

Vanessa Andreotti/Lynn Mario T. M. de Souza

# Global learning in the 'knowledge society'

## Four tools for discussion

*Zusammenfassung: Bezug nehmend auf eine immer komplexer werdende Weltgesellschaft und die Herausforderungen einer Entwicklung zur Wissensgesellschaft werden vier Tools vorgestellt, die den Dialog zwischen Pädagogen über Globalisierungsfragen und deren Implikationen für die Bildungsarbeit fördern sollen.*

*Abstract: With regard to the increasing complexity of the globalised world and the challenges of a 'knowledge society' the authors introduce four pedagogical tools which help to promote the dialogue between educators concerning issues related to education in 'globalising' contexts.*

The idea of a 'knowledge society' has become a key and contested term in debates about educational reform around the globe<sup>1</sup>. It is argued that the increased complexity, diversity and insecurity brought about by the amplified flow of people and information in a globalising world raise significant and specific issues for education<sup>2</sup>. Addressing global inequalities through educational change is also a prominent aspect of some of these discussions. This paper recognises the importance of raising these issues in the field of global learning/education and affirms the need to equip educators to engage, participate and find their own voices in these debates. With this intent, we present four pedagogical tools designed to promote dialogue amongst educators exploring some of the key ideas around issues related to education and globalisation in educational contexts. The concept of 'pedagogical tools' is used to talk about stimuli for reflection that are not presented as ultimate 'solutions'. These pedagogical tools were designed with the following aims:

- to enable educators to engage with a level of complexity in the debate where different perspectives are contemplated;
- to address the interface between mainstream and emergent thinking, making connections with pedagogical practices;
- to affirm their partial and limited nature (i.e. the fact that they are also presenting a 'perspective') and invite critical dialogue – encouraging educators to engage critically with the tool itself vis a vis their personal and professional contexts;
- to encourage educators to 'think otherwise' (beyond what is presented in the tool itself) and to find their own voices in the debate.

These tools have been used in educational contexts in the UK, Brazil, New Zealand and other countries to promote dialogue around the shifting role of education in technology and information rich 'globalising' contexts. These tools were first presented at a keynote address at the Global Education

Conference in October 2007 in Nuremberg. A discussion of the use of these tools in different contexts will be published in a subsequent paper.

### Pedagogical tool 1: Knowledge and the role of education

Many educationalists argue that one key characteristic of the knowledge society is a shift in the meaning of knowledge<sup>3</sup>, as Gilbert (2005) summarises, "[people] are using the word knowledge as a verb, not a noun, as a process rather than a product. Knowing, learning and doing things with knowledge are now more important than knowledge itself [...] Knowledge is something that is created not in individual people, but in the spaces between people. Its value is determined by what it can do in a particular context" (p. 76).

Echoing many other educational researchers<sup>4</sup>, Gilbert argues that these changes demand new models of thinking, learning and ability that will emphasise learner's capacity to negotiate change, to reflect on their own positionings, to learn and to know in all kinds of situations and with all kinds of people rather than the accumulation of specific bits of information. This shift in the meaning of knowledge comes with a shift in the understanding of other key concepts in education that reflect related changes in society. One way to conceptualise these changes is to talk about a Newtonian or modernist way of thinking or 'paradigm' (using the metaphor of the world as a mechanical clock) as a dominant way of thinking in education<sup>5</sup> and another way of thinking/paradigm based on complex systems (using the metaphor of the world as a living system with inter-related parts and processes).

In this pedagogical tool we propose a double analysis of the idea that the role of education is 'to equip learners to participate together in a global society' from these two perspectives. We suggest distinct interpretations for meanings of the words 'global society', 'participate' and 'equip', and invite educators to perform their own reflections (see figure 1).

This pedagogical tool suggests, a Newtonian way of thinking would imagine, a global society as structured, ordered and more or less stable. This society could be engineered as it would be comprehensible as a whole through the study of its parts and, therefore, predictable. From this perspective, a good and ideal society would be constructed by people who would have agreed on a universal interpretation of what is real

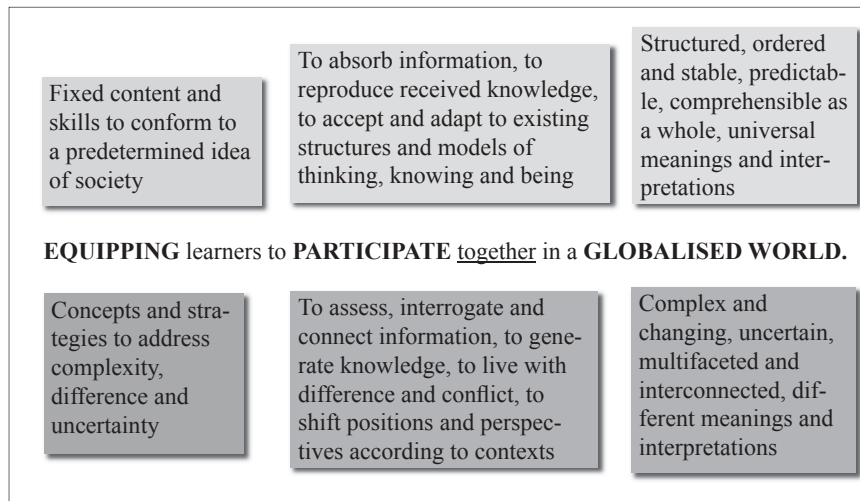


Figure 1: Equipping learners to participate together in a global society

and ideal and would have come to a consensus on a singular particular course of action – interpretations that did not match what was considered ‘universal’ would be deemed wrong or not fully ‘rational’ or ‘developed’.

A way of thinking based on complexity would imagine a global society as diverse, complex, multifaceted, inter-connected and in a constant process of transformation as its different parts interact with each other and change as a result of these interactions. This society would consist of inter-related and nested systems (systems within systems). Each of these systems would be interdependent and unable to survive in isolation. Thus, relationships and exchanges within and amongst systems would be the determining drives of change (as opposed to the planned engineering of the first perspective). This society would also be able to hold different meanings and interpretations without the need to impose a single unified way of thinking or doing things as diversity would be seen as central to survival and constant learning and transformation.

Participation, from the first perspective, would point to the absorption of sanctioned information, to the reproduction of sanctioned knowledge and to the individual’s acceptance and adaptation to existing authorised ways of thinking, knowing and being. Conflict and difference would be seen as problematic as they would deter or delay the realisation of the chosen ideals, therefore the focus, within this way of thinking, would rest on establishing (or enforcing) consensus. From the second perspective, participation would point to the assessment, interrogation and connection of different types of information in order to generate context specific useful knowledge. From this perspective, participation would involve living with difference and productive conflict and shifting positions and perspectives according to one’s contexts and learning journeys.

Equipping learners, from the first perspective, would involve the transmission of specific bodies of knowledge and the development of useful skills, so that the individual can contribute to the realisation of the specific societal vision. From the second perspective, equipping learners would entail different models of thinking, clusters of concepts and different strategies that individuals could deploy to establish relationships and to negotiate positionings in complex, changing and uncertain environments.

When using this tool, educators are invited to reflect critically on the implications of the two perspectives in their own professional and personal contexts. They are also invited to imagine more perspectives on the role of education presented (e.g. a marxist perspective, a local indigenous perspective etc.) and, last, to reflect on their understanding of the role of education in society, how this understanding was constructed, how it has changed over the years, its limitations and implications in terms of closing down or opening possibilities for learners and society in general and how this understanding relates to ideas of knowledge in a ‘global society’.

## Pedagogical tool 2: Different ideas of knowledge and education

Power relations are a crucial issue in educational contexts sparking debates about the role of schools and educators in shaping subordinate or liberated, active or passive, repressed or emancipated learners. One way to engage with this issue is to frame the debate around notions of conformity and what critical strands in education have come to label ‘liberation’. A strand in this debate talks about education for conformity as ‘banking education’ – an act of depositing sanctioned knowledge into learners’ minds, so that it could be regurgitated (or withdrawn) in tests or in life<sup>6</sup>. They argue that learners’ minds and actions are conditioned (or disciplined?) by this kind of education, which creates a ‘false consciousness’ in relation to their perception of reality (and of themselves as subordinate to the hegemonic forces in their contexts). In this view, people need to learn to liberate themselves from this false consciousness and process of subjugation by learning to think critically about a specific perspective (and be ‘enlightened’). The assumption is that once taught how to think critically (to perceive their own subordinate position), learners would be able to think and construct new identities independently of this system of oppression. Proponents of the ‘banking’ kind of education (although they do not call it ‘banking’) argue that learners need a strong foundation (in terms of content and morality) when young in order to become critical thinkers later in life.

This discussion becomes more complex when we add an epistemological dimension to this debate – one that presents different perspectives on the concept of knowledge. One perspective would imagine that reality can be known or grasped in an objective and unbiased way<sup>8</sup>: in other words, we would be able to construct a universal/enlightened interpretation of the world which would deem all other interpretations wrong (akin to the Newtonian perspective in tool 1). From this perspective, a body of knowledge would be universally applicable to any context and there would be only one possible right answer to any issue, for example, there would be only one right way to think about reality, a good society, metaphysics (or God),

how countries or people should develop, etc. (there can be a ‘true’ and objective consciousness). Another perspective would affirm that any understanding of reality is context dependent and based on concepts and ideas that are culturally, socially and historically specific<sup>9</sup>. Therefore, there are many ways to think about reality, a good society, metaphysics, how countries or people should develop – and each of these ways is always already biased, partial, limited and context/culture bound.

This pedagogical tool (see figure 2) suggests a matrix where the four ideas could be connected and examined together. In the first column, we have two ideas about education outlining two significant perspectives in the educational debate: education type 1 (‘think as I do and do as I say’) and education type 2 (‘think for yourself and choose responsibly what to do’). In the first row we have two ideas about knowledge: ‘there is only one answer’; and ‘there are multiple possibilities’.

If we combine education of the type ‘think as I do and do as I say’ with the first idea of knowledge (there is only one answer), we have educational approach A, which would be very similar to the concept of ‘banking education’. If we combine the same idea of education (think as I do and do as I say) with the second idea of knowledge (there are many possibilities), we have educational approach B, which can be illustrated in forms of education that support identity struggles or cultural revival in contexts where racism or cultural repression are contested. These identity struggles may convey the message: ‘there is the mainstream (usually ‘Western’ or ‘White’) way of thinking and doing things and there is our way (which is non-Western or ‘Black’) – if you are part of our group you should think and do things our way’.

If we combine education of the type ‘think for yourself and choose responsibly what to do’ with the first idea of knowledge (there is only one answer), we have educational approach C. An illustration of this educational approach is education founded on the belief that, if everyone thought reasonably (or critically), everyone would arrive at the same conclusion as there is only one objective, rational and logical way of thinking about the world (the other ways can be proved ‘wrong’). The message in this case could be: (at best) critical thinking will lead us to the only right answer or (at worst) think for yourself as long as you agree with me.

If we combine the type of education ‘think for yourself and choose responsibly what to do’ with the second idea of knowledge (there are many possibilities), we have educational approach D, which opens possibilities of critical engagement with different (and partial) ways of thinking and doing things and puts the responsibility of the decision in terms of what is right in what context back to the learners themselves. However, it is important to point out, in relation to this approach that there are different ways to conceptualise the idea of multiple possibilities. Here it is useful to make a distinction between ‘there are many answers and they are all right and complete in themselves’ (absolute relativism) and ‘each answer is partial, context bound and has implications and limitations’.

When using this tool, educators are invited to reflect critically on the limitations of each educational approach (e.g. subordination in relation to A, identity closure in relation to B, manipulation in relation to C and ‘lack of grounding’ in relation to D). Educators are also invited to think about contexts

in which each educational approach could be justified (e.g. A could be better than D when training in resuscitation is the case). They are also invited to imagine the differences in terms of methodology and design of learning activities in relation to the four approaches and the implications of eliminating D from the repertoire of possibilities. Last, they are invited to reflect on the least and most dominant approaches in their own learning journeys, how this may have affected their identities as educators, the possibilities that were opened or closed for them as a result of that and, based on this analysis, imagine how things could be different for their students and what (if anything) would be necessary in their own professional development to support them in doing what they want to do.

### Educational tool 3: Key distinctions

The label ‘progressive’ generally appears in educational contexts when orthodoxies are interrogated. In this sense, it points to emergent thinking in relation to specific dimensions of debates located in specific social, cultural and historical contexts. If we forget the debate within which ‘progressive educations’ are embedded, we run the risk of losing perspective of what is at stake and what is being interrogated – as different types

	One Right Answer	Multiple Possibilities
Education 1 Think as I do and do as I say.	A	B
Education 2 Think for yourself and choose responsibly what to do.	C	D

Figure 2: Matrix of ideas of Knowledge and Education

of ‘progressive education’ might propose completely different things. This forgetting of the wider social ‘conversations’ (or the contexts where different approaches emerged) has led many well meaning initiatives, especially in the area of social justice, to embark on crusades of conversion where the most important thing is to increase numbers behind a cause. When this happens, the ethics in the relationship with the learner disappears or becomes secondary to ‘the cause’.

In response to this perception, the third pedagogical tool (see figure 3) offers a stimulus for discussion that presents a distinction between three different concepts: campaigning, awareness raising and education. Educators are invited to discuss in small groups their own understandings of the distinctions (if any) of these three concepts. Subsequently, they are presented with the following case study offering a definition of each area emerging in a discussion with a group of educators in a fair trade organisation in New Zealand where, previously, the three areas have been combined as one.

In this discussion, the distinctions emerged as follows: campaigning was conceptualised as convincing someone to do something. It would imply an element of certainty or single mindedness and the acceptance of the risks involved in terms of the negative impact your idea might have. In the context of the fair trade organisation, campaigning was done and



1. Campaigning <b>Convincing someone to do something</b>
2. Awareness raising <b>Presenting a (partial) perspective</b>
3. Education <b>Equipping people to participate in the debate</b>

Figure 3: key distinctions

justified in the context of their advocacy work when lobbying the New Zealand government for changes in terms of unfair international trade rules.

Awareness raising was conceptualised as the presentation of relevant information from a partial perspective. In the context of the fair trade organisation, this is illustrated by a marketing strategy that would explain how this specific organisation understands the issue of poverty and its connection to unfair trade, and what the organisation is doing to address the issue from the constraints of where they operate. The difference, in contrast to dominant market strategies, is that they would not say that their strategies would solve all problems and eradicate all poverty in the world – on the contrary, they would acknowledge the complexity of the problem (that also affects what they do) and that different initiatives would have different understandings of the issue and consequently propose different solutions. In this sense, the organisation would be presented as an open, transparent, accountable and learning organisation, doing something that is limited, but also extremely worthwhile. If implemented, this marketing strategy would invite people to join the organisations' efforts without appealing to strategies of demoralisation or individual guilt (which are common strategies in this area).

Lastly, education was conceptualised as 'equipping people to participate in the debate about fairness and trade'. This understanding would require that 'learning to engage, ask questions and think for yourself' become the aim of learning activities in educational contexts. These activities would expose learners to different perspectives and invite them to engage with the possibilities and limitations in each of them in order to promote more 'accountable reasoning'. For the fair trade organisation, this is justified in a context where there has been an increase in fair trade initiatives around the world and the availability of fair trade products in the supermarkets. However, not all fair trade initiatives understand 'fairness' and 'trade' (or the nature of the issues involved) in the same ways. By conceptualising education in this way, the long term ideal would be to contribute to the formation of ethical consumers who could engage critically both with the mainstream (i.e. unfair trade ideas) and with different alternatives. This could also be justified, from the organisations' perspective, as the opening of a space for dialogue for employees and engaged supporters to discuss the complexities of the activities they are involved with, which includes, for instance, ideas about environmental sustainability which suggest that instead of promoting an increase of consumption of non-essential overseas fair trade products, the

organisation should promote reduced consumption of non-essential products (in order to address consumerism) and promote local consumption of essentials to reduce the carbon footprint involved in the transportation of overseas goods<sup>10</sup>.

When using these tools, educators are also invited to reflect on the relevance and limitations of these distinctions within their own contexts and on the implications of seeing the three areas as the same thing.

## Educational tool 4: Ideas of education and society

Quinlivan et al. (2007) based on McGee (1997) has proposed the analysis of six curriculum discourses in order to identify their impact on content selection and on different configurations of power and relationships within classroom contexts. Building on her work and the work of Gilbert (2005), the fourth educational tool (see figure 4 for a summarised version of three strands) presents seven strands of ideas about society and education as a stimulus for discussion around educational approaches and ideals. The description of strands focuses on different ideas of society, roles of education, knowledges worth knowing, roles of teachers and learners, types of activities emphasised and educational 'mantras' common in each of the seven strands. The strands are presented as dynamic ideas which have, in many cases, emerged or changed in response to each other.

This tool suggests that the strand 'economic focus' sees society as best represented by the economic market itself. Thus, a central assumption within this strand is that self-interest and competition lead to the collective good. Thus, in order to achieve an ideal society, individuals and organisations (as economic units) should strive to grow economically to accumulate wealth and status in competition with others. The role of education, within this strand, is solely to prepare individuals to contribute to a country's economy. The knowledge worth knowing is directly connected to what is valued in the market, but entrepreneurship, leadership and creativity (in terms of innovation and the ability to find market niches) are seen as essential skills. Success is measured by the ability to generate income. The role of the teacher is to provide a service that enables learners to achieve individual economic success. Learners are conceived as individual consumers of this service. The activities, within this strand, would emphasise competition, ranking and sorting of 'winners and losers'. The mantra of this strand can be summarised in the phrase 'celebrate achievement'.

The strand 'technical focus' sees society as an engineered machine. In this metaphor, the role of education is to mould each cog to perform effectively so that the machine can function properly. The idea of the machine evokes the image of schools as factories with lines of production and students as 'goods'. Hence, the knowledge worth knowing is technical, compartmentalised and mechanistic – each discipline, module, lesson and learning input has clear and well defined boundaries and outcomes. There is a focus on standardisation and conformity to externally defined evaluation criteria. The learning process is seen as linear and cumulative and categorised into developmental stages.

The teacher is the factory worker, an expert deliverer and quality assessor of packages of information and skills that are useful for the professional lives of the students. The students are pieces of metal to be moulded according to their function in society (professions). The activities in this strand would emphasise outcomes, memorisation and effectiveness in applying pre-defined packages of knowledge. The mantra of this strand can be summarised as ‘efficiency’.

The strand ‘western heritage focus’ sees Western standards of cultural (scientific, artistic, intellectual and technological) achievement as the measure of how successful societies are in terms of progress and civility. The role of education is to (re)produce societies according to Western standards, “advocating the superiority of Western Culture and marginalising the knowledge of other cultures” (Quinlivan 2007, p. 14). In this strand, Western knowledge is the knowledge of most worth, therefore, what will prevail in the curriculum is the ‘canon’ of what is considered the ‘best’ literature, the most proper grammar and the Western perspective on history, science and the humanities. The teacher is a junior professor – a role model who keeps, transmits and measures the retention of worthy knowledge, which should be contained by the vessels (or students). The activities of this strand will emphasise academic achievement, high standards of literacy and numeracy, the memorisation of ‘facts’, historical ‘achievements’, patriotism and rewards for compliance. The mantra of this strand can be summarised as ‘be proud of our past’.

The strand ‘cognitive focus’ sees society as a learning collective of individuals where the purpose is to keep learning for individual gain. This strand sees the role of education as improving learning per se, which is conceptualised as an individual and solely cognitive activity. The knowledge worth knowing is meta-cognitive knowledge: learning to learn, to know and to solve problems. The role of the teacher is to facilitate learning – to design activities that expand the mental maps of the students according to the students’ own interests and drives to learn. This strand would emphasise open enquiry, problem solving and individualised learning. The mantra of this strand can be summarised as ‘choose what, where, when and how to learn’.

The strand ‘humanist focus’, sees society as a community of equal autonomous individuals with similar needs. Within this strand, an ideal society is attained when conflict is eliminated and harmony and consensus achieved through democratic

	<b>Humanist focus</b>	<b>Social Reconstruction focus</b>	<b>Difference Focus</b>
<b>Sees society as</b>	A community of <b>EQUAL INDIVIDUALS</b> with the same needs (the purpose is to end conflict)	A <b>DIVERSE</b> community of <b>GROUPS</b> with different needs (the purpose is to achieve justice and equity)	A diverse and complex <b>WEB of RELATIONS</b> where each contribution is unique, insufficient and indispensable (the purpose is to create new ways of being, seeing, knowing and relating)
<b>Role of education</b>	Promote <b>CONSENSUS</b> , equality and rationality	To <b>REDRESS INEQUALITIES</b> in society	To create dispositions towards <b>DIALOGUE</b> , ethical relationships, systems thinking and critical engagement
<b>Knowledge worth knowing</b>	What is considered <b>RATIONAL</b> according to <b>UNIVERSAL REASON</b>	Different <b>GROUP</b> perspectives Skills to question dominant power and knowledge in order to arrive at a ‘true’ conclusion	<b>MULTIPLE</b> ways of understanding the world How discourses work
<b>Mantra</b>	<b>EQUALITY</b> in <b>COMMONALITIES</b>	<b>INCLUSION</b>	Thinking <b>OTHERWISE</b> going beyond limitations

**Critical thinking as arriving at ‘right’ conclusion**

**Critical thinking as questioning mainstream**

**Critical thinking as exploring origins and implications of ideas**

Figure 4: Ideas of education and society

life and rational debate. Hence, the role of education is to promote consensus, equality and rationality at a collective level and self-fulfilment and personal development at the level of the individual. The knowledge worth knowing, from this perspective, is that which is considered objective, rational or ‘reasonable’ (based on the premise that there is one way of thinking rationally and that the parameters for ‘reason’ are universal). The role of the teacher is to facilitate the development of a fully functioning individual in a democratic society, to emphasise commonalities over differences and to promote harmony, agreement and consensus. As this approach is learner-centred, learners are seen as involved participants who co-construct their learning with the scaffolding of the teacher. Activities emphasised within this strand are enquiry, democratic practices, relationship building and cooperative/collaborative work.

The strand ‘social reconstruction focus’ sees society as a diverse community of groups with different needs. This strand acknowledges social and historical exploitation and inequalities resulting from the imposition of certain knowledges and identities over others (through colonialism, sexism, slavery etc.). The role of education, in this case, is to reform society in order to eliminate inequalities between social groups. The knowledge worth knowing is the critique of the processes, knowledge and power relations that have led to the current unequal context. There is also an attempt to recuperate the perspectives (or voices) of marginalised groups and to include and privilege them in the curriculum. The role of the teacher is to facilitate the inclusion of learners coming from marginalised groups, to challenge mainstream knowledge and to serve as a model of critical reflection for learners. This strand would emphasise critical enquiry (interrogating mainstream), the celebration of different (marginalised) cultures and empathy with perspec-

tives of oppressed peoples in order to redress injustices and inequalities in the classroom. The mantra of this strand can be summarised as 'inclusion'.

The strand 'difference focus' sees society as a diverse and complex web of relations where everyone brings a unique partial/insufficient and indispensable contribution to the whole. The purpose of society is to find ways of connecting 'in difference', co-constructing the world and creating new ways of being, seeing, knowing and relating together. The role of education, in this strand, is to create predispositions towards dialogue, ethical relationships and accountable reasoning which engage with complexity and multiple perspectives. This kind of education should enable learners to generate new knowledge and ways of thinking that will address complex contemporary problems relying on and connecting to, but also going beyond, existing knowledge systems. The knowledge worth knowing is a different approach to knowledge itself, which relates to an awareness of how knowledge is constructed within different contexts and systems, of how it affects other systems and contexts and how concepts and ways of thinking can be negotiated to address contemporary problems. In this strand, teachers are systems-level, cross-disciplinary thinkers, life long learners, problem posers and facilitators of dialogue and collaborative research. Learners are socially responsible and responsive local-knowledge generators. Activities emphasised within this strand would challenge and expand the mental map of learners, expose them to different modes of thinking, nudge their processing of information, develop multiple literacies and attend to the impact and responsibility involved in their participation in the world. The mantra for this strand can be summarised as 'thinking otherwise'.

This pedagogical tool also suggests that critical thinking is highlighted in the four last strands, but conceptualised in different ways as: problem solving (cognitive focus); arriving at the right conclusion or spotting wrong or 'biased' information (humanist focus); questioning mainstream knowledge and power (social reconstruction focus) or context bound critical engagement with different epistemologies or 'discourse literacy' (difference focus). When using this tool, educators are encouraged to explore, compare and contrast the implications of different aspects of the table and to compare the different strands to the ideas in the other pedagogical tools. They are also invited to engage critically with the presentation of each strand (which generalises and oversimplifies much more complex ideas and presents only a partial map of the debate), to imagine other strands they have come across and to construct their own tables. As a final reflective exercise, educators are invited to identify some of the influences in their own learning journey, the significance and weight of each strand in the educational policies and intended and operational curriculum in their own contexts and the possibilities and challenges for negotiation of a different curriculum in their professional environments.

## Conclusion

In this paper, we have presented four pedagogical tools related to debates on the notion of the 'knowledge society' that, from our perspective, are also central to global learning.

Our aim in designing and deploying these tools was to relate emerging thinking in terms of ideas of globalisation, diversity, society, knowledge and education to educational practices and to support educators in their engagement with complex concepts and issues – something that we perceive as marginalised in present day mainstream teacher education. We have also tried to illustrate pedagogical strategies for engaging with information that could open possibilities for classroom practices that would address complexity, transform perceptions and relationships, privilege engagement with and valuing of difference, develop independent and accountable reasoning and attend to the social impact of human interactions and interventions in their local/global contexts.

## Notes

1 See, for example, the UNESCO world report: Towards Knowledge Societies available at <http://unesdoc.unesco.org/images/0014/001418/141843e.pdf>, last accessed 2/1/2008; the OECD publication: Knowledge Management in the Learning Society (2000) and the UK Government Strategy Paper 'Putting the World into world Class Education' available at <http://www.globalgateway.org/default.aspx?page=1167> last accessed on 2/1/2008.

2 See, for example, Delanty (2001), Hargreaves (2003) and Gilbert (2005).

3 A similar argument is used in areas/initiatives such as the New Basics, New Futures, Multi-modalities/multi-literacies, Systems Thinking, Postmodern Education and Complexity theory in education.

4 See, for example, Gee (2003), Usher & Edwards (1994) and Lankshear, and Knobel (2003), Delanty (2001).

5 Usher and Edwards (1994), Gee (2003) and Gilbert (2005) frame similar debates around ideas of schools based on the industrial revolution versus postmodernity.

6 This concept was first developed in Paulo Freire's 'Pedagogy of the oppressed' (1970).

7 There are different strands within this strand and the terms used will point to different schools of thought, for example the term 'discipline' points to a post-structuralist reading whereas the term 'false consciousness' points to a Marxist reading.

8 This perspective is aligned with positivism.

9 This perspective is aligned with post-structuralism.

10 A more detailed account of this case study will be published in a forthcoming paper.

## References

- Delanty, G. (2001):** Challenging Knowledge: the University in the Knowledge Society. Buckingham: Open University Press.
- Freire, P. (2008):** Pedagogy of the Oppressed. New York: Herder and Herder.
- Gee, P. (2003):** What Video Games have to Teach us about Learning and Literacy? New York: Palgrave Macmillan.
- Gilbert, J. (2005):** Catching the Knowledge Wave?: The Knowledge Society and the future of education. NZCER.
- Hargreaves, A. (2003):** Teaching in the Knowledge Society. New York: Teachers College Press.
- Lankshear, C./Knobel, M. (2003):** New Literacies: Changing Knowledge and Classroom Learning. Buckingham: Open University Press.
- McGee, C. (1997):** Teachers and Curriculum decision Making. Wellington: Dunmore Press.
- Quinlivan, K. (2007):** Issues in Curriculum. Christchurch: University of Canterbury.
- Edwards, R./Usher, R. (1994):** Postmodernity and Education. London: Routledge.

Dr. Vanessa de Oliveira Andreotti is senior lecturer at the University of Canterbury in NZ and a research fellow at CSSGJ and DERN, University of Ireland (Galway). She is the coordinator of the OSDE initiative.

Lynn Mario T. M. de Souza is associate professor at the University of Sao Paulo. He works interdisciplinarily with semiotics, linguistics, post-colonial studies, curriculum change and indigenous education internationally. Lynn is the editor of the journal Critical Literacy: theories and practices.