Think Piece
Conceptions of Quality and 'Learning as Connection': Teaching for Relevance

Heila Lotz-Sisitka, Rhodes University, South Africa

Abstract

This think piece captures some of the thinking that emerged in and through the Southern African Development Community (SADC) Regional Environmental Education Programme research programme. This research programme emerged over a five-year period (2008–2012) and involved ten southern African teacher education institutions from eight countries (see 'Acknowledgements'). The research programme sought to understand what contributions environment and sustainability education could make to debates on educational quality and relevance. Issues of educational quality are high on the national agendas of governments in southern Africa, as it is now well known that providing access to schooling is not a sufficient condition for achieving educational quality. Educational quality is intimately linked to the processes of teaching and learning, but the concept of educational quality is not unproblematic in and of itself. It is, as Noel Gough (2005) noted many years ago, an 'order word' that shapes the way people think and practise. Our enquiries during this research programme involved a number of case studies (that were reported on in the Southern African Journal of Environmental Education (SAJEE) in 2008, and are again reported on in this edition of the SAJEE), but the programme also involved theoretical engagement with the concept of educational quality and relevance.

This think piece helps to make some of this thinking and theoretical deliberation visible. The author of this think piece was also the leader of the regional research programme and was tasked with synthesising the theoretical deliberations that emerged from the research design which were found to be useful for guiding interpretations and deliberation on more detailed case studies undertaken at country level.

Introduction

In this think piece, I briefly review different conceptions of educational quality and their implications for teaching and the training and provisioning of teachers. As noted in the orientation papers for the *Second International Policy Dialogue Forum on Providing Teachers for Education for All (EFA): Quality Matters,* hosted by the 2010 UNESCO International Task Force on Teachers for EFA, there is little value in simply supplying teachers for EFA without giving equal attention to issues of quality in the training and preparation of teachers, and without examining the relationship between teacher supply and educational quality. Too few teachers will necessarily lead to problems in providing quality education, and much has been written about a 'good' or 'ideal' teacher:pupil ratio. Too few teachers for subjects that are most needed in society (e.g. science or mathematics) also creates a problem, as these skills remain lacking in the

economy and thus hamper the development of society. There are, however, broader and more complex discussions to be held about the relationships that exist among teachers, teaching and educational quality. One such discussion is related to the relevance of teacher education itself (i.e.: Are teachers being trained to provide relevant education, and, if so, relevant as defined by what – the economy; the need for developing learners' subject knowledge, citizenship and life skills; the need for developing a sustainable society; or all of the preceding?). This is the subject matter of this think piece. Such discussions are important, as they also define how teachers themselves think of quality in education and of how they may be inducted into developing insights and reflexivity in relation to conceptions of quality in and through teacher education.

As indicated in the 2010 United Nations Educational, Scientific and Cultural Organization (UNESCO) Education for All Global Monitoring Report, 'success or failure in achieving education for all hinges critically not just on countries delivering more years in school; the ultimate measure lies in what children learn and the quality of their education experience… Many countries are failing the quality test' (UNESCO, 2010). But what is the 'quality test', how are concepts of quality constituted, and what are the associated implications for teaching, teacher education and teacher supply? I begin this discussion with what often seems most obvious (at least if one is framing the discussion within dominant discourses of the day) when discussing the issue of quality and relevance, namely the quality and education 'fit' with the economy.

Quality and Educational 'Fit' with the Economy

One way of considering the quality and relevance of education is through technical analysis of the supply–demand relationships that exist between education and production of the necessary skills for the labour market. Is education relevant to the economy, are we producing enough graduates for the job market, and do we have enough science and technology graduates? These are some of the more dominant questions asked when discussions about the relevance and quality of education arise. Such questions are critically important, as all people need to participate in an economy of some sort, and all people need to have the skills necessary for contributing to at least their own and others' sustainable livelihoods. Poverty reduction is reliant on such discussions and on links between the economy and education in developing countries; hence it is essential that such discussions be held. Many examples of studies that analyse the 'fit' between education and the economy abound, but, most often, these studies are oriented towards quantifying supply and demand in relation to economic-sector needs in education systems around the world.

A typical result of such studies is provided here by way of example only. In a study quantifying skills demand and supply in the South African automotive components industry, Barnes (2009) noted that this industry is South Africa's leading manufacturing industry and is therefore important within the economy and within the job-creation sphere. The same study goes on to explain that this industry is now operating in a 'fierce and competitive environment', which creates new demands for skills. The study then goes on to analyse demand for skills, with emphasis on 'high-skills' categories such as management, professional staff and

artisans. It then produces projections of skills demands and proceeds to analyse skills supply issues, such as number of people graduating from educational institutions (schools, technical colleges and universities) with the requisite skills profiles and competences necessary for this very important industry in South Africa. In this particular study, the conclusion is that there will be a demand for over 45 000 new employees over a five-year period, mostly within the production worker category. However, in the high-skill category, there will be a demand for up to 1 500 managers and professionals with engineering-linked qualifications. The study typically concludes that there is a 'mismatch' between the skills sets being generated in local technical and educational institutions and the skills required by business. Numerous other similar studies have been conducted at national and international levels (e.g. Pogue, 2009; ILO, 2010), but the examples are too numerous to list or even analyse coherently. Studies such as these typically lead to requests for alignment between industrial development policies and skills development and educational policies (e.g. Kraak, 2009; ILO, 2010), and this 'mismatch' typically comes to be seen as an educational quality problem, as education is seen to be lacking in relevance in relation to economic skills-demand projections. An example here is the recent synthesis paper by Borel-Saladin and Turok (2013), who comment on the need for the following number of skilled people in South Africa to 'drive' the green economy.

Table 1. Employment estimates by green-economy categories and segments

Broad, green-economy category	Long-term net employment	Long-term net direct manufacturing employment
Energy generation (includes renewable (non-fuel) electricity), fuel-based renewable electricity, and liquid fuels	130 023	22 566
Energy and resource efficiency	67 977	2 686
Emissions and pollution mitigation	31 641	20 797
Natural resources management (biodiversity and soil and land management)	232 926	0
TOTAL	462 567	46 049

Source: Borel-Saladin & Turok, 2013, drawing on Maia et al., 2011.

Quality and Teaching Capacity

What is most interesting in studies such as these is the almost total lack of attention to the *teaching capacity* needed to address these skills across the education and training system, starting from foundational knowledge, values and skills in schools, all the way through to implications for higher education, including teacher education. In South Africa, where these examples are drawn from, there is noticeable neglect of teacher education in respect of vocational education and training, and few teachers are oriented in teacher education programmes to consider these types of issues, that is, issues of 'relevance' to the economy in their teaching practices. As is the case elsewhere, the closest we seem to get is to constantly emphasise the

need for more mathematics and science teachers, who remain scarce in developing economies owing to a number of factors, including competitive employment opportunities for science and mathematics graduates, and the brain drain as a result of which qualified science and mathematics teachers are attracted to teach in other countries where salaries are higher and teaching conditions are better. Of course, an overemphasis of such notions of relevance also has the potential to narrow education and teacher education to become an instrument of the market, leaving learners and teachers alike with a substantively narrowed experience of education and learning and with society thinking that only science and mathematics teachers count. The rise of corporate universities, where universities seek to provide only those skills that are needed, is perhaps the most explicit sign of this type of narrowing form of education. Teachers who are trained to teach in such institutions are likely to have an equally narrow view of teaching and of the meaning of education. So, while educational relevance and the 'match' to the economy may be an important facet of educational thinking and educational quality, and, consequently, also an important issue to consider in thinking through the scope, content and supply of teachers and teacher education, care should be taken not to narrow discussions of educational quality and teacher supply to a focus on supply and demand for the economy only.

One way of avoiding the problems of too narrow a view of educational quality (i.e. as a match to the economy only) is to develop a broader view of educational quality and relevance. In research conducted under the auspices of the Southern African Development Community Regional Environmental Education Programme (SADC-REEP) in southern Africa, involving ten universities from as many countries in the southern African region (Lotz-Sisitka, 2011)[1], a new concept of educational quality has been emerging to *complement and extend* other notions of educational quality and relevance, which has implications for teacher education and for thinking about the relationship among teachers, teaching and educational quality.

Reframing Educational-quality Discourse to Include 'Learning as Connection'

In the SADC region, as in other developing countries, education systems are still suffering from colonial 'hangovers' such as structured and outdated syllabi, forms of pedagogy offered in foreign languages or content that is decontextualised and disembedded from local history, experience, culture and aspirations. These issues are exacerbated by poverty, the inadequate supply of teachers, textbooks and learning materials, poor-quality school buildings and poor-quality teacher education, inadequately qualified teachers, and many other issues which, by now, are well known and well documented. In such contexts, much attention is being given to discourses on educational quality, and organisations such as UNESCO and the World Bank regularly undertake monitoring and other types of studies to quantify and qualify what is meant by quality, what counts as quality-indicators, and how national governments should take up and respond to issues of educational quality, including supplying more teachers, classrooms, books, access mechanisms, and the like.

These issues are, however, also shaped by the views of educational quality that circulate in education systems, and by how these are translated into teaching and teacher education practice. In an extensive literature review on educational quality, undertaken through an international

research project called 'EdQual', Barrett, Chawla-Duggan, Lowe, Nikel and Ukpo (2006) identified two prominent conceptions of quality in education systems around the world. This analysis was based on literature and research on educational quality from major international studies such as the UNESCO Education for All Global Monitoring reports (see www.unesco.org) and major international educational journals. The two conceptions of educational quality identified in this extensive review are the following:

- **An efficiency/mastery discourse on educational quality** (Barrett *et al.*, 2006). This discourse seeks out mastery, efficiency, and learner achievement and performance against set standards and expectations as its measure of quality. For example, learner achievements measured against certain set tests such as PIRLS (Progress in International Reading Literacy Study) and TIMMS (Trends in International Mathematics and Science Study) are counted as a measure of quality (Reddy, 2006; Van Staden, 2006); and
- **An inclusivity/participatory discourse on educational quality** (Barrett *et al.*, 2006). This discourse seeks out inclusion in the education system as its measure of quality – for example, if girls are included in the school system, the quality of the system is seen to be higher or better, or if learners' views are included in pedagogical processes (e.g. through learner-centred approaches), then the quality of the education is seen to be higher or better.

Both of these quality-discourses are important and are not mutually exclusive. Both have substantive implications for teacher education and how teachers are oriented or trained to undertake their teaching practices. A teacher oriented towards the first discourse on educational quality is likely to value technical efficiency and mastery of content more than a teacher oriented towards the second discourse on educational quality. The latter teacher is likely to value learner involvement, group work, and self expression on the part of learners more than a teacher oriented to the first educational-quality discourse. Of course, both these discourses on educational quality are important and valuable in education, and thus both ought to be considered in teacher education. What is most important, however, is to expose teachers in training to a full understanding of *both discourses* so that they are able to reflexively assess what kind of educational-quality practices they are favouring, or can favour and can develop, in and as part of their teaching practice.

In our research programme in the southern African region, we have however found it necessary to give attention to *a third framing of educational quality*, namely **a concept of quality that favours or emphasises the 'sociocultural' or the processes of meaning-making that occur at the interface of existing experience and context and more abstract forms of representation** most often used in the symbolic practices in schools – to put it more simply, the meaning that occurs at the interface between context and concept (Vygotsky, 1978).

Of interest in our analyses of quality and its implications for teaching and teacher education is an observation that the first discourse on educational quality was brought in to African education by colonial educational discourses that followed 'mastery-of-the-subject' strategies in respect of pedagogy and teaching. Today, this discourse is also valued by those with economic

interests in education, as it is seen to be 'efficient' to master the most important content of education as quickly as possible. Further analysis of the second conception of quality – the one focusing on inclusion – shows that it has roots in democracy and human rights movements and associated institutions tasked with ensuring greater equity of access and participation in society, such as global development organisations (Unterhalter, 2007). Again, the roots of this quality-discourse were not found in African society, but rather in global influences on the local sphere.

This led us to inquire how educational quality is viewed by parents, learners and teachers in southern African school contexts (see the articles in the 2008 *SAJEE* that reported on the early phases of this research programme, as well as a number of the articles in this 2012/2013 edition of the *SAJEE*). Through a series of case studies, we explored the meanings of educational quality, finding these most often to be situated in community interests and issues and in local cultures. Of what significance is this to discourses on educational quality? For our research team, this was an interesting question that we have begun to investigate in more depth in various contexts (as can be seen in this edition of the *SAJEE*).

Researchers working as part of the SADC-REEP education quality and relevance research programme have found early signs that giving attention to the third discourse on educational quality (i.e. sociocultural discourses) further deepens notions of inclusivity or inclusivity concepts of quality so as to be inclusive of culture, local context and issues, and practices that have meaning in local societies, such as environment and sustainability practices, health-education practices, life skills, and citizenship practices. We have called this 'learning as connection' in order to express the relationship between meaning-making, context and concept (Lotz-Sisitka, 2011). It is encouraging that the United Nations Decade on Education for Sustainable Development (UNDESD) (see www.unesco.org/desd) has been seeking ways of valuing sociocultural notions of inclusivity and meaning-making in education. The UNDESD argues, in fact, for a reorientation of education towards sustainability, with the underlying assumption that educational practices that are oriented more towards understanding the role of education in creating more sustainable, equitable and just societies will also strengthen life skills, citizenship and, indeed, educational quality.

We are also beginning to find that giving attention to sociocultural discourses on educational quality *in relation to, and in combination with, efficiency discourses* is leading to improved learner achievement. For example, if a child is inducted into a complex scientific concept and process such as fermentation through reference to, or from the entry point of, his or her cultural experience of local beverage making, the scientific concept is easier to learn and grasp, particularly in contexts where learners are using second or third languages as their language of learning, as is the case for many African children in schools today (O'Donoghue, Lotz-Sisitka, Asafo Adjei, Kota & Hanisi, 2007). And, here, we should not forget the important insight provided by Vygotsky that the ability to communicate through language plays a determining role in the emergence of the capacity for free action, and, consequently, is intrinsically bound into the whole system of practical and mental activities that constitute our human way of life (Jones, 2008). Africa remains one of the few continents where teaching is conducted mainly in European languages (and the more difficult ones at that). Our observations are closely associated with, and are underpinned by, insights from sociocultural-learning theory, and we are finding strong resonances with this body of learning

theory and the observations we are making about the meanings and practices of quality education in African school settings. We are constantly reminded to reflect on the following perspective on learning provided by Vygotsky a number of years ago:

> Pedagogical experience demonstrates that direct instruction in concepts is impossible. It is pedagogically fruitless. The teacher who attempts to use this approach achieves nothing but a mindless learning of words, an empty verbalism that stimulates or imitates the presence of concepts in the child. Under these conditions the child learns not the concept but the word, and this word is taken over by the child through memory rather than thought. Such knowledge turns out to be inadequate in any meaningful application (Vygotsky, 1978, cited in Daniels 2002:54).

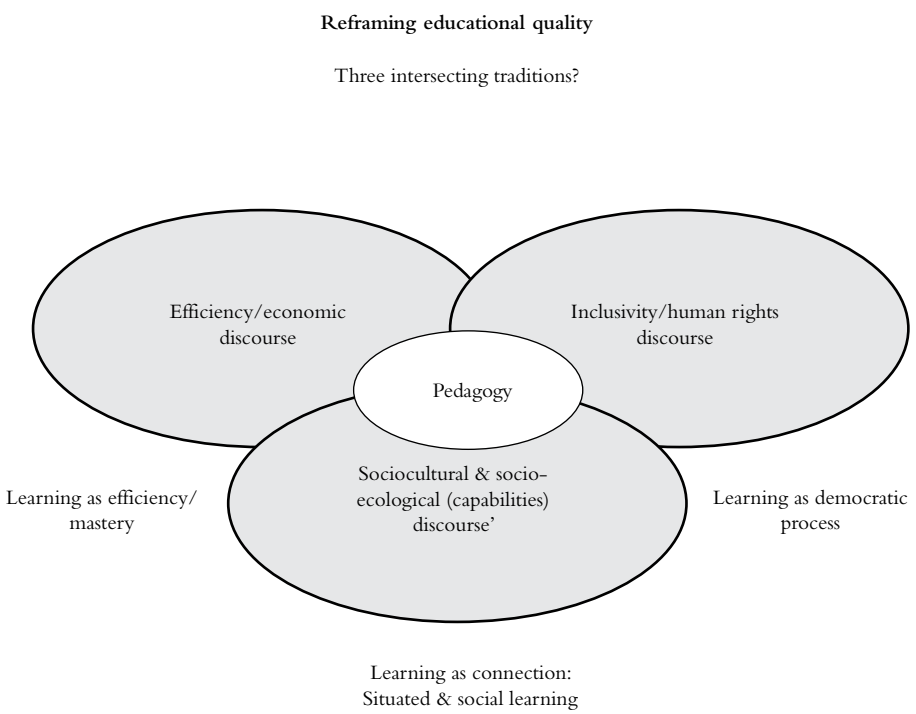
Vygotsky's important point is that 'scientific concepts are not assimilated in ready-made pre-packaged form' (Daniels, 2002:54). Vygotsky (1978) insisted that everyday knowledge concepts *must be brought into relationship* with scientific knowledge concepts in ways in which *they both develop*. Vygotsky's statement above therefore denies the possibility of 'direct transmission' of concepts. It drives educational thinking into the metaphor of 'learning as connection' (Lotz-Sisitka 2008, 2011) in which teachers and learners need to engage in forms of pedagogy and learning that assist learners to make connections between their everyday knowledge and the scientific knowledge that is on offer in schools '*in ways that they both develop*' (Daniels, 2002:54).

We have noted, too, that, in the United States of America (USA) and elsewhere, educational research is being conducted to assess the relationship between place-based education (contextually/socioculturally referenced education) and learner achievement. Smith (2013) comments that, even though this emerging evidence that place-based education (i.e. education which takes contextually located referents seriously) is significantly contributing to improved learner achievement, this area of research remains neglected in educational research. If this is the case in the USA, it is likely to be even more neglected in developing countries. This is a significant issue to consider in educational policymaking, and particularly in educational research that has an interest in learning and quality, as it may well be (based on early findings in our research) one of *the more important* aspects to research and understand in more depth if we are to fully understand how to orient teachers to providing quality education. We tend to take for granted that those countries where education is most effective are also those countries that define the cultural content and context of mainstream education models and approaches.

What is most important, however, is to consider this conception of educational quality *in relation to* the other more dominant conceptions of educational quality (as shown in Figure 1), and not to revert to a 'context only' model of educational quality. Further, it is important not to conflate the 'learning as connection' perspective below with contextualism in education, as contextualism can narrow education. The 'learning as connection' perspective shown in Figure 1 is important for *pedagogical processes that enable epistemological access and that allow for new meaning-making in the zone of proximal development* (Vygotsky, 1978), where everyday knowledge, concepts and experience are *brought into relationship with* scientific and more abstracted representations of knowledge, concepts and societal experience (Daniels, 2002).

Figure 1 shows that it may be necessary to consider the notion of 'learning as connection' (meaning: connections to sociocultural, social-ecological, contextual and historical dynamics of learners' life-worlds and experiences, and communities' valued beings and doings) while also giving attention to 'learning as mastery' (i.e. how to successfully complete educational tasks) and to 'learning as participation' (meaning: learners having a chance to voice their opinions and express their thoughts in an open, supportive learning environment). **These three conceptions of educational quality, when considered together, significantly deepen the manner in which educational quality is approached conceptually but also practically and pedagogically.**

Figure 1. Three intersecting discourses on educational quality (adapted and revised from Lotz-Sisitka, 2008)



Implications for Educational Research

The framework outlined in Figure 1 can also give rise to a range of new forms of educational research and to the development of research instruments that allow for more in-depth engagement with this way of thinking about educational quality. Some examples of the research tools and approaches that SADC researchers associated with the SADC-REEP research programme have developed to further interrogate this framing of educational quality include, but are not limited to, the following:

- Contextual-profiling research tools to ensure that researchers are able to develop a deeper insight into the context of research and practice (Lotz-Sisitka & Zazu, 2012);
- The deepening of engagement with situated and active-learning approaches using critical, realist ontological and dialectical transformative praxis insights (Schudel, 2013);
- The use of sociocultural research tools (e.g. cultural–historical activity theory tools) that allow for deeper contextual understanding of, and dialogue with, learners in schools (Silo, 2011);
- Foregrounding the manner in which sociocultural and structural factors influence curriculum debates and the use of teaching and learning methods (Kalumba, 2011);
- Working with problem-based and inquiry-based approaches to learning and curriculum development (Bholah, 2012; Shumba, Kasembe, Mukundu & Muzenda, 2008; Shumba & Kampamba, this edition);
- Working more closely with indigenous knowledge (Mokuku & Mokuku, 2003; Shava, 2010), heritage knowledge and practices (O'Donoghue, Shava & Zazu, 2014), and cultural artefacts and local knowledge (Namafe, 2008; Namafe & Chileshe, this edition); and
- Working more closely with Sen's (1990) capabilities theory[2] to guide thinking on how one might approach education and curriculum development, as Sen's theory allows for a probing of peoples' valued beings and doings as a platform for locating emergent curriculum and educational dialogue and development (Chikunda, this edition; Ketlhoilwe & Jeremiah, this edition).

There are many other such examples, and one of the synthesis challenges of this research programme would be to fully capture the depth and nuances of this engagement with educational quality and relevance in relation to the meta-framing of educational quality and relevance that was devised within the research programme (as captured in Figure 1).

Implications for Teacher Education

The implications for teacher education are potentially very interesting, particularly if teachers are given opportunities to consider *all of these conceptions of educational quality* as integral to their practice. Teachers need to be inducted into, and supported to work with, *all three concepts of quality* in order to guide their practice, and, perhaps even more importantly, **teacher education institutions and the lecturers and professors in teacher education institutions need to be oriented towards an understanding of these conceptions of educational quality**. It is noticeable in national and international discourses that governments tend to neglect the lecturers and teacher educators in professional development initiatives oriented towards educational improvement. The consequence is that teacher educators themselves continue to operate with marginal and poor understandings of how to improve educational quality in schools, with consequent knock-on effects for school systems.

Educational institutions, particularly in Africa and in other developing-country contexts, are also poorly resourced to conduct locally relevant educational research, with the consequence that the knowledge that is produced about education tends to follow the logic and dominant

conceptions of education and quality as produced in the West, or North, where educational research capacity is far higher. Knowledge producers influence the knowledge that is produced, and it is not difficult to identify that our concepts of educational quality are significantly influenced by the research orientations and trajectories of the World Bank, UNESCO and other large multinational research organisations, and by the research trajectories and interests of donor organisations, valuable as these may be. If we are to meet the challenges of achieving quality education that matters in the local context, it will be necessary to strengthen local research capacity, and particularly the research capacity of the classroom teacher, who needs to develop the skills and competences to understand how he or she is approaching educational-quality matters in schools.

While this may seem unnecessarily complex if one takes a narrow view that all that matters is successful grades and that teachers are merely technicians (as is often the case in international educational discourses that are oriented towards efficiency discourses), our research (even though it is small in scale and case-study based at this point) shows that, when given the opportunities, teachers in the deepest rural areas working in the most dire circumstances and conditions *do have the capacity to reflect on what they are doing, on how they are teaching, and on how teaching can be improved*. They understand the children they are working with, and they have insights into how education can be improved – as can be seen in the research papers that have emerged from this research programme to date (published in the 2008 *SAJEE* and in this edition of the *SAJEE*).

We have also found that, given the opportunities for 'making the connections' to learners' languages and cultures, and to local community interests, teachers' motivation improves, as does the relevance of the education they are offering. Further, we have found that, while this is the case, there is still a need to work with these teachers to ensure mastery of concepts and content as required by educational standards, and to give attention to pedagogies of inclusion. We find, however, that the contextual reference points provide us with better starting points for engaging the latter two conceptions of educational quality, as the entry point is epistemological and cultural relevance, which creates access to other forms of relevance, for example economic system relevance or political and social relevance (which education systems tend to favour in their discourses on educational quality).

Conclusion

In conclusion, therefore, this think piece argues that, in developing and providing teachers for Education for All (EFA), there is a need to consider how different conceptions of quality influence not only thinking and practice surrounding teacher supply, but also teacher education. As indicated above, early research insights gained from our research programme show that developing teachers' understandings of a *range of interrelated* concepts of quality may be the most efficient route to achieving success in education. Until teachers have a deep and full understanding of the meaning of educational quality and of how they practise for educational quality, investments in the supply of teachers may not reach their full potential. This deep and full understanding of the meaning of educational quality needs to be further extended

to teacher education institutions, including lecturers and professors, particularly in developing countries where EFA and educational quality interventions must also involve local research that allows for a deeper understanding of these issues.

The framework of 'interacting conceptions of educational quality' being developed by our southern African research network (represented in Figure 1) may provide some useful starting points for generating discussion on this matter at local, national and international levels. Of significance is that these 'interacting conceptions of educational quality' allow for giving attention not only to the mastering of subject knowledge and skills, and inclusion in the education system, but also to the development of life skills, citizenship, and orientation to the world of work, thereby substantially improving the relevance of education and enabling the reorientation of education and training systems as envisaged by the United Nations Decade of Education for Sustainable Development (UNDESD), and as necessary for the profound forms of societal change that will be needed for more sustainable, just and climate-resilient development pathways into the future.

Notes on the Contributor

Heila Lotz-Sisitka holds the Murray & Roberts Chair of Environmental Education and Sustainability at Rhodes University. Her research interests include critical methodologies, curriculum research, and learning and human agency.
Email: h.lotz@ru.ac.za

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In 2007, Jutta Nikel introduced us to the work of the EdQual research team and to the literature review of Barrett et al., which helped us to begin to engage with the concept of educational quality in an education for sustainable development (ESD) context. We hope to publish a more comprehensive book on the outcomes of this collective work in 2014.

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Endnotes

1. See 'Acknowledgements' above for a full list of these participants and institutions.
2. It is interesting to note that, while SADC researchers were working more with Sen's capability theory for education in conceptualising the 'learning as connection' perspective on educational quality, so were international researchers in the EdQual programme (see Tikly, Barrett, Nikel, & Lowe, 2010; Tikly & Barrett, 2013), although their work was not focused on ESD but on social justice and educational quality in low-income countries. See also Unterhalter (2007) who theorised these approaches in the context of gender education and Walker (2005) who is working with Sen's capability theory in higher-education curriculum contexts. This SADC-REEP work on ESD can therefore be seen to fall into a wider process of rethinking notions of educational quality and relevance.

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