

TLRI Position paper in progress:

The knowledge society debate: cognitive adaptation versus epistemological pluralism

By Dr Vanessa Andreotti
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This research project was conceptualised within the debate around the new curriculum and the perceived demand that teachers who are used to 20th century thinking will need to shift the ways they understand knowledge and learning in order to meet the needs of 21st century learners.

In this paper I offer a situated comparison of two different perspectives that agree on the need for shifting conceptualisations of knowledge and learning in education: one concerned with cognitive adaptation and another with epistemological pluralism. Both perspectives align in their conceptualisation of knowledge, learning, reality and identities as socially constructed, fluid, open to negotiation and always provisional and in the call for epistemological shifts away from universalism. However, they are motivated by different conceptualisations of social problems and envisaged solutions. In the second part of the paper, I discuss some of the tensions created in working towards epistemological shifts and I present an example of a model of thinking about a pedagogical process based on the idea of epistemological pluralism.

Cognitive adaptation

The need for cognitive adaptation is based on the understanding that teachers need to adjust their thinking and practices to a new social reality dictated by new economic and technological demands. This perspective generally draws from a specific interpretation of postmodernism to frame an idea of reality and time that follows a telos or a progressive order: starting from pre-modern times, followed by modern and post-modern times respectively. 20th century thinking is thus interpreted as a period of grand totalising explanations of the world (or meta-narratives, such as those related to development and modernisation) and fixity, where knowledge, identity and culture were understood as 'nouns' or 'things' and where learning was conceptualised as the accumulation of fixed building blocks of knowledge. In contrast, the 21st century is a post-modern period – the post, in this sense, means 'after' modernity. Thus, post-modernity is interpreted as a time of constant change, fluidity and uncertainty, which renders meta-narratives obsolete. Within this context, knowledge, identity and culture start to be thought of as verbs and learning is associated with the generation of partial and contingent knowledge – not to be stored or accumulated – but to be replaced once the context changes.

The need for change in education is justified with three different arguments that are usually combined. First, as the economy shifts from industrialism and scale into service and scope, the need for innovation increases and the value placed on human capital shifts from industrial skills to creativity, entrepreneurship and exploration of new markets, new consumer identities, new fashion trends in what has come to be known as 'knowledge societies'. Therefore, education is called to change accordingly: to produce a workforce that is capable of operating under the new circumstances. In rapidly changing contexts, the new demands require a prioritisation of the development of learners' ability: to generate new knowledge (and not just repeat it); to work in multicultural teams (and capitalise on different ideas and creativity); and to negotiate their way within different contexts (to 'play' different

language and identity games). In pedagogical terms, these new priorities translate into the notion of learning to learn, of individualised learning and of life-long learning.

The second argument is that there is a mismatch between 20th century teaching and the needs of 21st century learners foregrounded by access to digital technology. 20th century teachers who were introduced to technology at a later stage in life are believed to have lost touch with the cognitive and relational processes that characterise the generations whose main form of learning is technological and whose identities are shaped by digital connectivity. From this perspective, digitally mediated modes of learning, communication and access to information create different ways of knowing and being that enable children to become better equipped to deal with fast-paced change, multiplicity, complexity and uncertainty than their teachers. Within this logic, the claim is that if teachers cannot understand these new ways of knowing, thinking and relating, they will be poorly equipped to connect to the students and to create learning opportunities that will be attractive or appropriate to expand their horizons and challenge their views – or to develop their ability to operate in the market knowledge economy. This in turn leads to learner disaffection and ‘boredom’ at school.

The third argument associated with this logic is based on equity and redistribution: if the 20th century thinking created hegemonic systems and inequalities in the distribution of wealth and labour, 21st century thinking should offer an opportunity for those who have been excluded or marginalised in the 20th century, to become new knowers and be included (economically and civically) in 21st century societies provided they are equipped with the right tools and agree or aspire to be part of these societies.

This perspective is not concerned with fundamentally changing the system – it challenges modernity’s notion of progress to re-inscribe it later in post-modernist terms. The second perspective calls for deeper changes making use of similar means in terms of the re-conceptualisation of knowledge and learning, however it is based on very different assumptions of why this needs to be done.

Epistemological pluralism

The need for the pluralisation of knowledge is based on the understanding that the current system is inherently violent in its epistemic practices and unsustainable both in terms of exploitation of natural resources and human labour and in terms of how relationships are constructed around use value. From this perspective the local and global problems societies face today are complex, interdependent and reflect the effects and failure of the Enlightenment ideals which have been violently imposed and universalised through colonialism and market globalisation. This coercive process creates a specific social and economic order that distributes power and resources according to criteria that privilege a small minority at the expense and through the exploitation of a majority. Through education and social relationships, the minority and majority are socialised into thinking that the order is normal and natural and that there is no alternative.

Therefore what is presented as the 21st century system (interpreted within this logic as a ‘neoliberal’ order) is a more complex continuation of the 20th century ways of seeing and, as long as it remains within the same logic, it will reproduce the same ways of knowing, thinking and relating that created the problems it is trying to solve. Therefore, the proposed way forward, is to decolonise the imagination and to pluralise the possibilities for the future by pluralising knowledge in the present in order to enable dialogue, relationships of solidarity and ideally, the collective creation

of non-hegemonic systems. This perspective, drawing from post-structuralist, indigenous and postcolonial theories interrogates the privileging of knowledges and the telos and notions of progress and linear time of 'modernity - the very idea of 20th/21st centuries as universal facts is questioned. This perspective proposes critical engagement with the system from within through an 'ethical engagement with difference' and the pluralisation of epistemological frameworks as means to yet-to-be-collectively-negotiated ends.

In this view, change in education is also based on three arguments. First, there is an urgent need for teachers to resist instrumentalist thinking and to reclaim the autonomy of the profession in shaping change in society – and not just adapting to change. Education is compulsory 'subjectivity making' and the question of whether it will reproduce or transform society relies, at the end of the day, on the capacity of teachers to negotiate their work and priorities in each school and in each classroom. Their ethical/political choices in terms of the role of education (and what to do when they close their classroom doors) will reflect more their assumptions of the needs of society, communities and learners than the ideological and practical constraints of the school. Therefore, clarifying these lenses/assumptions is an important starting point.

Second, the exposure to technological learning creates different learner profiles, ways of learning, possibilities for communication and expectations in schools. Although technology, as a tool, provides exciting opportunities for transformation, it has also become the main vehicle for dissemination of the 21st century economic order and the construction of consumer identities. Educators, then, are faced with very challenging demands in terms of the new profile of learners who get bored very easily, who see themselves as customers (and teachers as service providers) and who demand that learning be intensely fun, easy and optional. They are also more proficient than their teachers in multi-tasking and surviving within (and manipulating) complexity and change according to the interests generally defined by the market logic (i.e. popularity, status, power). It can be argued that the creation of separatist and competitive relationships (shaped by this market logic), coupled with the adults' lack of skills in engaging in renegotiations and offering alternatives, contributes to the loss of perspective and disaffection that many young people experience and that can lead to the conclusion that it is better to shut oneself down than to continue living. Therefore, there is indeed a need for teachers to reclaim their role as cultural brokers by 'raising their game': increasing their awareness and capacity to analyse and see the world from different perspectives, learning to listen and to negotiate in diverse and complex environments and connecting to the worlds of their students in order to challenge and expand their boundaries, so that they can learn to unlearn, to see different choices and possibilities and to imagine and to think 'otherwise'.

Third, the 'what' to think otherwise cannot be imposed by the teacher. Different from universalising pedagogies promoting radical transformation in one single direction, the aspiration here is for an 'uncoersive re-arrangement of desires' (Spivak 2004). If the pedagogical project is to decolonise and pluralise ways of knowing, the role of the teacher is not to define what needs to replace the old system (or impose her own epistemology onto the learners), but to keep possibilities open and equip their learners to engage critically with each possibility, to listen and to negotiate ethically with others and to analyse and take responsibility for the implications of their choices. This requires an understanding of knowledge and identities as verbs created in context, in transient and changing learning communities. The difference between this understanding and the fluid self-interested individualism of consumer identities is that the identified common problem is survival 'in difference' *and* together – a relationship based on solidarity that renders the other equal when there is a claim to superiority at

the same time that it renders her 'different' when sameness threatens her unique identity (Santos 2007). This ethics commands mutual respect for each others' right to signify (i.e. make meaning about the world) and collaborations based on context bound and provisional knowledge-verbs.

Within this second perspective, the post- in post-structuralism and post-colonialism indicates 'questioning' rather than 'after'. This questioning creates new possibilities for relationships and for an ethics that brings more people to the table to define how we are going to live together. It does not define what comes next: this is supposed to be negotiated and re-negotiated in context through relationships of solidarity (once significant discrepancies in power relations are levelled).

This perspective may be seen as idealistic and unrealistic as it assumes this ethics is possible. Another possible critique is that all the conversations could be a waste of time if, at the end of the day, everyone reached the conclusion that there was no alternative to the market-economy defended in the first perspective: that education should first and foremost prepare individuals for the job market. Epistemological pluralism assumes that there will be multiple possibilities for conceptualising society once power relationships are re-negotiated and that critical dialogue will lead to better conceptualisations. However, it does not exclude preparation for the job market as it promotes change through dialogue, in context and from within (as opposed to confrontational oppositional revolutions). Therefore, being able to operate effectively in different worlds, includes the current world of work – and others!

Crafting epistemological shifts without manipulating directions

The idea of shifting conceptualisations of knowledge and learning in teacher education begs the questions: who should decide the direction of the shifts? In whose name? And for whose benefit? In the context of a new curriculum informed by the perspective concerned with cognitive adaptation, educational change would be directed by government political and economic agendas. Thus, the implementation challenge would be to get teachers to understand what teaching in the 21st century means according to the government's interpretation of it, what should be prioritised, what it looks like in practice, and how they can operate in that way.

From the perspective concerned with epistemological pluralism, the challenge would be equip educators to make their own informed decisions in relation to the contributions they can make in their contexts in dialogue with colleagues, learners, parents and the wider society (who will have competing perspectives). This would involve supporting educators to recognise their own lenses and the implications of wearing them, to understand and see from different lenses, to let go of the need for finding 'the right lens' and to be able to negotiate and use different lenses in different contexts in ways that are ethical and responsible. From this perspective, teachers' autonomy would be based on their response-ability: their capacity to analyse their contexts and options for intervention, to engage critically with different perspectives and possibilities, to engage in dialogue and negotiate meaning in ethical ways and to justify their decisions in accountable ways.

The literature on epistemological shifts in education is not very extensive and generally still confined within theoretical silos concerned with specific angles of the debate, e.g. gender, sexuality, multiculturalism, anti-racism, sustainability, etc. Much still needs to be done in translating theory into pedagogical praxis that can be available to a wider group of people within the mainstream.

One of the theoretical strands that operate in this area focuses on the use of 'deconstruction' in education. Gilbert (2005) uses deconstruction as a tool for unpacking industrial and post-industrial thinking in her book on education and knowledge societies. Spivak's (2004) conceptualises deconstruction as a mode of critique that points out that in any construction of an argument certain (ontological and epistemological) choices are made and 'forgotten', becoming part of implied premises that sustain the argument. Deconstruction is a strategy that enables the remembrance of these forgotten choices, the interrogation of their validity and the opening up to other possibilities of understanding and negotiations as it unsettles dominant discourses from 'within', creating constructive questions and corrective doubts towards better practice and ongoing (never ending) dialogue (Spivak, 1994). Spivak frames this kind of education 'to come' as an "uncoersive rearrangement of desires" (p.526) prompted by a process of unlearning, learning to learn from below, and learning to work without guarantees.

A situated example

One situated example of a project using deconstruction as a tool to support epistemological pluralism while promoting a discussion of the new NZC was the project Thinking Together funded by NZCER. This project used a set of pedagogical tools (PDS) (Andreotti and Souza 2008) to prompt discussions around issues related to education in the 21st century and the new NZC. The resources were designed with the following pedagogical aims:

- to enable educators to engage with a level of complexity in the debate around the 'postpositivist turn' in education where different perspectives can be contemplated
- to address the interface between mainstream and emergent thinking in education, making connections with pedagogical practices
- to affirm their partial and limited nature (i.e. the fact that the tools themselves are also presenting a 'perspective') and to 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' (to find their own voices and positions within the debates) (Andreotti & Souza, 2008).

The theoretical framework which informed the design and learning process of the PDS was based on poststructuralist and postcolonial theories and responded to emergent issues in interdisciplinary discussions around globalisation, power, identity and alterity. The pedagogical process focused on issues of alterity, relationality and response-ability (see Derrida, 2001; Said, 1993; Falzon, 1998; Levinas, 1998), the pluralisation of epistemologies (see Santos, 2007; Nandy, 2000; Ziarek, 2001; Bhabha, 1994) and critical/self-reflexive and affective capacity building (see Britzman, 2006; Spivak, 1999; Benhabib, 2002).

The PDS was developed to prompt a deconstruction of universalising notions of reality and knowledge, which can also be related to '20th century thinking' in education. It aimed to create opportunities for learners to experience thinking and relating to others differently within a space of complexity, uncertainty, contingency and difference. The PDS provided a safe space and stimulus for learners to engage in controlled situations where they were invited and encouraged to compare the construction and implications of different epistemologies (including their own epistemic choices), to find blind spots and contradictions and to learn to listen and to 're-signify' with others in non-coersive ways (not aiming towards consensus).

The analysis of the preliminary data in the thinking together project led to the development of a draft model that maps the ontological/epistemological spaces participants seemed to pass or to settle in in their learning journeys. Based on the theoretical discussions related to postcolonial/poststructuralist theories and the preliminary empirical evidence in the responses of project participants, the model maps the learning process from a space of security in universal certainties to a space where participants feel comfortable with complexity, uncertainty, contingency and difference; and are willing to negotiate meaning 'in context' in dialogue with others.

The model also mapped enabling and disabling responses in relation to the openness of participants to the learning process itself. The first draft of the model, developed by Andreotti and Bull (2008) is reproduced below with theoretical notes

	Being able to analyse contexts at a deeper level and to create provisional meaning with others as you go along [7]	If every context is different, my confidence comes from my understanding that I will need to be open to listen, negotiate, and learn with others and to justify what I do as I move through different contexts	Just tell me what I need to do differently and I will show you that I am already doing that.
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Source: Andreotti & Bull (2008)

Theoretical notes:

[Space 1] Certainty/one lens

The central argument within poststructuralism and postcolonial theory in relation to universalism is that the basic (ontological and epistemological) tenets of the Enlightenment project (i.e. Cartesian subject, Western humanism, protestant work ethics, notions of linear time and civilisation/primitivism/progress etc) were largely adopted by European peoples and violently imposed onto ‘Other’ peoples (both European and non-European) through different forms of colonialism with a high degree of success (through mechanisms of control, subjugation and exploitation). This successful project shaped and became associated with modernity and its institutions which helped to foreclose the violences and histories of the process itself and made the Enlightenment tenets look as if they were a result of natural (human) evolution. The way of knowing (or epistemology) constructed in this process frames knowledge as an accumulation of facts and reproduces aspirations for the certainties of a completely known, coherent and (scientifically/technologically) engineered metropolitan world (ie the enlightenment project). Following Kantian’s notion of a cosmopolitan man, this world would be collectively agreed upon by ‘educated’ people who can use universal reason to see things correctly and objectively (without the bias of any cultural constructions) and agree to live a moral life within this framework. The combination of this notion of knowledge, the aspiration for progress, certainty and coherence, and the embodiment of a self-defining, all knowing subjectivity creates the conditions for the first space of the model. Within this space, learners will tend to project their ‘local’ (and culturally bound) assumptions about reality and knowledge as natural and universal and accept their cumulative experiences and ‘factual knowledge’ bank as the basis and measure of their own worth (and the worth of others) within communities. The validation of their being and the conditions for their safety within this space rely on the recognition of the validity of their own experiences – that is why the pedagogical process starts with the creation of a ‘safe space’⁵.

[Space 2] Recognising contradictions in own thinking

⁵ The principles for the creation of open spaces of the OSDE project was used in the Thinking Together Project. These principles propose that, within the pedagogical space, all participants should adopt 3 premises. First, that all participants bring valid knowledge to the space and that this knowledge is constructed in their contexts. Second, that this knowledge is also partial and incomplete. If knowledge is socially constructed, participants lack the knowledge constructed in contexts that are not their own and therefore should listen with respect in order to find out what informs each others’ perspectives. Third, the space itself is characterised by inquiry and critical engagement, not consensus. Therefore the idea is to always try to unpack interpretations and to look at things from different perspectives: to learn to relate and explore together without having to agree. The OSDE methodology is available at: www.osdemethodology.org.uk

Deconstruction relies on the identification of 'aporias' (ie. logical contradictions or blind spots) within texts. In this learning process, the 'text' was the logic of the perspectives presented to the learners through the PDS and the narratives of the learners themselves. By engaging with the comparison of the different logics presented in the pedagogical tools, within this space, learners will tend to realise that there are assumptions in their own systems of thought that they had not thought about before or that do not have any basis. This is usually a space of enormous discomfort where the certainties that provide a 'floor' (or substance) for one's identity starts to collapse.

[Space 3] Recognising own lenses (underlying assumptions and their origins)

At this stage of the learning process, learners will have practiced the use of deconstruction in relation to different discourses (including their own discourses), modelled in questions related to power/language/knowledge such as: where does this come from? Where does this lead to? And who decides? In whose name? For whose benefit? In this space, learners tend to de-naturalise the universalisation of perspectives and realise the social and historical construction of their own discourses and subjectivities.

[Space 4] Recognising multiple perspectives and underlying assumptions behind them

Once learners realise and recognise their own situatedness, there is an excitement in the search for other and new or formerly unacknowledged possibilities. However, this search still tends to be informed by the aspiration of new certainties found in either: an alternative epistemology (which is complete in itself and universalised); or in the unproblematic merging of the 'good parts' of different epistemologies into one totalising whole. In other words: the excitement of the discovery of other ways of thinking, knowing, seeing and being is tinted by the often unacknowledged hope for the discovery of a stable (non-provisional) 'right one'.

[Space 5] Recognising that each context will require a different answer and grappling with 'what is right'

At this stage of the learning process, the search for certainties is frustrated by the realisation that what works in one context might not work in another as the knowledge and aspirations of different communities will have been constructed by different configurations of knowledges, discourses and power, attending to different contextual priorities. This is the space where learners experience the feeling of loss once the search for absolute answers (which characterised the project of knowledge construction in the 20th century) becomes irrelevant. The temporary, but frustrating paralysis that follows can be interpreted as an effect of this dominant conceptualisation of learning (i.e. the discovery of right answers that can hold true across contexts and that is rewarded by certainty and universal value).

[Space 6] Becoming comfortable with complexity, conflict and the idea that what is right is dependent on the context (and will change as the context changes)

Within this space, learners have to grapple with the tiresome thought that they will need to come up with different answers for different contexts and learn to live with 'contingency' (i.e. context dependency) that only allows for provisional certainties. In this space they learn to see the learning process anew, beyond the feeling that engaging in learning is a pointless if it does not lead to absolute answers. They start

to reconceptualise difference and conflict as sources of learning and not as a threat. They also start to learn not to be attached to 'good' or 'bad' answers (or labels) and to see successes and failures as learning opportunities in terms of their ability to read and to respond quickly to (and not be overwhelmed or threatened by) complexity, difference and uncertainty.

[Space 7] Being able to analyse contexts at a deeper level and to create provisional meaning with others as you go along

Within this space, learners are comfortable with the discomfort of having to re-negotiate meaning and identity in different contexts. They start to apply advanced analytical tools (which involve knowledge about knowledge construction) to operate effectively within different 'worlds' (or discourse communities). They can 'read' across different contexts and epistemologies (i.e. see through different lenses) scanning for different solutions to complex problems. They can identify tensions and points of contention in epistemological clashes and contribute new ways forward. They become 'border crossers' and 'edge walkers' who can translate learning and information from one community into another and who are open to learn/negotiate meaning in uncoercive ways with people who are different from them, in unfamiliar contexts. This happens because their sense of self and security is grounded in their ability to learn, to relate to and respect others, and to feel comfortable in their process of 'becoming' (as opposed to 'being') - and not on what they know already, where they belong to or on a fixed notion of identity.

This model is not presented as a map, but as a compass that points to the need for a higher level of theoretical engagement with these issues before we can claim any substantial understanding of the process. On the other hand, it does create a language for much needed dialogue around the pedagogical process (and hence, the possibility of deeper theoretical engagements) and provides a more accessible entry point for those who are coming from other areas. The theoretical discussion also suggests that 'empirical evidence' of generalisable effectiveness of the model or the PDS is always going to be contested and contentious due to the inherent epistemological clash between claims of provisionality and context dependency versus reliability and generalisability in empirical research.

Conclusions

In this paper, I started with an analysis of two different theoretical perspectives that defend the need for a reconceptualisation of knowledge, learning, identities and culture in education: cognitive adaptation and epistemological pluralism. In the second part of this paper, I explored some of the implications of working with the notion of shifting conceptualisations and of translating epistemological pluralism into pedagogical praxis. I used a draft model developed in the Thinking Together project as an illustration of this translation. The focus of this paper was not to provide an unproblematic solution, but to show that every epistemological choice carries with it an 'action package' that leads to different results and creates new problems. The new problems created by the different epistemological choices we have at this historical moment in education, which include but are exclusive to, what I have framed as 'cognitive adaptation' and 'epistemological pluralism' need more engagement with, debate and critique. This could support educators to understand the gifts and limitations of these and other perspectives, so that their epistemological choices are better informed. Equipping educators to do this is, perhaps, the greatest challenge we face in education today.

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