

Peter Taylor¹

Abstract

This article examines issues relating to the development, delivery and evaluation of higher education curricula that aim to facilitate learning in the context of human development and social change. The paper begins by reviewing alternative conceptual and philosophical approaches that underpin higher education curricula, based on differing perspectives on knowledge and power, and the interplay between these in a time of globalization and growing complexity. It draws on evidence of existing relationships between curricula in higher education institutions and curricula at other levels of education systems, and the dominant pedagogical approaches that are determined by these relations. The paper identifies a range of key elements currently found in higher education curricula internationally – including citizenship, sustainable development and multiculturalism – which are consistent with the notion of human and social development. It then considers the range of potential learning needs in a globalizing world that may be addressed by higher education institutions. Taking into account issues of existing capacity, as well as needs for institutional strengthening, the paper finally suggests some key elements for the design, delivery and evaluation of interdisciplinary curricula that will help to meet learning needs in the future.

INTRODUCTION: CHALLENGES FOR HIGHER EDUCATION (HE) CURRICULA IN A GLOBALIZING WORLD

Higher education institutions (HEIs) have arrived at a critical moment in their long evolution as global and local producers and disseminators of knowledge. As noted in many of the papers in this report, due to the advent of globalization and the intensification of international competition, knowledge has come to be seen as an increasingly important determinant of the wealth of nations. Consequently, access to knowledge and the ability to disseminate it have become a major source of competitive advantage. In some quarters, knowledge itself is seen as the most powerful driver of social and

economic progress in the world today (World Bank, 2002), and tertiary education is perceived as necessary ‘for the effective creation, dissemination, and application of knowledge and for building technical and professional capacity’ (ibid., p. xix). Universities, it is stated, should become more innovative and responsive ‘to the needs of a globally competitive knowledge economy and to the changing labour market requirements for advanced human capital’ (op. cit.). Knowledge itself becomes critical to the idea of development as the achievement of ‘good change’ (Chambers, 2005), not just in terms of availability, but also in terms of how we use knowledge to understand knowledge.

In the face of globalization, however, critics such as Olsen (2000) have claimed that the relationship between universities and society is deteriorating, and have identified HE as a service company, with society as its marketplace. Knowledge is increasingly seen as a commodity, with possession over the means of its production leading to the establishment of loci of power that support the far-reaching influence of relatively few over the majority. The potential for universities to support and nurture human and social development – especially in the South, where such an approach has been well understood in recent times and in some cases practised for centuries – is being eroded by constant shifts in policy and politics. Through the policy goals of efficiency, effectiveness, responsiveness and competition embodied in many HE reform programmes, ‘national authorities transform their public higher education systems from national organizations with global social roles into global players mainly operating on the basis of economic considerations’ (ibid. p. 374). These trends tend to result in raised tuition fees, reduced programmes and staff positions, increased teaching loads and greater numbers of part-time teaching staff. As a result, a more technocratic management style is adopted and alliances are formed with corporations and the private sector. This situation tends to reduce the autonomy of university teaching staff and subordinate the humanities and social sciences to the technosciences. As a consequence, HEIs

may become increasingly alienated from poor and socially excluded communities and local concerns, even when they teach courses and undertake research in the name of ‘development’.

Since education at all levels is playing an ever more critical role as a transmitter and reproducer of a complex fabric of knowledge and power relations, we now urgently need to question its purpose, as well as the distribution and use of the means that are put at its disposal to achieve this purpose. We need to explore ongoing transformations of the purposes and priorities of HE according to new global standards and the transfer of policies, curricula and assessment methods between countries. Curricula, in particular, offer us a glimpse of the challenges facing HE in a globalizing world, and the emerging roles of HEIs as key actors in human and social development.

Although there are many exciting curriculum innovations in HEIs around the world, the ways in which the curriculum is conceptualized and developed vary greatly. The pedagogical approaches associated with curricula appear in many different forms and are rooted, as this paper will argue, in the interrelationships between knowledge and power. As HEIs struggle to meet increasing demands in a world characterized by complexity and uncertainty, in a global context where the desire for economic growth seems to be in tension with the need to assure the basic human rights of all the world’s peoples, curricula offer them the opportunity to reimagine and demonstrate their educational function and purpose. One source of opportunity may come through introducing new content, increasing interdisciplinarity and bridging the gap between advances in different disciplines. Going further, we could imagine changes throughout the curriculum experienced by all HE students, whereby traditional areas of study such as the humanities or the sciences are transformed through a transversal curriculum that is more problem-focused and linked to real-world challenges and issues. This is not an impossible dream; many institutions around the world already are attempting this.

There are many challenges to overcome, however. How should educators navigate the complex fabric of power relations both inside and outside their institutions that determines what is taught, by whom and how? What are the alternative conceptual and philosophical approaches that underpin HE curricula, based on differing perspectives on knowledge and power? How do HEIs make sense and use of the most appropriate and relevant curricular and pedagogical approaches as they struggle with the need to introduce and build new elements in their teaching programmes – including citizenship, conflict resolution and peace-building, sustainable development

and multiculturalism – that are consistent with the notion of human and social development? What are the institutional constraints and obstacles that must be overcome in order for curriculum innovation to truly take hold? This paper addresses these questions by looking forward to alternative visions of the educational purpose and curricula of HEIs in the age of globalization.

EXPLORING CURRICULA AND PEDAGOGY IN HE

Education is not the filling of a pail, but the lighting of a fire. (W.B. Yeats)

Curriculum development may be understood as ‘all the learning which is planned and guided by a training or teaching organization, whether it is carried out in groups or individually, inside or outside a classroom, in an institutional setting or in a village or field’ (Rogers and Taylor, 1998). For HEIs to contribute to human and social development through the education they provide, their curricula should be derived through a process of dialogue on the ideologies, philosophies and epistemologies of knowledge and learning. Thus, the purpose of education is to transform rather than transmit; to provide the opportunity to ‘light the fire’ rather than ‘fill the pail’, as Yeats reminded us; to inspire, provoke and motivate. A curriculum is grounded in the context in which learning takes place, and it is necessary to contextualize experiences that lead to wider generalizations. It is an embodiment of values: people are its foundation as living theory. A curriculum may be conceived as a ‘space’ in which all these varying elements may come together.

THE MAKING OF A CURRICULUM

Current trends in HE curriculum development suggest that this vision of education is not widely held, however. A more dominant view is that of education as a means of providing a well-equipped workforce for a globalizing economic world. Reuben (1996) tracked changes in the education programmes of eight American universities over a number of years and revealed the tensions emerging over curriculum and educational purpose. She concluded that the universities’ belief that knowledge could lead to human and social improvement was so challenged that they lost their faith ‘in the power of knowledge to elevate individuals and the world’ (p. 265). Palmer (1998) noted the educational trend towards an objectivist study of reality, and criticized it on the grounds that it treats all things – and people – as objects. Imagining a different future – in which HEIs *subjectify* and even *co-create* knowledge as a means of building a new, transformative

purpose for education – could have significant implications for curriculum development.

The notion of a curriculum that is created and based, at least in part, on local knowledge generation (by either individuals or groups) is both provocative and challenging because learning in HE often focuses on an analytical understanding of the macro, the mass and the systemic. The personal and particular dimensions of knowledge – including the emotional, the artistic, the spiritual and the psychological (Heron, 1999; Heron and Reason, 2001) – are often neglected. Nevertheless, these aspects are critical to developing a sense of agency and power. They are vital ingredients that individuals and groups need in order to become effective agents of change, since they enable learners to become more conscious of the powerful, internalized and often hidden factors that constrain agency (Pettit, 2006). We need to inquire into the very nature of knowledge, using knowledge itself to understand this, and shape curricula on this basis. Unfortunately, it is rare to see genuine, open dialogue on curriculum process and product that draws on alternative perspectives of knowledge and power.

What prevents a shift towards a new vision of HE curricula and education? One key factor is the varying degree of autonomy of teachers and even institutions. In some universities, teachers and lecturers are able to make quite wide-ranging decisions on curriculum development, subject to the approval of the institution. In many HEIs, however, overall curriculum development often remains the responsibility of a few – an elite group located at the top of a hierarchy. Discussions about curriculum development tend to involve a small number of individuals in senior academic and, in some cases, government positions. These discussions usually focus on the content of teaching. Such small, privileged groups may assume that they are aware of the reality of the external environment, and that their own theoretical understanding and experience are sufficient to develop curricula that will bring about effective learning. They may also assume that learning will take place through the transmission of knowledge, and that the subject-related expertise of the teaching staff is sufficient to convey knowledge to the learners. Curricula developed using these approaches rarely provide guidance to teachers and learners on how to facilitate the learning process (Taylor, 1998). Even in universities where teachers have a greater degree of autonomy in the curriculum development process, there is rarely any mechanism or agreed-upon principle for increasing the involvement of other stakeholders. The lecturer is still considered the expert, and it is assumed that he or she will deliver the goods as a result of expertise garnered through professional activ-

ities such as academic study and research, or through personal linkages with the ‘industry’ in which graduates will be employed. Authority over what will be taught to the majority is vested in the minority.

Various authors have proposed curriculum development models that go far beyond listing the content to be dealt with in a specified time. Skilbeck’s (1984) systematic model for curriculum development outlines five main steps: situation analysis, goal-setting, planning, implementation and evaluation. This does not create a blueprint, since each step provides opportunities for a variety of decisions and actions. It places emphasis on the learner, since an important aspect of this approach is the development of learning outcomes, written in terms of what learners should be able to do at the end of a given period of study (although the value of highly specific objectives for all learning contexts is certainly debatable). It also requires an understanding of the external situation or the context of the training programme in question. It is still possible, however, for this approach to be applied by an unrepresentative minority. Situation analysis may well be invalid if it involves an individual or a small group of curriculum developers basing their work on their own narrow perception of external reality, or if it fails to consider issues of power. In such a case, there would be justifiable criticism that the predetermination of learning outcomes – and hence the selection of content, methods and materials – is inequitable. For this reason, interest is growing in more participatory approaches to curriculum development (Taylor, 2003) that seek to involve different stakeholders in meaningful ways throughout the various stages of the curriculum development process. Such approaches offer exciting possibilities for participation that are not just mechanistic or instrumental. Since power relations are often internalized by those who find themselves marginalized from decision-making processes, consciousness raising – which can lead to a new understanding of education’s potential for transformation and positive change – is itself a critical part of any participatory curriculum development process.

Curriculum change is difficult, however, and resistance is often encountered. How can we support the development of curricula that are inclusive, just, democratic and based on transformative and more participatory processes? Different visions of change call for alternative ways of combating resistance: through structural means (Weiler, 1991; Olsen, 2000; Cloete, 2002); through an understanding of power relations (Bourdieu, 1990); or even through an integration of these visions for change (Freire, 1972; Giroux, 1993; Lynch, 1999). The philosophy and practice of curricula in HEIs are influenced strongly by what happens in the schools and colleges

where future HE students first experience education (Apple, 1993; Bourner, 1998; Karmadonov, 2003).

RELATIONSHIPS WITHIN FORMAL EDUCATION SYSTEMS AND THEIR IMPACT ON HE CURRICULA

Bourner (1998) observes that students entering HEIs 'bring expectations about the nature of learning and education from their senior schools'. They expect HE to be like the education they have experienced previously (as do newly appointed ministers of education, as someone once remarked). But if this previous education has been top-down, based on the transmission of knowledge, students will expect nothing more from the university. Many students entering university are more vulnerable and therefore heavily defended, especially when they have recently passed through the process of adolescence and its associated biological and emotional changes (Bourner, 1998). Regardless of age, they may also be entering a new and strange environment, which for many is well beyond their comfort zone. Consequently, students look for 'sameness' wherever they can, even in the pedagogical realm. Aside from practical issues of teachers' professional capacity to offer pedagogical alternatives, this 'sameness' may also be viewed as symbolic of society's mechanisms for cultural and economic reproduction, of which the school is an agent (Karmadonov, 2003), and where the identities of students, and their positions in society, are consolidated.

A formal curriculum may be viewed as the explicit framing of ways in which cultural, economic and social relations are reproduced, whilst the 'hidden curriculum' – which underlies all educational experiences – reinforces and nourishes dominant ideologies and belief systems. It is extremely difficult for students at HEIs to move beyond understanding their education as a continuation of the system that has been legitimating, delivering and evaluating their knowledge throughout their formative years. This is hopelessly inadequate preparation for human and social development, since it avoids many, if not all, of the real challenges, problems and opportunities associated with individual learning and growth, and particularly with wider, positive social change and transformation. Learners need to pay more attention to the nature of real-world problems and take advantage of opportunities to learn a range of skills and capabilities that draw on different fields of experience and knowledge, and that enable them to address complex problems in various contexts.

How best to teach such an approach through formal education is a major challenge. The recent emphasis on lifelong learning has been criticized (Rogers, 2003) for failing to acknowledge the natural tendency of all human beings to continue learning throughout their lives, even

without the assistance of international commissions and national policy statements. There are some positive signs of a shift in thinking on this matter. The need for a more holistic understanding of learning was explored in the insightful Delors Report, *Learning: The Treasure Within* (Delors, 1996). The International Baccalaureate (IB) Programme² – which emphasizes global citizenship, the complexity of a global worldview, multicultural awareness, foreign language acquisition and community service activities – is being offered more widely. The recent report of the Commission on the Skills of the American Workforce³ emphasizes global citizenship, intercultural skills and foreign language acquisition, which seem essential if individuals are to become active members of a global society. However, these aspects could also be viewed as instrumental skills that contribute to the overall economic output of the individual and his/her national economy. So, how can we establish a vision of learning that explicitly takes into account aspects of power and politics in curricula at all levels of education?

Regardless of whether HE is seen as part of a continuous process of lifelong education to which all should have access or as a privileged place of learning accessible only to the elite few, there has been remarkably little change in the perception of the need for the qualifications that HE offers and the associated route to desirable employment. More than 30 years after the publication of Dore's (1976) seminal book *The Diploma Disease*, the problem of qualification escalation – and the almost unbreakable red thread that connects qualifications and employment – seems not to have changed, and has even been reinforced. King and Martin's (2002) return to Foster's 'vocational school fallacy' theory in Ghana is a pertinent reminder of HE's tendency to perpetuate the goal of individual acquisition over wider human and social development. Foster's argument that the educational aspirations of poor people in any community could not be changed, and that they most want the education that gives them the greatest possibility of social mobility, still seems to hold true.

Higher education remains the ultimate educational dream for many because, although non-formal and vocational education may be more practically relevant to their immediate situations, children and their parents prefer to have access to mainstream education and to the examinations and certifications that allow them to move further up the educational ladder. Even a slim hope of success in such a national system is preferred to the null chance of upward mobility provided through non-formal and vocational education. Stories abound of innovative ways in which local movements have emerged in response to the desire, often expressed by parents, for

young people to enter HE. Two examples of such innovations are Columbia's 'bench schools' (Hall, 1986), spontaneously created by parents so that their children could have access to formal, national standard-based education and therefore a chance at certification and HE, and the Centre for Creative Education in Costa Rica. New institutions that attempt to provide a curriculum that is relevant and attractive to both learners and other stakeholders are beginning to emerge around the world (South Africa⁴ and Uganda⁵ provide two examples).

PEDAGOGICAL IMPLICATIONS

In an era of HE massification and internationalization, with everything this implies for curricula, there is a growing trend towards education as 'pail-filling' and the transmission of knowledge as a set of facts that meet pre-identified needs or requirements. This suggests a worrying return to the practice of 'banking' knowledge, to use Freire's (1972) terminology. In many ways, this trend runs counter to many of the theoretical developments in HE pedagogy over the past 40 years. Bourner (1998) observes a shift in emphasis on the big issues in the field of learning in HE and identifies a pedagogical emphasis on the transmission of knowledge and understanding in the 1960s and 1970s, on personal and transferable skills in the 1980s, and on critical reflection in the 1990s. Now, in the 2000s, as fascination with the power of distance and e-learning grows through the incredible development of ICTs, there has been a shift away from pedagogies that stress critical reflection on experience. Arnold et al. (1995) distinguish between three main educational approaches. Conservative approaches are characterized by banking of knowledge, are often expert-centred, and view learners as passive recipients. Liberal approaches are characterized by self-directed individuals seeking growth, view learners as 'learning how to learn', and are often neutral on power issues. Transformational approaches, however, are characterized by collective reflection and action, especially by those who are (or who feel) oppressed, and are concerned with changing power relations and transforming socioeconomic systems.

For an emerging role of HE to support human and social development, at least some aspects of all three approaches may be valuable at different times. Ultimately, however, we need a much stronger emphasis on more transformational approaches than we see at present. Much of the formal 'learning' on offer – for example in schools, colleges and universities – has proved to be didactic, rote and top-down (Bawden, 2004; Mott, 2005). Often, the content of these learning experiences is narrow and deals with skills, methods or theory. They rarely pay

conscious attention to power issues (related to faith, race or gender, for example) that are embodied through experience and fail to enable learners to explore *who* they are (as opposed to simply *how* they are) in a deeply reflective way. In addition, the curriculum often is not grounded in a sound conceptual framework for either social change or learning (Taylor et al., 2007). Although the emergence of a 'knowledge society' may suggest a levelling of hierarchies and a shift towards more equitable power relations, we should not lose sight of the dynamics of power and the structural forces that determine them (Apple, 1993). We need to question the claim that education should be neutral, as we are reminded by many 'popular educators', by those who ascribe to 'critical pedagogy' (Lynch, 1999), and by recent initiatives such as the International Working Group on University Education for Community Change (Mott, 2005).

Have we then entered a period of enormous tension, in which the trend towards massification, efficiency and effectiveness in HE has resulted in pedagogies that are closer to the transmission model, yet appear alongside significant efforts to raise the profile of more transformative, reflexive pedagogies grounded in the co-creation of knowledge? Is curriculum partly a dialogue about the roles of and responsibilities for learning? How do beliefs and values influence the way in which curricula emerge and come to life through the learning process?

TRENDS AND EMERGING AREAS IN HE CURRICULA AND PEDAGOGIES

Even though HEIs are under severe pressure to craft their curricula and pedagogies to fit with the constantly evolving demands of a 'global' context, there are highly promising trends within the HE sector that indicate movements in the two directions mentioned at the beginning of this article: a bridging between existing disciplines, and a move towards transversal curricula that is a radical shift from what is commonly practised in most HEIs. A wide range of innovations have emerged, including sustainability studies; development as a dialogical process involving change and movement in both the North and the South; emphasis on student service activities and service-learning programmes that put university resources towards understanding and correcting social problems; inclusion of the study of poverty production factors in curricula;⁶ integration of participatory action research within curricula and as a pedagogical approach; and the rising prominence in academic institutions of individuals who are recognized as both academics and practitioners. All these factors help HEIs respond to their emerging

roles and face the challenges associated with human and social development.

PROFESSIONAL AND/OR GLOBAL CITIZEN EDUCATION? IMPLICATIONS FOR HE CURRICULA

Professional education (as competition) and global citizen education (as cooperation) are often seen as oppositional, but may be practised somewhat synthetically by HEIs. The most professional of training programmes, such as law and medicine, typically involve some international aspects or offer the possibility of an international focus. Most undergraduates in the USA, for example, are expected to participate in at least one professional internship during their college years and to travel abroad for a semester. Even so, the emphasis on ‘internationalization’ within universities and curricula, which emerged in the 1990s, has so far not achieved the promise of ‘global citizenship education’, as advocated by writers such as Ansley and Gaventa (1997), who wish to see a deepening practice of democracy in HE research and education. Most internationalization goals focus on either (1) increasing the number of overseas students who come to study at an institution, or (2) establishing satellite institutions in countries where there is a demand for the university’s degree programmes, but where the high costs of travelling to and living in a relatively expensive country present an obstacle.

Interest is growing in the emergence of curricula that support the education of those who will work in a range of ‘development’ professions in various international contexts. In *Educating for Real*, Hamdi (1996) considers professional training for architects, engineers and urban planners who plan to work in developing countries and notes that their training would be far more effective if it were organized in context: ‘We need field-based programmes of working and learning from communities, located at sites where students confront real constraints with conflicts of values, priorities, timetables, with changes of mind, with client members who appear and disappear, with no access to photocopying machines, drawing tables, inventing not only how to respond physically and intellectually but also how to communicate’ (p. 13). Woolcock (2002), writing on what master’s degree students should be taught, compares professional training programmes (in law, business, medicine, the arts and the sciences) with training programmes for public policymakers and development workers. Woolcock argues that the extreme variation in the work situations of development workers makes it very difficult to give them adequate training, except for some very broad and flexible skills. Indeed, training a ‘citizen of the world’ is a much harder task because of the broad, dynamic nature of this

designation. As Woolcock points out, other professions have a high level of socialization in a professional culture, whereas development work does not. His argument may point to the future instability of all professional cultures in a globalized economy. Since job markets and their requisite skill sets will be changing more rapidly than ever before, lessons learned from teaching development professionals – citizens of the world – to be highly adaptive may in fact need to be incorporated into more rigid forms of professional training. These professions and their respective practices are likely to see significant changes over the coming decades that will require similar adaptivity to a smaller, more dynamic world.

There are various challenges to overcome:

- How can professional education programmes that follow a transversal approach help develop students’ ability to ‘learn’ citizenship without overloading the curriculum and placing huge demands on both students and teachers?
- How can we coherently manage the ‘professional’ components and other elements that enable learners to understand and play their part in human and social development? What additional resources are needed to support this?
- What can be done to overcome resistance by professional bodies that do not wish to see significant changes in the curricula of education programmes that provide new entrants to their various professions?

COMPLEX VIEW OF THE WORLD: INTER- OR TRANSDISCIPLINARY EDUCATION

Higher education institutions and their educational programmes face enormous challenges: a world characterized by uncertainty and the interplay between a vast array of complex interactions that the human race, as self-appointed guardians of this planet, has hardly begun to comprehend. Disciplinary studies that fail to make connections to real-world and real-time challenges and problems are not likely to be in a position to support useful learning in the years to come. An emphasis on soft systems – fuelled by the influential writings of Peter Senge, including *The Fifth Discipline* (1990) – has arisen from the growing appreciation that most real-world problems are too complex for a simple ‘problem-solution’ framework. Woolcock (2002) points out that development workers, for example, are often faced with incomplete data when trying to analyse situations and make decisions. In such cases, workers must draw on a variety of skills and methods, as well as basic knowledge of many disciplines, in order to make inferences and conceptual connections that lead to changes in understanding and practice. Bawden (2004) describes ‘the promise of the

learning turn' (p. 19) for universities, in which a primary focus of learning will be on 'the features, dynamics and designs of innovative systems of learning, or inquiring systems that represent, at the very least, powerful and relevant conceptual frameworks' (op. cit.). A 'learning turn' is needed within the academy if it is to respond appropriately and innovatively to Boyer's call for it to be 'of greater service to the nation and the world' (Boyer, 1990) in an age of reflexive modernization and societal sustainability. According to Boyer, new, critically reflexive learning systems must be designed in order to meet the challenges of the new modernity, which will become the foundation for extending a scholarship of engagement into a critical systemic discourse of engagement (p. 19).

A holistic revision of global education, such as that imagined in the Delors Report (Delors, 1996), has been shared by many other institutions around the world. Such a vision generally includes a commitment to interdisciplinary research that manifests itself in teaching programmes. However, this often seems harder to achieve in practice, perhaps because of the expectations by both teachers and students of a more expert-centred mode of learning. Some education programmes have attempted to use interdisciplinarity, and even systems approaches (arising from various scientific roots in the biological sciences, engineering and cybernetics theory), as the very essence of their curricula. Bawden and Macadam (1990) have written extensively on the Hawkesbury Agricultural College in Australia, which attempted to build an entire education programme on the principles of systems thinking and practice. Agricultural and environmental education programmes have often been at the forefront of innovation in this regard, although the broad field of adult education, and newer fields such as human rights education, are showing promise (Marlin-Bennett, 2002). Sterling (2004) and Capra (1996) both argue for systems thinking as the means to environmental sustainability. However, holism and interdisciplinarity in curricula have been advocated well beyond the environmental education arena.

The World Bank (2002) has recently advocated a move towards 'transdisciplinary study' (p. 37), in which greater emphasis is placed on problem-based learning, thus blurring the distinction between basic and applied research and integrating disciplines. This has particular implications for pedagogy: greater emphasis is placed on problem-based learning, experiential learning, active student engagement, applying knowledge in real-life situations, collaborative activities, and learning as a process rather than simply rote memorization. Vedeld (2004) proposes several ways in which interdisciplinary teaching focuses on both theoretical and practical experience-based skills, thereby increasing and professionalizing the

use of problem-based learning. Students are called upon to take responsibility for their own learning; they develop skills by identifying, selecting, translating and integrating knowledge from various disciplines within a coherent framework. The recently formed MacArthur Commission on the Education Needs of Development Professionals also advocates a problem-oriented approach that encourages transversal learning by incorporating a wide range of technical and social dimensions within a more 'general' curriculum.

A number of key challenges are associated with such approaches, including the need:

- to support teachers' ability to develop a pedagogical approach based on uncertainty and problem orientation
- for employers to recognize and facilitate employees' application of more holistic forms of knowledge and practice, thereby granting greater legitimacy to this form of learning
- for schools at lower levels of the education system to prepare students for interdisciplinary forms of learning and study, in order to enable them to make a successful transition to HE.

CURRICULUM AND SUSTAINABILITY ISSUES

Jansen writes in greater detail on the issue of sustainability elsewhere in this report, and Steinemann (2003) suggests examples of curriculum development that aim to promote sustainability within a university environment and help students become more effective problem solvers and professionals. It is suggested that students in a Sustainable Urban Development course work on projects to make their campus and community more sustainable. In the process, students learn how to analyse sustainability, work with decision-makers and put classroom knowledge into practice. Further, through such a course's emphasis on problem-based learning, students acquire critical cognitive and professional skills as they tackle complex, interdisciplinary, real-world problems. Courses such as these can build important bridges between theory and application, and between education and professional practice.

The notion of sustainability education is sparking increased interest. Carlson (2006) recently provided a useful overview of the emerging field of 'sustainability studies', a highly interdisciplinary approach based on the premise that a real move towards sustainability will require a shift in thinking in all disciplines, or even a shift in consciousness (Sterling, 2004). Carlson considers curricula, hiring practices and campus design as parts of the wider institutional emphasis on sustainability. The following are other examples of innovative HE programmes that explicitly address sustainability in a more holistic way:

- The College of the Atlantic:⁷ a small, environmentally focused college in Maine with only 300 students. It offers a self-designed degree programme based on a philosophy of human ecology.
- The University for Peace:⁸ the United Nations college in Costa Rica. The curriculum focuses heavily on poverty reduction, conflict resolution and sustainable development. Most members of the teaching staff are UN officials with extensive professional experience within the UN system.
- The EARTH University:⁹ also in Costa Rica, this school has an experiential agricultural focus and invites students from tropical countries who might be able to replicate the school's sustainable farming methods in their home countries.
- The Earth Institute at Columbia University,¹⁰ which encourages interdisciplinary study of climate change and agricultural practices for developing countries. The Institute is also actively engaged in its own large-scale development projects, the Millennium Villages and Millennium Cities. It is linked to some 24 other degree programmes throughout the university.

Key challenges in addressing sustainability issues through curricula include the following:

- The need for policymakers and funders of HE to recognize the value of studies that emphasize sustainability as a vital complement to studies seen as contributing to economic growth.
- The need for reform within HEIs, not only to appreciate the importance of sustainable development but also to allocate needed resources and provide an enabling environment for innovation and change in sustainability practice.
- The need for HEIs to engage closely in wider societal debates on the major global challenges of our times (for example climate change, environmental degradation, poverty and human rights), even if this requires moving beyond their current, recognized areas of 'expertise'.

EDUCATION FOR MULTICULTURALISM, PEACE AND ADDRESSING CONFLICT

Multicultural understanding is a goal that many HEIs would aspire to, even though curriculum innovation rarely seems to address this explicitly. One interesting example of an educational approach is that of the United World Colleges,¹¹ comprising twelve schools in twelve countries on five continents, with intentionally diverse student bodies. These colleges, which are actually secondary schools, have long tried to promote multicultural understanding by bringing together young students from all over the world to study in close-knit, tightly structured

social environments. The first school was created in Wales in 1962. Most recently, two new schools opened in 2006, one in Costa Rica and one in Bosnia. The early schools focused on bringing together students from countries that opposed each other in the World Wars. The new schools have a similar goal: bringing together both sides of regional conflicts. Although not yet at the HE level, such an approach seems to have strong potential for helping young people develop an understanding of themselves as global citizens, thus preparing them for a different experience of HE than would be afforded through more conventional schooling systems.

Many HEIs offer educational programmes in peace-building and studies of conflict and war. Some, such as the University of Peace in Costa Rica and the United World Colleges, are actually devoted entirely to this theme. There have been courageous attempts to develop curricula in conflict-affected societies, which by necessity address conflict and peace quite explicitly in a range of ways. In Northern Ireland, for example, the UNICORE programme at the University of Ulster¹² offers various courses and training programmes on conflict resolution and reconciliation. The curriculum has expanded around the academic study of the local conflict – the Troubles in Northern Ireland – and the resolution of the same. Efforts have also been made at an international level, as illustrated by the UNESCO Colloquium on Curriculum Change and Social Cohesion in Conflict-Affected Societies (UNESCO, 2003), which framed its approach in terms of a 'dialectical relationship between formal education and violent conflict'. The report notes: 'Formal education is an inherently ideological instrument that is related to political violence in both intended and unintended ways. On one hand, authoritarian education systems can incite conflict when explicitly used as a weapon of oppression – that is, as media of repression, apartheid, discrimination, intolerance and the perpetuation of inequalities. On the other, education can be a means through which oppressed people can resist ideological domination and contribute to liberation' (p. 6). Although the colloquium focused mainly on school curricula, a number of important ideas arose regarding the processes of curriculum renewal and policy change, which are also valuable for curriculum development in HEIs.

Key challenges associated with such approaches include the following:

- The difficulty of integrating new areas of knowledge and practice within existing curricula that enable students to act as global citizens, to recognize the rights of others, and to work towards improved conditions for others in their local contexts, as well as at the national, regional and global levels.

- The difficulties associated with building institutional linkages between HEIs and other societal actors in order to contribute to and promote dialogue that supports greater understanding and tolerance in society.
- The need for HEIs to engage in and commit their support to processes that contribute to peace-building and conflict reduction by generating and providing needed knowledge on these issues.

ETHICS, VALUES AND CURRICULA

Rethinking the nature and development process of curricula has implications for the ethics and values of teaching and learning. Bateson (1973) proposed ‘levels of learning’, which provide an opportunity to critically examine the paradigms within which learning takes place, and to more clearly see which paradigms are best suited to an emerging understanding of human and social development. According to Bateson, level 1 learning occurs within the dominant paradigm, while level 2 sees the limits of this paradigm and recognizes the existence of other paradigms. Level 3 is an almost transcendental state of recognizing many alternative paradigms at once – the context of contexts. Sterling (2003) argues that the infiltration of neo-liberal management practice into education has locked most HE systems into level 1 learning, and that all efforts are directed at efficiency and effectiveness – the art of ‘doing things better’. At this level, there is little questioning of the validity of the paradigm, its underlying ethics and values, and its social and environmental impacts. In order to bring ethics and values to teaching and learning, there must be a sense of consequentialism that can be used to analyse one paradigm against another; this, in turn, requires level 2 learning, which looks at alternatives, at ‘how to do better things’ rather than just ‘how to do things better’.

Of course, putting such ideas into practice is challenging. Nevertheless, there are interesting examples to learn from. The Shepherd Programme for Interdisciplinary Study of Poverty and Human Capability¹³ at Washington and Lee University in Virginia in the United States, an undergraduate degree created in 1997, requires that students combine academic work with a rigorous eight-week summer internship. The academic component builds bridges between various areas of study, including English classes that focus on the theme of poverty in literature, economics classes that dissect wage inequality or the economics of race and class, and psychology courses that examine the effects of poverty on children. Another innovation is taking place within the Community Development Action Programme at Vanderbilt University in Tennessee,¹⁴ also in the USA, which trains professionals seeking to foster developmental change in human com-

munities. Through analysis, students investigate the concept of human potential as the freedom to choose among opportunities. At the Autonomous University of Mexico (UAM), the Master’s in Rural Development has for nearly 30 years been following a ‘modularized’ approach in which students combine research and action learning at grassroots organizations in Chiapas with formal study at the university. Students, professors and community members collaborate closely to learn about and contribute to social change processes. The Master’s in Participation, Power and Social Change at the Institute of Development Studies in the UK is grounded in a process of critical reflection on experience and combines residential intensive-study periods with a longer period of action research in a work-based placement. For many years, the PRIA network in India has promoted close ties between educational institutions and community-based organizations, in order that the knowledge and experience of both might support transformative development processes, to the benefit of all (see Tandon, in this report).

Key challenges associated with values and ethics in HE curricula include the following:

- Difficulties in establishing open processes and transparent institutional mechanisms that support dialogue on contentious or disputed areas of knowledge.
- Slow progress towards the recognition of academic ‘outputs’ that take into account and place value on contributions to human and social development, in addition to the traditional metrics of peer-reviewed publications and successful bids for research funding, which often govern promotion and career prospects in HEIs.
- The need to encourage teaching- and learning-based engagement between HEIs, students, teachers and wider society in a range of pressing real-world issues, following approaches that are democratic and participatory, and that affirm the rights of all.

LOOKING FORWARD: CURRICULAR POSSIBILITIES FOR HUMAN AND SOCIAL DEVELOPMENT

This paper has considered a wide range of imperatives that influence the way in which curricula are designed and has provided some examples of curriculum innovation. It has not sought to provide a survey of initiatives from all over the world, as many institutions are making small-scale – and often very exciting – efforts to bring about change in their education programmes. From the above discussion, we might identify two broad thrusts that determine the nature of HE curricula. The first thrust relates to the arguments in favour of effectiveness and efficiency,

which concentrate mainly on how we can do things better – and more cost-effectively – in a globalizing world, so that our graduates may compete as part of a global workforce, secure better-paid employment, and thus continuously increase the demand for the education HEIs offer. The second thrust relates more to an understanding of human and social development, as discussed by many of the contributors to this report, under which scientific and academic inquiry need not be abjectly objective. Rather, such inquiry should also allow for vision and imagination; link to the spiritual, emotional and ecological; embrace uncertainty and the possibility of alternatives; and encompass a plurality of visions.

In this time of rapid growth of for-profit and corporate universities with rather narrow aims of professional training and human capital development, it seems important to ensure that all HEIs enable their students to gain a critical consciousness of the world they inhabit. This should help them to better anticipate, articulate and animate alternative processes that can lead to widespread human and social development as opposed to uneven, temporary surges in economic growth that benefit only the minority. This is not to negate the imperative of economic growth that still eludes many regions of the world, where poverty is still endemic and where the livelihoods of many are characterized by despair and deprivation. It is more of a plea for balance, and for growth coupled with wisdom, justice, tolerance and attention to the rights of all.

But the road forward is difficult. Although this paper highlights examples of innovation and changing practice, other contributions to this report have focused on the many obstacles to significant curriculum reform. In a recent international survey of innovative HE programmes, Mott (2005) remarks on how many of the programmes that are most engaged and active in human and social development find themselves marginalized within universities. These programmes are mainly supported by members of the teaching staff who believe in the merits of alternative educational forms. These individuals often invest additional effort into their work and receive no special compensation for their efforts. In some cases, they may even jeopardize their own career prospects by promoting an understanding of knowledge that is not shared by the wider institution (Stoecker, 2005). Mott found that these programmes tend to receive little university funding to cover extra expenses and therefore must often seek outside donors to maintain themselves. They are not considered as marketable as more ‘mainstream’ programmes. Because of funding uncertainties and a lack of support from senior management, they may become vulnerable regardless of their strength and effectiveness.

If, however, HEIs are going to support the develop-

ment of curricula that promote learning that is valuable to human and social development, we need to more fully understand the learning needs of our future ‘global citizens’. As Sen (1999) put it, we need to develop a sense of the capabilities that are required for development and human freedom. In addition to the ongoing need for technical skills in a host of areas, one key learning need is the ability to make connections between many types of knowledge in the face of increasingly diverse problems and challenges, and to do this in a way that places equal value on the nature and quality of our relationships with the world at large. In this latter area, more curricular emphasis should be placed on what are currently more ‘marginal’ areas of our education programmes: emotional intelligence; knowledge of and the opportunity to adapt to and function in unfamiliar contexts; and collaborative skills for group work, often with individuals of highly diverse backgrounds and perhaps even across former conflict lines.

Certain methodologies offer potential for the development of such attributes. One promising approach for HEIs is to focus much more intensively on social engagement and place real emphasis on learning about learning (Boothroyd and Fryer, 2004). Action research and action learning have, for some time, been seen as a means by which citizens can acquire agency and translate this more effectively into practice within a highly complex and challenging environment. To this end, methods of popular adult education, participatory action research (Freire, 1972; Fals Borda, 2001) and participatory learning and action (Pretty et al., 1995; Chambers, 1997) have been widely used in the contexts of community development and social movement organizing, often with promising results. Nevertheless, these approaches and their ability to address established knowledge and power relations have not always been applied internally within curricula by HEIs, even though this may be an area of considerable opportunity. Some practitioner-academics, such as Farmer (2003), see such ‘local’ possibilities of engagement in development activities as having the potential to lead to much larger changes in the global system by linking service-learning to ‘the broader goals of equality and justice for the poor’ (p. 227). Participatory action research allows for the development of many relational skills at once: emotional intelligence, dealing with the ‘other’, adaptation to and immersion in new contexts, conscious inversion of power roles and experiential/applied learning. It also encourages systemic forms of integrative reflection and analysis. As noted by Taylor, Pettit and Stackpool-Moore (2007), ‘Participation and participatory approaches in education have emerged as a means of not only promoting inclusivity, but as a means of recogniz-

ing and shifting power structures, and ultimately contributing to social change and transformation. This includes the recognition that knowledge is a means of propagating power; hence, participation must involve discourse around both power and knowledge. This perspective has economic, ideological and organizational implications for institutions that provide and aim to facilitate adult education and learning programmes' (p. 4).

Attention must also be paid to teaching methodologies. Adult literacy pedagogies are an important source of guidance for HE pedagogical practice in general. Drawing on the ideas of writers such as Freire (1972) and Mezirow (1991, 2007), transformative pedagogies – sometimes termed 'emancipatory learning' or understood as experiential learning – give clear guidance on shifting power structures within the classroom that can lead to greater participation and social development of students. When linked to more participatory curriculum development approaches (Taylor, 2003), these approaches and methods may become a powerful force for positive change in how HEIs achieve their educational purpose. Although these methods are often associated with adult learners, typically in non-formal education contexts, participatory curriculum development is also practicable in HE and even in secondary schools, as A.S. Neill's radically democratic Summerhill School¹⁵ has demonstrated. There are also interesting examples of learning networks of educators¹⁶ who come together to share stories, experiences, concepts and methods in order to take participatory practices beyond the field and classroom and operationalize them in the restructuring of power roles within the HEI itself. The aim is to transform the university into a reflexive learning organization rather than a didactic student production line. Nor should we ignore the enormous potential of new technological innovations, particularly new forms of distance and web-based learning. Hellman (2003) provides a very useful overview of the 'promise, problems and applications' of ICTs for development. She highlights some key advantages, but also notes a range of limitations and drawbacks of distance education in industrialized countries, as well as some particular problems (the 'digital divide', the danger of disadvantaging the already disadvantaged, certification and cost-effectiveness issues, the inappropriateness of imported courses, and the corresponding risk of neglect of the classroom).

In order to bring about a sea change in curriculum design in HEIs whereby process and product become inextricably linked, more decentralized and participatory, increasingly open to a wider variety of local needs and influences, and grounded in pedagogies that are holistic and systemic for both personal and professional develop-

ment, significant shifts in institutional arrangements are needed. More input and engagement will be required from students, with less emphasis on knowledge as a commodity to be bought. More involvement will be needed from teachers in designing the courses they teach and in linking them together coherently with other courses and activities within their institutions. HEI governing bodies will need to recognize that university outreach to local communities is a high priority and that the learning and knowledge generated through these programmes directly influence curriculum development. It will be important to support such knowledge generation processes, which are informed by local voices and knowledge, and rooted in society's real problems. The active engagement of administrators, teaching staff and students in systemic participatory curriculum development processes will be critical.

But to achieve all these goals, intensive work is needed on both the outcomes and the processes of specific institutional change within the HE sector. Students and teachers at HEIs, as well as external collaborators and partners, are increasingly viewed – at least as evidenced in policy and 'mission' statements – as co-learners who collectively construct knowledge through equitable dialogue. In practice, however, the act of 'designing' a curriculum still tends to be perceived as a rational, cognitive process. Teachers – and especially institutional managers – are aware that they need to rationalize 'learning' by creating a curriculum that is approvable and accreditable, often by external bodies. This view is reinforced by the many quality assurance schemes that have emerged in recent years, and propagated further by funding councils that often establish the metrics by which quality is judged and seek to promote ever-wider standardization nationally, regionally and even internationally (an issue explored in depth by the GUNI in 2006). On one level, the resulting 'institutional monocropping' (Evans, 2004) enhances international mobility, but it perhaps also reduces local relevance and adaptation to the real problems and issues of the local context and the potential for curriculum design based on 'popular deliberation'. The models selected for replication tend to be based on those seen by others as desirable due to their regular appearance at the top of international ranking systems, particularly in the USA and the UK. A relatively small group of schools at the top of these rankings has a remarkable influence on the curricula of many other institutions around the world. This may increase power asymmetry in many HEIs, as they are under immense pressure to stay aligned with the criteria evaluated in the rankings or risk losing prestige. Breaking with these standards almost invariably leads to a drop in rank in the international tables, which is perceived externally

as a loss in educational quality regardless of internal motivations. Nevertheless, growing numbers of institutions are now refusing to cooperate in the surveys that lead to such ranking exercises.

Ultimately, we need to take a more strategic and collective view of the growth and evolution of innovative curriculum development processes by establishing realistic – yet challenging – planning and implementation cycles for institutional strengthening. We should seek out and commend proactive engagement by institutional leaders in policy dialogues on education, development and change processes at both local and global levels. We need to establish strategic dialogues and partnerships with policymakers and funding agencies to ensure that curriculum innovations are supported and maintained in the long term. Without such strategic moves, we run the risk of undermining the curriculum as the bedrock of the educational experience at HEIs, with potentially dire implications for the essential role of HE in human and social development.

NOTES

- 1 The author gratefully acknowledges the contribution of Felix Bivens for his invaluable help in preparing this article.
- 2 <http://www.ibo.org/>
- 3 <http://www.skillscommission.org>
- 4 Institute for Urban Ministry, South Africa: <http://www.tif.org.za/iium.htm>
- 5 The African Rural University: <http://www.urdt.net/aru.html>
- 6 See, for example, www.cefe.net/forum/Poverty_production.pdf
- 7 www.coa.edu
- 8 www.upeace.org
- 9 www.earth.ac.cr
- 10 www.earth.columbia.edu
- 11 <http://www.uwc.org/home>
- 12 <http://www.incore.ulst.ac.uk/>
- 13 <http://www.washingtonpost.com/wp-dyn/content/article/2006/08/01/AR2006080100825.html>
- 14 <http://peabody.vanderbilt.edu/x3684.xml>
- 15 www.summerhillschool.co.uk
- 16 For example ‘Learning and teaching for transformation’; <http://www.pnet.ids.ac.uk/guides/ltt/index.htm>

REFERENCES

Ansley, F. and J. Gaventa (1997) Researching for democracy and democratizing research, *Change*, January/February, 29(1), pp. 46–53.

Apple, M. (1993) What postmodernists forget: cultural capital and official knowledge, *Curriculum Studies*, 1, pp. 301–16.

Arnold, R., B. Burke, C. James, D. Martin and B. Thomas (1995) *Educating for a Change*. Ottawa: Doris Marshall Institute.

Bateson, G. (1973) *Steps to an Ecology of Mind*. Paladin.

Bawden, R. (2004) Engagement, reflexive scholarship and the learning turn within the academy. Paper presented at the 6th

ALARPM World Conference, South Africa, 21–24 September 2003.

Bawden, R. and R.D. Macadam (1990) Towards a university for people-centred development: a case history of reform, *Australian Journal of Adult and Community Education*, 30(3), pp. 138–53.

Boothroyd, P. and M. Fryer (2004) Mainstreaming social engagement in higher education: benefits, challenges and successes. Paper presented at the UNESCO Forum Colloquium on Research and Higher Education Policy, Paris, 1–3 December 2004.

Bourdieu, P. (1990) *In Other Words: Essays Towards a Reflexive Sociology*. Stanford, CA: Stanford University Press.

Bourner, T. (1998) Bridges and towers: action learning and personal development in HE. Inaugural lecture at the University of Brighton, UK, 24 November 1998.

Boyer, E.L. (1990) *Scholarship Reconsidered: Priorities of the Professoriate*. The Carnegie Foundation for the Advancement of Teaching. San Francisco: Jossey-Bass.

Capra, F. (1996) *The Web of Life: A New Scientific Understanding of Living Systems*. New York: Anchor.

Carlson, S. (2006) In search of the sustainable campus, *The Chronicle of Higher Education*, 53(9).

Chambers, R. (2005) *Ideas for Development*. London: Earthscan.

Chambers, R. (1997) *Whose Reality Counts?* London: Intermediate Technology Publications.

Cloete, N. (2002) *Transformation in Higher Education: Global Pressures and Local Realities in South Africa*. Lansdowne: Juta and Company Ltd.

Delors, J. (1996) *Learning: The Treasure Within*. Report to UNESCO of the International Commission on Education for the Twenty-first Century. Paris: UNESCO.

Dore, R. (1976) *The Diploma Disease: Education, Qualification and Development*. Berkeley, CA: University of California Press.

Evans, P. (2004) Development as institutional change: the pitfalls of monocropping and the potentials of deliberation, *Studies in Comparative International Development (SCID)*, 38(4), winter, pp. 30–52.

Fals Borda, O. (2001) Participatory (action) research in social theory: origins and challenges. In: Reason, P. and H. Bradbury (eds) *Handbook of Action Research: Participative Inquiry and Practice*. London: Sage.

Farmer, P. (2003) *Pathologies of Power: Health, Human Rights and the New War on the Poor*. Berkeley, CA: University of California Press.

Freire, P. (1972) *Pedagogy of the Oppressed*, London: Penguin.

Giroux, H. (1993) *Living Dangerously*, New York: Peter Lang.

Hall, A. (1986) Education, schooling and community participation. In: J. Midgley et al., *Community Participation, Social Development and the State*, London: Methuen

Hamdi, N. (ed.) (1996) *Educating for Real: The Training of Professionals for Development Practice*. London: Intermediate Technology Publishers.

Hellman, J.A. (2003) The riddle of distance education: promise, problems and applications for development. Technology, Business and Society Programme Paper no. 9. Geneva: UNRISD.

Heron, J. (1999) *The Complete Facilitator's Handbook*, London: Kogan Page.

Heron, J. and P. Reason (2001) The practice of co-operative inquiry: research with rather than on people. In: Reason, P. and H. Bradbury (eds) *Handbook of Action Research: Participative Inquiry and Practice*. London: Sage.

Karmadonov, O. (2003) The role of universities in the construc-

- tion of new social realities. IPF OSI fellow 2002–2003, www.policy.hu/karmadonov.
- King, K. and C. Martin (2002) The vocational school fallacy revisited: education, aspiration, and work in Ghana 1959–2000, *International Journal of Educational Development*, **22**, pp. 5–26.
- Lynch, K. (1999) *Equality in Education*, Dublin: Gill and Macmillan Ltd.
- Marlin-Bennett, R. (2002) Linking experiential and classroom education: lessons learned from the American University-Amnesty International USA Summer Institute on Human Rights, *International Studies Perspectives*, **3**, pp. 384–95.
- Mezirow, J. (2007) Adult education and empowerment for individual and community empowerment. In: Connolly, B., T. Fleming, D. McCormack and A. Ryan (eds) *Radical Learning for Liberation 2*. Maynooth: MACE.
- Mezirow, J. (1991) *Transformative Dimensions of Adult Learning*, San Francisco: Jossey-Bass.
- Mott, A. (2005) University education for community change: a vital strategy for progress on poverty, race and community-building. Report. Washington: Community Learning Project.
- Olsen, J. (2000) Organiserings og styring av universiteter. En kommentar til Mjosutvalgets Reformforslag. Oslo: ARENA Working Paper WP00/02. In: Cloete, N. (2002) *Transformation in Higher Education: Global Pressures and Local Realities in South Africa*. Lansdowne: Juta and Company Ltd.
- Palmer, P. (1998) *The Courage to Teach*. San Francisco: Jossey-Bass.
- Pettit, J. (2006) Power and pedagogy, learning for reflective development practice. *IDS Bulletin*, **37**(6), November 2006.
- Pretty, J. I. Guijt, J. Thompson and I. Scoones (1995) *Participatory Learning and Action: A Trainer's Guide*. London: International Institute for Environment and Development (IIED).
- Reason, P. and H. Bradbury (2001) Inquiry and participation in search of a world worthy of human aspiration. In: Reason, P. and H. Bradbury (eds) *Handbook of Action Research: Participative Inquiry and Practice*. London: Sage, pp. 1–14.
- Reuben, J. (1996) *The Making of the Modern University: Intellectual Transformation and the Marginalization of Morality*. Chicago: University of Chicago Press.
- Rogers, A. (2003) *What is the Difference? A New Critique of Adult Learning and Teaching*. Oxford: NIACE.
- Rogers, A. and P. Taylor (1998) *Participatory Curriculum Development in Agricultural Education: A Training Guide*. Rome: Food and Agriculture Organization (FAO).
- Sen, A. (1999) *Development as Freedom*. Oxford: Oxford University Press.
- Senge, P. (1990) *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday.
- Skilbeck, M. (1984) *School-Based Curriculum Development*. London: Sage.
- Steinemann, A. (2003) Implementing sustainable development through problem-based learning: pedagogy and practice. *J. Professional Issues in Engineering, Education and Practice*, **129**(4), pp. 216–24.
- Sterling, S. (2004) Higher education, sustainability, and the role of systemic learning. In: Corcoran, P.B. and A.E.J. Walls *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice*. Netherlands: Springer, pp. 49–70.
- Sterling, S. (2003) Whole Systems Thinking as a Basis for Paradigm Change in Education: Explorations in the Context of Sustainability. University of Bath: unpublished PhD thesis.
- Stoecker, R. (2005) *Research Methods for Community Change: A Project-Based Approach*. California: Sage.
- Taylor, P. (1998) Participatory curriculum development: some experiences from Vietnam and South Africa. In: *Training for Agricultural Development*, 1996–98, Rome: FAO, pp. 4–14.
- Taylor, P. (2003) *How to Design a Training Course: A Guide to Participatory Curriculum Development*. London: Continuum.
- Taylor, P., J. Pettit and L. Stackpool-Moore (2007). Learning and teaching for transformation: Insights from a collaborative learning initiative. In: Guerstein, P. and N. Angeles (eds) *Learning Civil Societies: Shifting Contexts for Democratic Planning and Governance*. Toronto: Toronto University Press, pp. 173–95.
- UNESCO (2003) *Curriculum Change and Social Cohesion in Conflict-Affected Societies*. Colloquium report. Geneva, 3–4 April 2003. Geneva: IBE UNESCO.
- Vedeld, P. (2004) 'The challenges of designing and implementing an interdisciplinary educational programme'. Centre for International Environment and Development Studies (Noragric), Agricultural University of Norway.
- Weiler, K. (1991) Freire and a feminist pedagogy of difference, *Harvard Educational Review*, **6**, pp. 449–74.
- Woolcock, M. (2002) Higher education, policy schools, and development studies: what should masters degree students be taught? Working Paper 2002-11 Cambridge: Von Hügel Institute.
- World Bank (2002) *Constructing Knowledge Societies: New Challenges for Tertiary Education*. Washington: World Bank.