply provide individuals with the necessary resources to learn.

According to Unterhalter:

> The capability approach urges that when making evaluations in education we should look not just at inputs like teachers, hours in class, or learning materials or outputs, earning from a particular level of education – be these earnings, that is a form of resources – or preference satisfaction – doing what is best for the family as assumed in human capital theory. Evaluations should look at the condition of being educated, the negative and positive freedoms that sustain this condition and the ways in which being educated supports what each and every person has reason to value.

> (Unterhalter, 2007, p. 75)

The idea that TVET should be aimed at developing capabilities that individuals, communities and society at large have reason to value draws attention to the central importance of context in the capability approach. It also draws attention to the processes by which capabilities might be determined. For Sen this necessarily involves a commitment to informed public dialogue as a cornerstone for identifying capabilities. A key implication of this is that marginalized as well as mainstream groups have their voices heard in the policy process.

In emphasizing the importance of public dialogue, the capability approach potentially deepens and extends the sustainable development approach. Like the sustainability

approach the capability approach draws attention to the importance of the wider moral imperative for providing TVET, and the importance of groups within civil society as well as the state in developing and realizing this imperative through their own commitments and actions (see Robeyns, 2006).

It is implicit in Sen's notion of capabilities that this moral imperative needs to relate to the experiences and values of individuals and communities in different contexts, and can only be arrived at through processes of informed public dialogue at different levels. In this view capabilities can also be seen as the ethical basis of rights in education (Brighouse, 2000) in that they provide form and substance beyond what is written in international law and policy frameworks such as the Convention on the Rights of the Child, the MDGs and the Dakar Framework for Action. In this sense capabilities potentially involve the realization of a range of opportunities rather than simply guaranteeing a basic entitlement. This means paying attention not only to negative freedoms, such as the rights of learners not to be subject to corporal punishment and for girls to be educated without fear of sexual harassment, but to the promotion of positive freedoms such as capabilities of learners to contribute towards peace in their schools and communities, to learn in their mother tongue and a language of wider communication, and to be able to experiment creatively with ICTs.

Sen's work also assists in developing understanding of the implications of multiple, overlapping forms of disadvantage. Evaluating equality in terms of capabilities requires a prior recognition of different types of disadvantage and of how they interact in different settings, if misrecognition of a learner's capabilities and rights in education is to be avoided. Although Nussbaum and other exponents of the capability approach have argued the importance of identifying universal, core, basic capabilities against which inequalities can be evaluated and governments held to account, Sen has steered clear of such an approach, preferring instead to emphasize the diversity of capabilities linked to individual differences and differences in context.

For example, Sen is careful to emphasize how different economic, cultural and political barriers can prevent disadvantaged groups (such as the disabled, women and girl learners) from converting whatever resources they have at their disposal into

capabilities and useful functionings (Sen, 2009)[4]. This is also to acknowledge that an individual's capability set (the sum of the opportunities that learners require to achieve whatever they choose to value in later life) will differ depending on forms of disadvantage including rurality, gender, disability, ethnicity and sexual orientation. The wider social relations of power and inequality that give rise to disadvantage become deeply implicated in the very notion of capability. Thus a learner with a disability may require a different or slightly modified capability set from an able-bodied learner. Similarly, a female learner's capability set may be influenced by sexist norms and practices that deny her access to certain curriculum areas, prevent her from going out alone and fail to protect her from sexualized violence (see also Walker, 2006).

Capabilities are also embedded in broader processes of development, and both at individual and aggregate levels, societies pursue differing developmental paths which have implications for the kinds of capabilities individuals and groups within society will require. In a recent comparative study of Tanzania and Rwanda, for example, a range of capabilities were identified that are required to support quite different proposed development pathways (Tikly et al., 2003). Capabilities are in this sense relative. They are also contested, with different interests defining capabilities in different ways, and potential conflicts between individually and collectively identified capabilities and between aggregative and distributive considerations (Sen, 2009).

Understanding the social embeddedness and contextualized nature of individual capabilities is important in the debate about TVET, where it is often appropriate to understand educational needs in terms of groups of learners as a basis for determining priorities and targeting interventions. As part of his approach Sen makes use of social choice theory as a means for developing policies that are based on an aggregated evaluation of the needs of different individuals and groups (Sen, 1999). This is also to acknowledge that capabilities inevitably need to be defined at different scales and levels of abstraction. These go from the individual to include the levels of global,

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[4] Such an approach stands in contrast to the use of rational choice theory in mainstream economics, which provides the philosophical underpinning for human-capital-inspired reforms. Here the assumptions are that individuals act on the basis of a rational assessment of the maximization of their own utility, and that efficiency within the public welfare system is best served through maximizing 'choice'.

regional and national policy frameworks, but also involve how these are mediated and implemented locally in relation to the needs of individuals and the communities in which they are located. In this respect, it is the process of arriving at appropriate capability sets in any context that is critical.[5]

Implicit in Sen and Nussbaum's understanding of capabilities is a commitment to social justice. Sen (2009) has recently elaborated his view of 'comparative justice', which he claims is about real-world choices to improve human lives. In this view making hard policy decisions, such as about the goals of TVET, which areas of TVET to prioritize and who should have access to TVET, inevitably involves dealing with competing value claims that can only ultimately be resolved through processes of informed public dialogue at different levels. This point is taken up below.

5 TVET, human capabilities and social justice

While the above outline of a capabilities and social justice approach was largely theoretical in orientation, the focus in this section is to try to relate the approach to key aspects of the debate on TVET and development that have arisen in the discussion of dominant approaches in previous sections. Two caveats are necessary. The first is that the capability approach should not be seen as providing ready-made answers to the policy issues and challenges facing the TVET sector today. Rather, like the human capital and sustainable development approaches, it should be seen as a way of framing issues and as a starting point for evaluating policy choices. Related to this is the fact that capability theory is still in its infancy. Thus although

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[5] Here Robeyns (2003) has usefully identified five criteria for the process of selecting capabilities: (i) that it should be explicit, discussed and defended; (ii) that the method should be clear; (iii) that the level of abstraction of the list should be appropriate; (iv) that the list comprises two stages, an ideal list and pragmatic or non-ideal list; and (v) the listed capabilities should not be reducible to each other. Similarly, Alkire (2005b) has contributed to thinking through issues with respect to operationalizing the capability approach. For both scholars the capability approach is very conducive to participatory undertakings of the kind undertaken by Walker, Biggeri et al. and Alkire herself.

Sen's work has been influential in policy terms (for instance, through his contribution to the development of the UN Human Development Index) the implications of his and Nussbaum's work are still in the process of being fleshed out for education in general and TVET in particular. The discussion below is therefore exploratory in nature, and should itself be seen as a contribution to debate on the future of TVET.

5.1 Rethinking the nature of TVET

A capability approach allows for an expanded view of the purpose of TVET as supporting the development of human capabilities and functionings that individuals, communities and society at large have reason to value. This suggests that there can be no single purpose for TVET. The range of capabilities that individuals have reason to value and that make up an individual's capability set will depend on need and circumstance. Key here is the idea of agency freedom; that individuals need to be empowered to exercise their agency through being granted access to information and opportunities to participate in TVET. The way that the purpose of TVET is defined at an institutional and societal level must rest on an aggregated evaluation of the needs of different individuals and groups (see below). The upshot is that the purpose of TVET will inevitably embrace a range of economic, social and cultural objectives depending on context.

The capability approach also suggests an alternative way of thinking about the nature of TVET. TVET is often perceived as a means for developing a range of skills, aptitudes and competences. In the language of capabilities these translate broadly into functionings – ways of 'doing' and 'being'. The idea of capabilities adds to existing conceptions of TVET through drawing attention to the opportunities and freedoms (capabilities) that lead to the development of these functionings. This has implications for access and inclusion issues, as discussed below.

Understanding TVET through the lens of capabilities also allows for a reconsideration of existing binaries, such as 'vocational' and 'academic', and 'indigenous' and 'modern'. Placing the onus on what is valued in different contexts shifts the focus away from old debates about the nature and status of different forms of knowledge, to focus on the real-world needs of individuals and communities. This opens up potential for

public debate to focus on how different forms of knowledge, including indigenous knowledge, can be used to address contemporary issues. This is in keeping with UNESCO's own emphasis on recognizing the potential role of indigenous knowledge in relation to development (UNESCO, 2005).

Capabilities also allow for a reconceptualization of TVET as a sector. Understanding capabilities as opportunities to learn across the life span draws attention to the relationship between different modes and levels of education. This is evident, for example, in debates about how best to support literacy and numeracy and life skills, including access to basic to post-basic forms of provision and in different kinds of institutional and workplace settings. From a capability perspective it is therefore more helpful to think about the education system holistically rather than in terms of discrete sectors. Here the approach lends support to the more holistic approach to conceptualizing the education system outlined in the latest World Bank document (2011), albeit from a different conceptual starting point.

5.2 Inclusion and diversity in TVET

A human capabilities and social justice approach draws attention to an aspect of the TVET debate that is being given increasing attention by UNESCO, namely inclusion and diversity. Sen and Nussbaum see education and especially literacy as an unqualified good for human development, lending support to those who have argued that access to TVET should be thought of as an entitlement (Hughes, 2005). From a capabilities perspective, a key issue is the access that different individuals and groups have to good-quality TVET, and the opportunities they have for achieving desired outcomes. It has implications for how resources for a quality TVET are distributed, and also the recognition of the sociocultural identities of different groups of learners, which influence how they develop valued capabilities.

A capability approach implies a focus on the institutional and cultural barriers that prevent inclusion of different groups. Girls and women, for example, often come up against sexist norms and practices that limit their involvement in TVET (UNESCO, 2011). These need to be understood in relation to broader societal barriers that discriminate against women and girls (Unterhalter, 2007). There is evidence

that learners with disabilities, members of minority ethnic groups and speakers of minority languages also often encounter forms of discrimination that not only limit access to TVET but also limit their opportunities for learning once they are enrolled in programmes (Maclean, 2010). This is a rather under-researched area, and there is scope here for further research to identify the barriers to inclusion facing different groups of learners.

For example, learners who have an identifiable disability, or who are affected by HIV/AIDS, may benefit from targeted resource inputs such as complementary extracurricular programmes or changes to the built environment. Existing research has indicated that girls, particularly at post-primary levels, require greater investment in sanitary facilities (UNESCO, 2005). Materials provided need to be appropriate to the curriculum, environment, learners' cognitive level, their language proficiency(ies) and multiple sociocultural identities (see Heugh, 2002; Rubagumya, 2007). Learning materials, however, do not work in isolation to enhance learning outcomes for different groups, but rather are dependent on and need to be compatible with teachers' pedagogic practices, professional values and language proficiency(ies). Teacher education, training, continuing professional development and professional morale all circumscribe what it is possible to achieve in the classroom. Effective systems of professional support that create accountability and autonomy are vital for developing teachers' capabilities, which in turn enable them to enhance learning opportunities for students. (For a systematic application of the capability approach to teachers see Avalos, forthcoming; Tao, 2010.)

Box 2

A capabilities approach and existing UNESCO initiatives

Although UNESCO and UNEVOC documents do not make reference explicitly to capability theory, aspects of a capability approach are clearly implicit in many existing projects and programmes. The projects outlined below are taken from a recent overview provided by Maclean (2010). Between them they can be seen to exemplify the expanded view of sustainable development to embrace issues such as gender, livelihoods, ethnicity and peace building.

The implications of the projects from a capabilities perspective, however, are discussed below.

- Education of Girls (China). Projects in Ganzu Province, China, are concerned with increasing the participation of girls in schools in rural areas, to attract them to attend school and to reduce the high drop-out rate amongst girls. They are also concerned with values education, since the aim is to encourage families and the local community to value the education of girls.

- Education of demobilized and physically challenged soldiers, with particular reference to youth (Afghanistan and Timor Leste). These projects focus on skills development for employability, with particular reference to assisting demobilized soldiers, especially youth soldiers, achieve gainful employment in civil society. Assistance is also provided for soldiers and others who are physically challenged due to the problem of land mines.

- Values education for community development (Afghanistan and Philippines). In Afghanistan radio was used to produce a soap opera about family and community life which became a very popular 'must listen to' programme throughout the country. This programme promoted values such as the importance of the role of women in the family, and the importance of girls education. In the Philippines, APNIEVE has developed with UNESCO-UNEVOC a manual for teachers on values education that is concerned with promoting desirable values in the workplace and in particular the need to counteract the widespread problem of xenophobia.

- Educating street children to become functionally literate (India).

Promoting functional literacy for the world of work, with particular reference to street children. This has been achieved by assisting youth to establish and operate modest bicycle repair businesses, using micro-credit, as an incentive to developing literacy, and enterprise/entrepreneurship skills.

- Information and communication technologies to support rural populations (Thailand).

Use of computers in rural schools and adult learning programmes using satellite communications in communities with no supply of electricity, through using solar panels to provide electricity. This has enabled learning to continue, between the intermittent visits of teachers, who are part of the 'teachers on horseback' programme.

- Vocationalization of secondary education (Marshall Islands). This project has involved assistance to the Ministry of Education to rewrite the country's Education Act to make the education system more relevant to meeting the employment needs of the country, with particular reference to skills development for the employability of young people. This had involved the vocationalization of secondary education, to help fill the skills gap, reduce the problem of youth unemployment and less dependence on foreign workers who generally repatriate their income to support family back in their home country.

- Skills development in the water and sanitation industry to improve health (Vietnam).

UNESCO-UNEVOC, with overseas development agencies in Germany, Norway and Vietnam, has developed a multi-million dollar training-the-trainers project to equip technicians to work in the water and sanitation industries in Vietnam. This project is designed to impact positively on poverty alleviation, and is part of UNEVOC's EFA and Lifelong Learning initiatives.

Each project described by Maclean can be seen to be addressing aspects of a capability approach. Each involves developing the capabilities of different marginalized groups – girls in the case of the Ganzu project in China, young soldiers in the case of Afghanistan and Timor Leste for example. Each also involves paying attention to the context within which capabilities are being developed which impact on the kinds of opportunities to develop skills that are made available: skills to support sustainable livelihoods in the case of the young soldiers; literacy skills in the case of the street children; ICT skills in the

case of adult learners in Thailand; a broader range of vocational skills in the case of the Marshall Islands; and, quite specialised skills in the case of the sanitation workers in Vietnam to promote health.

Each project also involves the targeting of resources in order to meet the needs of marginalized groups. In some cases this may be perceived as ensuring access to what ought to be a basic entitlement, for example in relation to the street children in India or the girls in Ganzu, China. Importantly, however, and in keeping with the view of capabilities and social justice put forward by Sen, the examples also illustrate how targeting of resources needs to often go beyond a simple view of basic entitlement. This is to acknowledge that in order to develop the desired capability set, to recognize forms of inequality and to overcome existing barriers to participation may require resources over and above what might be termed a basic entitlement.

Some of the examples also place an emphasis on values – overcoming gender stereotypes in the case of the Chinese girls for example or in the use of values education to promote social cohesion in the Philippines and Afghanistan. This raises important issues from a capabilities perspective about the values and the extent to which they have emerged from processes of informed public dialogue. Although this appears to be the case in the examples given, a capabilities approach would demand that this aspect be made more explicit. In some cases, such as the girls' education project in Ganzu, this would involve discussion of the inevitably difficult issues raised in challenging entrenched sexist norms and values and developing consensus in relation to the need to develop the girls' capabilities. A capabilities approach would also demand a more explicit basis for evaluating the development of capabilities with attention given to how capabilities are identified and measured.

5.3 Planning and financing TVET

For exponents of human capital theory the point of planning lies in creating greater efficiency and effectiveness in the use of scarce resources, measured in relation to

defined performance indicators. In these terms the latest World Bank strategy (2011) gives some useful pointers for how donors can support system reform in a way that can assist governments to plan more effectively.

From a human capabilities perspective, the efficiency of a system, while important, needs to be evaluated against a more holistic set of criteria. It also draws attention to sometimes neglected areas of planning. For example, a nuanced understanding of the different kinds and levels of resource input required by different groups of learners is critical for enabling education planners to effectively target resources and interventions where they are most needed. This kind of targeting is rare in many low-income contexts, in particular where existing education management information systems (EMIS) are inadequate for the task (as is often the case), or where an appearance of uniform distribution of access to education is seen as supporting a government's legitimacy. Besides potentially assisting in understanding how resources can be distributed between different kinds of TVET systems, research into the kinds of resource input required by different groups of learners can assist policy-makers to better understand how resources can be more effectively distributed not only between institutions but within institutions as well (Aikman and Unterhalter, 2005).

A key debate at present centres on how TVET can be financed, particularly in times of global financial uncertainty and crisis, in which governments and donors find it difficult to make long-term commitments to the sector. Capability theory does not in itself provide a standard set of 'solutions' about how different kinds of public and private finance may be generated, in the way that, say, human capital theory does. A capability approach can, however, provide a normative basis for evaluating the impact of different kinds of funding mechanisms in terms of social choice theory, and a comparative assessment of their likely impact on the capabilities of individuals and groups (Sen, 2009).

5.4 A public debate on TVET

Central to a capability approach is the idea of informed public debate as a means of determining capabilities at different levels of the system. This opens up a number of challenges at different levels. A starting point is to evaluate the processes and

mechanisms by which policy relating to TVET is determined, and how these reflect different interests within the state, civil society and globally (Robertson et al., 2007). It is important that local perspectives and voices predominate in debates about national TVET priorities. The international aid community has a role in this respect: to develop leadership capabilities and ownership of educational agendas to ensure that they reflect local realities and priorities, and break the cycle of dependency on donors, including reliance on overseas technical expertise in writing policy (Tikly and Dachi, 2009). It is this ability to determine TVET policy autonomously and to link it to a view of the national interest and to an overall development strategy that has characterized emerging economies that have globalized successfully (Green et al., 2007). Increasingly the regional level has also been an important space in which educational priorities and agendas have been contested in Africa (Tikly and Dachi, 2008).

A second challenge arises from the recognition that not all those with an interest in TVET share what Chisholm (2004) has described as an equal 'social voice'. For example, key interest groups such as teachers and their organizations are often not consulted and in some cases are actively discouraged from participating in the policy-making process. Yet engaging the perspectives and experiences of educational professionals in decision-making is particularly important because of their role as change agents (DFID and VSO, 2008).

Other constituencies and interests, including women, the poor, rural dwellers, indigenous peoples, members of religious and cultural minorities, and learners themselves, have also often remained excluded. In some countries organizations in civil society have played a proactive role in demanding that their concerns be recognized. Public debates around the right to good-quality TVET potentially provide an important focus for elaborating the wider ethical and political issues involved. It is in the context of this kind of discussion that debates about the economic rationale for investing in different forms of TVET or about the importance of sustainable forms of development become relevant. Mobilizing marginalized groups around educational issues requires an educative effort on the part of the state and civil society, including the media, and this effort needs to take place using a variety of modalities and at a number of scales.

Norms and values are of course contested. Some traditional values, for example in relation to gender, may appear irreconcilable with social justice in that they reinforce stereotypes and barriers to achievement for women and girls. However, debate over values within the TVET sector is a necessary and healthy indicator of a broader social democratic capability, the touchstone being the realization of individual freedoms including those of girls, cultural and other minorities. Agencies such as UNESCO potentially have a crucial role here in facilitating debate and sharing good practice between countries.

5.5 Evaluating TVET

Sen and other scholars working with a capability approach have advanced thinking of how indicators relevant to measuring the development of capabilities might be developed. (Sen was instrumental in developing the UN Human Development Index, for example, which included a range of indicators linked to capabilities and well-being.) These considerations are evident in UNESCO's Education Development Index (EDI), which uses indicators related to access (enrolments), quality (survival rates to grade five), outcomes (literacy rates) and gender parity. Nonetheless, Unterhalter and Brighouse (2007) have drawn attention to the difficulties associated with the EDI and existing EMIS, related to the unreliability of data and of data-collection processes. An issue for TVET is that many of the indicators are biased towards basic education, reflecting current global priorities. There is scope for further development and research to construct an index that is more reflective of the range of capabilities that are developed through TVET.

While traditional data-collection techniques remain important, they have drawn attention to the potentially significant role of more participative approaches to collecting relevant data, such as those used by non-governmental organizations, where the process as well as the data itself can be used to evaluate capabilities. Alkire (2005), Robeyns (2006) and Walker (2006) have also drawn attention to the use of interdisciplinary research and mixed methods to capture the range of capabilities in a field such as education. For example, participative research methodologies including action research can play an important role in identifying capabilities either on their own terms or when considered in relation to different sources of information

(Walker, 2005). This is consistent with recent development within UNESCO to make use of both quantitative and qualitative indicators to measure cultural development (UNESCO, 2005).

6 Conclusion

The paper has outlined three approaches for conceptualizing TVET. Each provides a different lens on the nature of the challenges facing TVET in the global era, and proposes different solutions to those challenges. It was argued that human capital approaches provide too narrow and instrumental a view of human development, and suggest a one-size-fits-all solution to the challenges facing TVET which does not make sufficient allowances for differences in context. Nor does it pay sufficient attention to issues of inclusion and diversity. The sustainable development approach, while drawing attention to important normative dimensions of TVET's role in relation to sustainable development, also focuses on universal solutions and does not sufficiently address the processes by which policies and values relating to TVET can be made relevant for local contexts. It is argued that a capabilities and social justice approach, while still in its infancy, can offer a fresh way of conceptualizing TVET in relation to human-centred development in a way that draws on and extends aspects of dominant approaches and addresses emerging agendas.

Acronyms and abbreviations

DfID   Department for International Development (UK)

EDI   UNESCO Education Development Index

EMIS   education management information system

GDP   gross domestic product

ICT   information and communications technology

ILO   International Labour Organization

IMF   International Monetary Fund

MDGs   Millennium Development Goals

TVET   technical and vocational education and training

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Leon Tikly is Professor in education and Director of Research in the Graduate School of Education, University of Bristol. Leon started his career as a science teacher in London and at a school for South African refugees in Tanzania. He worked as a policy researcher for the new government in South Africa during the transition from apartheid to democracy. On returning to the Uk he was a lecturer in international and comparative education before moving to Bristol. His research interests include the quality of education in low income countries, the achievement of Black and Minority Ethnic learners in the UK and Europe and social justice and education.