How the Ghosts of the Nineteenth Century Still Haunt Education

CATHERINE SCOTT
Swinburne University of Technology, Hawthorn, Australia

ABSTRACT Research evidence has demonstrated that pedagogical techniques variously known as discovery learning, problem-based learning and constructivism are less effective than explicit instruction, especially when applied to the teaching of novice learners. Nonetheless these ineffective techniques have many devotees and re-enter the educational arena ‘re-badged’ after each empirical revelation of their deficiencies. This article argues that constructivism and its pedagogical relatives are continually ‘rediscovered’ because they accord with deeply held beliefs about the nature of human beings. The origins of these ideas are traced to the writings of Rousseau and the Progressivist thinkers of the nineteenth century and the ways in which the misreading of theorists, such as Piaget, provide ‘scientific support’ for these is explored.

An enduring feature of the contemporary era is the belief in the inevitability and desirability of progress, to the extent that the phrase ‘new and improved’ is almost a tautology. Old ways are regarded as inevitably inferior and in need of reform and the result is a ceaseless search for better solutions to issues of all sorts. Education certainly does not escape this tendency and polemics that argue against the ‘tired old’ techniques of teaching and call for the dawning of a new era of enlightenment in classrooms are routine. In part this perennial dissatisfaction is, according to critics such as Egan (n.d.) and Labaree (2004), due to lack of consensus over the purposes and aims of education, which further opens the institution to repeated cycles of criticism and ‘reform’. While debates over the purposes of education cover questions of both technique and curriculum, this article concentrates on the ‘how’ of teaching rather than its content.

The demands that the past be left behind and the future allowed to dawn are not new, and in education have been the staple of debate since at least the late nineteenth century. The same charges that were levelled then against schools by, for example, Spencer (1911), are heard in critiques of current schooling, and the same solutions are proposed. Classrooms are, it is and has long been claimed, characterised by passive students who experience developmentally inappropriate techniques designed to teach them artificial knowledge that is relevant to neither their needs and concerns, nor those of contemporary society.

Just as the same faults have been found with education for the last century or more, the same solutions have been proposed: that education become more relevant and prepare students for life in the current era, the Age of Science, by allowing them to develop the capacity to think like scientists; that emphasis on ‘rote learning’ facts be replaced by learning to learn; that artificial and stultifying teaching techniques be replaced by those that are natural and respect the nature of the child; and that students be allowed to become the self-determining and active learners they are ‘meant’ to be.

The resulting educational ideology has gone by a variety of names over the course of the century, including ‘child centred’, ‘progressive’, ‘discovery learning’, ‘problem-based learning’ and most recently ‘constructivism’. This periodic ‘re-badgeing’ has come about because each new
attempt to apply the above techniques to teaching has been followed by the discovery that they are ineffective (Mayer, 2004; see Kirschener et al., 2006, for a synthesis of research in the area; Geary, 2007; Hattie, 2007, for a meta-analysis of research into teaching effectiveness). This discovery leads to their abandonment until the next emergence of the old doctrine under a new name, a process that is more akin to rediscovering an old, discarded wheel than reinventing it.

A potted history of American education over the last 50 or so years illustrates this tendency. In the 1950s Progressivist ideas reigned in education. The launch of the Soviet spaceship ‘Sputnik’ provoked a crisis of confidence in the USA and the citizens and government searched for the culprit to blame for the Soviets’ ‘beating’ them into space. The education system, and progressive education specifically, were identified as the guilty parties and efforts were made to reform the schools to remove the influence of child-centred practices. This ‘backlash’ was, however, short lived and by the mid-1960s Progressivist ideas were once again dominant. During this time the ideas of Swiss theorist Jean Piaget – who had been heavily influenced by Rousseau’s thinking and that of his recent predecessors and near contemporaries – became extremely popular and influential. The term ‘constructivism’ made its appearance in the 1970s and ‘constructivist approaches’ have since become the dominant models in discussions of educational practice.

In the 1990s, however, the pendulum swung the other way once again and child-centred and constructivist ideas came under attack. The spread of standardised curricula and testing was a direct result of the concern over the educational failures attributed to the use of constructivist techniques. Advocacy remains strong, however, among teachers and academic educators, for constructivist principles, that is, for ‘child-centred’ educational practice (Labaree, 2004).

Labaree (2004) argues that both child-centred educators and their opponents are Progressivists: the first he labels ‘pedagogical Progressivists’, the second ‘administrative Progressivists’. The ideas that both promote have common origins in the Progressivist thinking of the late nineteenth and early twenty centuries, particularly their emphasis on the need to base educational decisions on scientific evidence. In the first case, however, it is evidence about the theoretical needs of the individual child that should dominate; in the second it is systemic imperatives for rationality and efficiency that have priority. It is the continuing appeal of the ideas that underlie pedagogical Progressivism and their claims to an empirical basis that this article examines, rather than the ideas of the administrative Progressivists.

Kirschner et al. (2006) express some puzzlement as to why the package of educational ideas now referred to as constructivism keeps coming back into favour when the empirical evidence suggests that these do not work as guides to effective teaching practice with novice learners, particularly young schoolchildren. The answer lies in two observations: that the influence of Progressivism continues to be strong, with its restless insistence on the necessity of doing away with the old and ushering in the new, and that arguments, including those in favour of a particular educational ‘reform’, can be valid without being true if they logically follow from premises that are false. Such is the case with recurring ‘discovery’ of Progressivist/constructivist ideas.

Considerable evidence exists that the tenets of constructivism and its predecessors are not universally true; rather, research has demonstrated that they are ineffective when applied to teaching novices in any subject area (Kirschner et al., 2006; Geary, 2007; Hattie, 2007). However, the tenets are valid from the perspective of underlying contemporary beliefs about human nature and human learning. These beliefs in turn derive support from the very theories that are periodically resurrected as the solution to education’s ills, which have passed into commonsense models of people, children and their learning. That the logic underlying these beliefs is valid gives them the cachet of feeling instinctively right; people just know that they must be ‘true’. They also represent aspirations, as in what people wish the world were like. Put another way, we will keep running in circles until we replace the current models of human beings and their learning with those with empirical underpinnings instead of folkloric appeal.

**Individualism and Educational Thinking**

The major characteristics of the dominant model of the person in the Anglophone west are competitive individualism, or belief in the autonomous individual as the only legitimate source of judgement, action and belief; and naturalism, or the belief that human ‘nature’ is invariant, non-
contextual, ahistorical, acultural and biologically derived. This model can be contrasted with those from other cultures, especially those from Eastern countries. As Norenzayan & Nisbett observe (2000, p. 132):

East Asian and American causal reasoning differs significantly. East Asians understand behavior in terms of complex interactions between dispositions of the person or other object and contextual factors, whereas Americans often view social behavior primarily as the direct unfolding of dispositions. These culturally differing causal theories seem to be rooted in more pervasive, culture-specific mentalities in East Asia and the West.

Moorman et al (1994) have also reported a version of the two dimensions, individualism and naturalism, which emerged from their analysis of the rhetoric of ‘whole language’. They named these ‘natural versus artificial’ and ‘personal ownership versus external control’.

In the Footsteps of Rousseau

As noted above, although there is a tendency to paint ‘constructivist’ or Progressivist or child-centred approaches as ‘new’, and all teaching that went before as ‘traditional’ and teacher centred, the debate has been conducted since the eighteenth century. As Darling observes (1994, p. 17):

If, as A.N. Whitehead suggested, the history of Western philosophy is a series of footnotes to Plato, the child-centred educational theory is a series of footnotes to Rousseau. This is not dismissive: some footnotes provide fully developed and important arguments. But, for many writers the agenda and the tone were both clearly set by Rousseau: education needed to be redesigned along more rational lines to make it accord better with the nature of the learner.

It is possible to construct a line of succession through which Rousseau’s message passed, with each thinker reworking the ideas of those who had written earlier.

In addition to Darling’s work, Egan (2002) has traced the development of the ideas that form the core of the child-centred/constructivist tradition as they were adopted by one thinker and then another next through the nineteenth and twentieth centuries. For a detailed analysis of how Progressivist ideas developed and were passed from each generation of thinkers to the next down to the present day, see Egan (2002) and Darling (1994).

Rousseau’s ideas are well known. He was an advocate of the deep necessity to respect the ‘nature’ of the child, understood itself as a natural object or process that develops under its own rules and principles regardless of the culture in which the child is reared. The traditional education of the day was, according to Rousseau, a sort of violence against the child’s true nature that resulted in stunting and deformity. In order to escape this outcome, children should be allowed to grow as ‘nature’ intended and education should respect this natural process and facilitate instead of hindering it. The short version of Rousseau’s theory is, then, that development leads learning.

Rousseau’s theory about the nature of the person and thus of education were taken up by Progressivist thinkers in the nineteenth century who in turn strongly influenced key thinkers of the twentieth, including Dewey and Piaget. Progressivism developed as an ideology during the Industrial Revolution when massive changes to all aspects of life were occurring. Much of the change was a result of advances in scientific and technological knowledge. Faith in science’s capacity to solve all human problems was high, as was belief in the benefits of material change and progress. ‘New’ meant ‘better’, and traditional ways were regarded as inferior.

Also of extreme importance to the development of Progressivist ideas was Darwin’s theory of evolution. The laws of evolution were seen to apply not just to the biological world but also to the social realm. Movement ‘forward’ was regarded as the law in all spheres, and cultures were thought to ‘evolve’ from simple ‘inferior’ forms, such as hunting and gathering, to ‘superior’ and ‘advanced’ forms, such as modern industrialised democracies.

All these ideas influenced Progressivist notions about education. The ‘tired, old’ teaching methods of the past were to be discarded in favour of the new. Faith was placed in the ability of science to reveal what these methods should be via the discovery of the laws that governed how people learn and develop, the search for which was well under way by the 1880s (Morss, 1990). Education itself was to help students to become ‘scientists’ and to understand and investigate their
world in scientific and creative ways. It was to fit them into the exciting new age that had dawned by making the content and methods of education practical and relevant.

The Nature of the Person

As with any other human activity, teaching and theories about it are not just statements of fact but are also strongly influenced by the values held by the teacher or theorist. Teaching is, after all, about shaping or developing people in some way or another and that process of shaping will itself be influenced by the desired final product, as Kieran Egan (1983) observes. Theories or philosophies of education are also about the sort of society in which people wish to live and are at the deepest level debates about the nature of the ideal citizen, presented by claims about the needs and characteristics of students. Perspectives on teaching are a product of what anthropologist Mary Douglas (1996) called a ‘cultural project’, that is, the type of society that people aspire to build.

Douglas (1996) proposes that there are four cultural projects, each with its own theoretical set of desirable and despicable human characteristics: competitive individualism; hierarchy; egalitarianism; and isolationist. Each cultural project partially defines itself by what it is not, in other words by its opposition to the rival projects. Virtues in one become vices in another, for example obedience to traditional authority and knowing one’s place are virtues in hierarchies but signs of personal weakness or moral infirmity in individualist cultures. Cooperation is a virtue to egalitarians but a source of irksome and restrictive obligations to an individualist, who prefers to maintain weak ties of convenience rather than strong, reciprocal bonds.

The dominant cultural project of the Anglophone west is individualist. Faith is placed in the rationality and virtue of the self-determining individual: the self-made man or woman (Douglas & Ney, 1998). Authority and tradition are distrusted, and communal responses to the challenges of human existence are regarded as unvirtuous and are strongly discouraged. It is easy to see how the ideas of Rousseau and his many followers fit with this model of the person; indeed Rousseau’s ideas both derived from the growing individualist tradition in western culture and provided it with further justification. The origins of the distrust of teacherly authority, the dislike of the view of education as being chiefly concerned with the reproduction of traditional bodies of disciplinary knowledge, and the insistence on the superiority of the individual’s own ‘construction’ of knowledge all accord with the individualist ideal of the person.

A teacher colleague who made observations about ‘sticking to the rules’ inadvertently produced a good plain-language exposition of the values of individualism and Progressivism:

Isn’t ‘transgression against social mores’ the food for social change in civilisations? … taking the opportunity to do something differently, rocking the boat, showing another way, is part of human brain potential being exercised. If we didn’t take risks, challenge the comfort zone, we would have had no inventions or no personal experiences to add to the memory. Many new ideas and practices have been considered ‘dangerous’ over history, but in this day and age we have outlived the stranglehold of dark age conformity, and diversity of thought and practice is more welcomed, accepted, enjoyed and incorporated into our thought processes. I think that’s why we progress more rapidly these days. Our brains have been allowed to expand and develop their potential.

Note also the appeal to the ‘natural’, ‘hardwired’ necessity of individualism: it is ‘part of [the] human brain’. Indeed cross-cultural research by Dweck and her colleagues has revealed the extent to which individualism and nativist explanations for human action co-occur (Dweck et al, 1993). Regarding the individual person as the sole origin of his or her own behaviour, rather than seeing the contribution of the context in which he or she acts, is correlated with belief in the validity of invariant traits and dispositions as explanatory entities: ‘nature’ not ‘nurture’.

I have discussed above the issue of truth versus validity in arguments and suggested that arguments in favour of constructivist approaches are supported by their implicit appeal to and agreement with the values of individualism. It could be argued that, as individualism is a value system and not an empirically derived model of the person, the ideas that underlie it cannot be evaluated as either ‘true’ or ‘not true’. However, the premises that form the basis of the individualist model of the person can be tested empirically, regardless of their status as ‘value
judgements’, and in one very real sense the research into constructivist teaching is such an empirical investigation.

Piagetian Theory: the nature of the child and human learning

The strong influence of Progressivist ideas on contemporary models of the child have been obscured by the elapsing of a now considerable period of time since they were first published and by the intervening volume of writing on the topic (Egan, 2002). However, the Progressivist faith in science as the road to enlightenment is thoroughly alive and well. Claims for the scientific basis of Progressivist/constructivist theory demand a scientist who provides this. Piaget and his ideas have been, for some decades, regarded as providing the necessary scientific support.

Although textbooks tend to present his ideas as brilliantly original, Piaget was both a typical adherent of the school of thought known as Nature-philosophy and a Progressivist thinker (Morss, 1990). It is taken as given that Piaget derived his theories of the nature of the child and of human learning empirically, via observation of children, especially his own, that is, that his theory is ‘scientific’ and ‘scientifically proven’, both virtues in the Progressivist age. His theories are still profoundly influential and frequently cited as proof of the truth and necessity of Progressivist/constructivist conceptions of learning and development, but these citations seem to be offered without awareness of the origins and underlying premises of his theory.

The influence of Darwinian thinking on Progressivist theories has been noted. According to the social Darwinian ideas of the nineteenth century, just as societies supposedly ‘evolved’ from ‘primitive’ to ‘complex’, individual human development recapitulated that process. Progressivists, Piaget included, believed that children possessed the qualities of ‘savages’, that is, their minds were relatively undifferentiated and dominated by thought processes that were ‘simple’, ‘concrete’ and irrational (Piaget, 1969; Morss, 1990). As they grew, their minds became increasingly complex, differentiated and rational. This process of development was understood to be a biological one, so that the growth of children’s minds occurred naturally, in much the same fashion as that of their bodies. It was also considered essential to present children with material that was appropriate to their current stage of development, an idea seen in the writings of Rousseau. These recapitulationist ideas have slipped from favour and even from view but the theories of Piaget have kept their educational derivatives in circulation.

The origins of recapitulationist ideas lie in another important intellectual influence on Progressivism. While Piaget and his predecessors are understood to be the faithful followers of Darwin in key ways, their thought was also profoundly influenced by one of Darwin’s rivals: Lamark. Piaget (and many other influential thinkers of the age, including Spencer, 1911) were Lamarkians (Morss, 1990). In Piaget’s own words he would ‘decide in favour of Lamark without any qualms’ (Piaget, [1918] 1977, p. 40). Piaget, thus, in common with other Lamarkians, regarded the human psyche as formed by the cumulative experiences of the ‘race’, which were imprinted on the germ plasm, ‘ensuring’ that the mental development of the individual is a recapitulation of the supposed mental evolution of the human species.

The well-known stage theory that forms a major component of Piaget’s developmental model was not derived from his observations of his own infants, rather he observed his infants in the search for evidence to support what he expected to find on the basis of his beliefs about the mental development of the species as a whole (Morss, 1990). He predicted – and ‘found’ – that infants are ‘autistic’ – defined as a ‘state of chaotic non-differentiation between subject and object’ (Piaget, 1969, p. 152) – in the way that he and others of his time believed was typical of the primal ‘savages’ who were the ancestors of our species. Slightly older children would be ‘egocentric’ and ‘superstitious’ in their thinking, like the tribal peoples who were their distant ancestors, as well as ‘less developed’ contemporary peoples. Mental development would culminate in the appearance of modes of thought typical of the most evolved human: the rational, scientific westerner. It is indeed something of a paradox that so-called ‘child-centred’ education was actually founded on a very dim view of children’s capacities. This is because the original meaning of the term was ‘based on knowledge of children’s nature and abilities, and the natural development of the mind’, rather than ‘being sympathetic to children’, which is how many now understand the term.

As Morss (1990, p. 66) observes of Piaget’s thought:
Piaget’s adherence to the more general recapitulation argument could not be denied. For Piaget all manifestations of development, whether individual or phylogenetic, are to be seen as the outcomes of a unitary process ... The assumption of the ‘unitary process’ (and more specifically, of the single track in the developmental process) is central to Piaget’s thinking. In true recapitulationist style, he has observed that prehistoric man would be the ideal substitute.

Piaget’s theory of the development of intelligence is, thus, both biological and Lamarkian, that is, he believed that the growth of intellect is the result of a genetically controlled biological process exactly comparable to physical maturation; in fact it is a form of physical maturation (the ‘single track’ of development Morss mentions above). See Piaget (1969) for an example of the heavily biological nature of his theories. It is this underlying assumption that dictates that the hypothesized four stages are universal and inalterable, and that there is no or little room for teaching in the growth of mind. This stands despite the addition by Piaget later in his career of references to there being some role for experience in the processes he described (Piaget, 1969). Those who wish to maintain their belief to the theory avidly cite these addenda, while ignoring the main edifice (Bjorklund, 2005).

This clinging to the theory is motivated by the belief that Piaget’s ideas support the educational agenda of the individualist cultural project. As Bjorklund (2005, p. 79) maintains, ‘because of Piaget’s work it is difficult for us today to conceive of the child as a passive organism, shaped and molded by environmental pressures’. What is missing from this reading of Piaget’s theory is, as I discussed above, the realisation that in Piaget’s theory the genetic imprint of his or her ancestors’ experiences instead moulds the child, whose development is an automatic replay of the species’ history.

Empirical investigations and theoretical critiques of Piaget’s theory spanning at least 40 years (see for example Braine, 1962; Feldman, 1980; Egan, 1983; Dawson-Tunik et al, 2004, as a random selection from across the four decades),[1] in addition to the general thrust of research in developmental psychology, have failed to provide support for his ideas. The universality of the stages, the invariance of the order of development, even the details of what children can and cannot do during any particular stage, have all been questioned, tested and disproved. This lack of support for the theory has not stopped its wide citation in support of ‘constructivist’ ideas. The passion with which people cling to the belief that Piaget justifies what they wish to believe about children is demonstrated by Bjorklund’s description of the empirical work that has discredited the theory as ‘forty years of Piaget bashing’ (2005, p. 103).

Despite the lack of empirical evidence for Piaget’s proposed stages of cognitive development, his ideas have intuitive appeal because young children do indeed seem to think differently to older children and adults, at least in some respects. There is wide acceptance for Piaget’s contention that ‘The intellectual and moral structures of the child are not the same as ours’ (1969, p. 153). Children are not quite human and as different from adults as ‘tadpoles are from frogs’.

An explanation for these cognitive differences that has considerably more empirical support than Piaget’s theories can be found in the research into expert and novice cognition. This large body of research has shown that increasing the quantity of information a person possesses in any area affects the quality of his or her thought (Bransford et al, 2000). As Bransford et al note, ‘... the same stimulus is understood and perceived differently, depending on the knowledge a person brings to the situation’ (p. 32). The observation applies equally to the novice understanding of the world typical of a preschooelrer (Chi, 1978) or an adult beginner’s thinking about of a body of academic knowledge or a complex real-world situation, such as teaching (Grossman, 1990).

Many of the ‘quirky’ characteristics of young children’s thought are arguably those of novices, which young children by definition are in all or most areas of human knowledge.

The belief that human cognitive development and human learning are both ‘natural’, as opposed to cultural, processes is extraordinarily tenacious and remains extremely influential.[2] The language of Rousseau and his early followers has been replaced in some quarters by the argot of ‘brain-based’ education and the restless search for the biological bases of learning and behaviour. Despite the dismissing — some time ago — of the idea that there is a gene for every discrete behaviour (Wilson & Wilson, 2007), the hunt continues for the ‘gene for’ any number of
behaviours, tendencies, deficiencies and difficulties. The firm belief that Attention Deficit Hyperactivity Disorder is a biological affliction belongs in this category, as does the search for the ‘dyslexia gene’.

Of the latter search McGuinness asks, rhetorically,

as 100% of the population in countries with a transparent alphabet can acquire the basic-code (knowledge of which letter symbol[s] goes with which phoneme in the language (Spain, Italy, Sweden, Finland, Austria, Germany, etc.), what kind of neurobiological basis of reading has any relevance? (McGuinness, n.d., p. 6)

**Natural Ways to Learn: the specific example of literacy**

Debates about how to teach literacy provide a useful lens for examining the model of learning that underlies constructivist theory. In Anglophone countries reading instruction has been on the same sets of swings and roundabouts as other teaching specialities. In other words it has veered between discovery learning/constructivist methods and their opposites.[3] In the area of reading instruction the most recent manifestation of the constructivist techniques has been whole language, which by its own definitions is a ‘radically different way of perceiving the relationship between knowledge and the knower, between compliance and responsibility, between learner and teacher …’ (Newman & Church, 1990, p. 26), ‘in which children are learning to read by reading, learning to write by writing, and otherwise engaged in meaning-centred, integrative language arts activities (Slaughter, 1988, p. 30). The ‘meaning’ is of course ‘constructed’ by the individual learner. These and similar definitions of (and advocacy for) whole language have much in common with those for constructivist approaches and their antecedents generally: the supposed radical disconnect with previous practices, the demotion of the teacher from ‘sage on the stage to guide by the side’ with the concomitant elevation to prominence of the individual learner, plus the discarding of ‘artificial’ practices in favour of the authentic and natural.

Whole-language proponents are particularly scathing about the ‘unnatural practices’ of approaches to teaching literacy that come under the umbrella of ‘phonics’. Not everyone who advocates for whole language proscribes the teaching of the alphabetic principle but where permitted it should be done not as a stand-alone topic but integrated into the diverse experiences that form the underpinnings of a whole-language classroom with its emphasis on the construction of meaning (Slaughter, 1988; Newman & Church, 1990).

Kirschner et al (2006) have provided persuasive evidence for the ineffectiveness of embedding the acquisition of basic knowledge and skills in integrated experiences or problem-solving exercises. This occurs because the limitations of working short-term memory mean that novices’ processing capacity is overwhelmed by the problem-solving task to the extent that information is not transferred to long-term memory, that is, it is not learned. Whether one likes the metaphors of information processing models of human cognition or not, this proposition fits well with both empirical results and personal observation. Hattie (2007) has also presented the results of meta-analyses that, among other things, explore the effects of teaching methods on students’ attainment. The inescapable conclusion is that those taught by teachers who assume the ‘facilitator’ role, with all that this implies, achieve less well on average than those whose teachers are, to use Hattie’s term, ‘activators’.

Nonetheless, dismantling literacy into its component parts is anathema to the advocates of whole-language methods and is said to make children’s initiation into the rich practices advocated by whole language difficult or unlikely (Slaughter, 1988; Newman & Church, 1990). To put it in plain language, children are said to be ‘put off’ by the ‘dreary, mechanical’ practices associated with a bottom-up, skills-based approach to literacy learning, which supposedly strips reading of meaning. This echoes the sorts of claims made by Progressivists since Rousseau: that natural learning happens outside school and what happens inside is artificial, ineffective and harmful. These claims are based on a false dichotomy and a distorted picture of how learning happens in ‘natural settings’.

The advocacy of an entirely or mostly top-down approach is promulgated in profound ignorance of the nature of the human cognitive apparatus, as Kirschner et al (2006) have demonstrated. Other work on expert and novice cognition (Bransford et al, 2000) also provides
support for the incremental building of skills and knowledge to enable the sorts of high-level thinking expected of even beginning readers by proponents of whole language. To put it plainly, in order to think one must have something to think with and about.

What is ‘natural’ and what is ‘artificial’ in learning is also open for debate but arguably it is correct to teach that which is ‘artificial’, as in a cultural product, by artificial, that is, deliberate and direct, means rather than depending on it being acquired ‘naturally’ (Geary, 2007). Human infants enter the world prepared by their evolutionary history to rapidly acquire the necessities of human existence, which include their ‘native’ language. Study of brain anatomy reveals centres dedicated to the acquisition of receptive and productive language and all neurologically intact children perform this most complex intellectual task before their third birthdays (Geary, 2007).

That very language forms an essential part of the basis for the astounding cognitive flexibility characteristic of human beings, which allows them to in effect escape the bonds of ‘nature’ and adapt to the myriad cultural forms that exist or have existed. Culture and cultural artefacts are by definition artificial, they are not natural objects and no natural way exists of learning them (Berch, 2007; Geary, 2007). Rather, experienced members of a culture, using an appropriate and explicit combination of showing and telling, teach vital cultural knowledge to the young (Rogoff et al, 1996; Rogoff, 2003). Written language is a thoroughly artificial cultural product, one that must be explicitly taught to novice members of the society (McGuinness, 2004).

There does not exist any mental apparatus that guarantees induction into literacy in the same way that mechanisms exist that guarantee the acquisition of spoken language (Egan, 2002; Berch, 2007; Geary, 2007). Rather, education systems that respond to the task of teaching children to read with ‘go figure’ reproduce and widen the inequalities that children bring with them. This is because the children who do succeed in such circumstances are those whose parents have taught them the alphabet and the alphabetic principle before they started school (McGuinness, 2004).

Evidence for this contention is provided by the results of a study by Johnson & Watson (2005). The study, conducted in Scotland, followed a group of 300 children over 7 years and compared the literacy attainments of those taught using a well-structured (‘synthetic’) program of phonics instruction with those taught by a program that featured the ‘look-say’ whole-word approach typical of early reading instruction in Anglophone countries. Results demonstrated clearly how problems commonly experienced by children from disadvantaged backgrounds disappeared when they were taught to read using a program of the first type. As Johnson & Watson note by the end of Grade 6, ‘… with synthetic phonics teaching there was no difference in word reading or spelling ability according to social background’, whereas this disparity was found among those children using the ‘look-say’ techniques.

In addition, the commonly found disparity between boys and girls on literacy measures, in which girls out-perform boys, also disappeared and in some aspects of literacy the direction of effect was reversed, for example, in spelling. As the authors note:

… in Primary 4 the boys started to pull ahead of the girls. They were significantly ahead in Primaries 4, 6 and 7, being around 8.6 months ahead by the end of the study. Spelling was significantly above chronological age throughout, and was significantly further ahead of age in Primary 7 than in all previous years. As with word reading, spelling skills were still increasing at the end of Primary 7, 6 years after the initial programme was completed.

For an encyclopaedic survey of the research evidence on the effectiveness of various techniques for teaching literacy, the reader is invited to consult McGuinness’s comprehensive exploration of the topic (2004, 2005).

The Meaning of ‘Meaning’

The basis for whole-language claims about meaning appears to be an – one assumes – unintentional conflation of two senses of ‘meaning’. At the higher levels of language arts and literary appreciation the meaning of a text is indeed a slippery matter and open to negotiation and reframing by each community of readers. At the most fundamental level, however, becoming literate means being able to derive meaning in a much more concrete sense. The word ‘cat’ may come with any number of connotations and resonances but the particular set of graphemes of which it is composed represent just one spoken English word. The fundamental meaning of ‘to
learn to read’ is to become able to recognise written words as the representatives of their spoken equivalents. Not to be able to do this is not to be able to derive meaning in any sense from text and thus never to engage in the sort of rich language activities valorised by advocates of whole language. Underlying whole language seems to be a profound impatience with the struggles of novices and a demand that that part in the process of becoming a reader be skipped altogether in favour of immediate initiation into the highest level of literary critical awareness and connoisseurship.

Learning to read, as in decipher text, is the ultimate challenge to constructivist notions of education. Learning to match a written word with its spoken equivalent leaves no room for individual construction of meaning: there is, despite the flights of romantic fancy to the contrary, just one right answer to the question ‘what does cat say?’ This stands regardless of how many personal interpretations there may be of the poetic implications of the concept ‘cat’.\[4\]

Proponents of whole language dealt with these facts by glossing over the actual mechanics of learning to read, which was supposed to happen in the same way as learning to speak. Hearing speech leads human infants to learn to speak themselves; thus, it is proposed, seeing and hearing reading would lead children to learn to read. This should and will happen without mechanical methods, naturally and in accordance with the developmental trajectories of the individual child. For a large percentage of children, it does not, as there is nothing ‘natural’ about the English spelling code (or any other, for that matter; see Berch [2007]). Anyone who has watched a normal, intellectually able child struggling to decipher even quite basic text knows illiteracy for the personal tragedy that it is. This is made more distressing by knowing that ‘dyslexia’ is a culturally specific ‘disorder’ that afflicts English-speaking children (McGuinness, 2004). Children fortunate enough to be born into cultures with transparent spelling codes and explicit ways of teaching these do not suffer from the inability to decode written text, although a small minority do decode accurately but read very slowly.

Discussion

Anglophone cultures share the saying ‘reinventing the wheel’ for a needless waste of time spent on figuring out something already solved. Indeed human cultures have become more complex because language freed people from having to undertake constant reinvention: people can tell each other how to do things, make things, get places, and find food and other important resources. Despite this undeniable fact and the existence of commonsense wisdom about not wasting time on already solved problems, these same cultures have succumbed to the notion that the appropriate way to induct children into the complexities of contemporary life is to require each and every one of them to reinvent (‘construct’) not just the wheel but any number of cultural artefacts and tools. This is said to represent the heights of respect for the individual child. It has the ghostly echoes of the recapitulationist predecessors of contemporary constructivists, who believed that the natural trajectory of human cognitive development is via retracing the mental steps of the ancestors, in the case of reading, presumably through those who derived English orthography.

Despite the claims made for constructivism, discovery learning or problem-based learning, it is not the case that ‘top-down’ immersion learning mimics that done in the ‘real world’ outside the supposedly artificial environment of the school. Studies of how peasant cultures ensure the passing on of essential cultural tools and knowledge demonstrate that the ‘bottom-up approach’, that is, the disaggregation of tasks into simpler subtasks for the benefit of novices, is a commonplace practice (Rogoff, 2003). This apprenticeship model operates in the ‘top-down’ context of learners’ understanding the final product and purpose of their efforts, but it is not the case that knowing that weaving yields cloth or carpentry an item of furniture will automatically allow the learner to re-‘construct’ the process without assistance.

In truth constructivist models of education propose a false dichotomy between ‘top-down’ and ‘bottom-up’ learning. Neither is typical of either ‘natural’ (outside school) learning or the best within-school practice, where effective teachers build both specific skills and knowledge and a ‘big picture’ understanding of where knowledge fits and how relates it to other subject matter, students’ interests and to the ‘real world’ (Ayres et al, 2004; Dinham, 2007).
Similarly the supposed opposition between adult-led and child-led learning does not bear close scrutiny. As Rogoff et al (1996) observe it is not true that the only choice is between:

theoretical notions that learning is a process managed by experts who transmit knowledge to learners: [and] the views of those who argue that education should be ‘children-run’ … [which] correspond with theoretical notions that learning is the province of learners who acquire knowledge through their active exploration … We argue that the adult-run and children-run models are closely related, in that they both involve a theoretical assumption that learning is a function of one-sided action (by adults or children, respectively, to the exclusion of the other). (pp. 388-389)

Instead of models that call for either adult or child dominance in the learning endeavour, Rogoff et al:

propose a ‘community of learners’ involving both active learners and more skilled partners who provide leadership and guidance [which] correspond with the theoretical stance that learning involves transformation of participation in collaborative endeavour … . The community of learners instructional model supersedes the pendulum entirely: it is not a compromise or a ‘balance’ of the adult-run and children-run models. Its underlying theoretical notion is that learning is a process of transformation of participation in which both adults and children contribute support and direction in shared endeavors. (pp. 388-389)

It is ironic that the proponents of constructivist teaching see themselves in, sometimes heroic, opposition to the dominant culture. In actuality the advocacy for the individual child and the downplaying of authority and tradition are just what one would expect in a competitive individualist culture from one of its key ‘carrier institutions’, that is, education (Steadman Rice, 2002). Nor is it surprising that underlying both so-called child-centred approaches and their polar opposites is an implicit belief that children and their teachers are in competition for control of the classroom, and that only one or other group can win, a competition made more complex by teachers’ status as representatives of the ‘old’ and ‘outmoded’. There is nothing particularly inventive, original or seditious about advocating individualism in an individualist culture, nor is it unexpected that the ideas of those thinkers who promoted and supported the shift to an individualist value system, such as Rousseau, Spencer and Piaget, would be widely cited in support of the necessity of making these changes.

Given the close connection between individualist (‘person factor’) explanations for human behaviour and those that rely on nativist theories and unvarying dispositions and entities as causal factors, it is no surprise that ‘nature’ plays an overly large part in Anglophone explanations of and theories about human learning. What is omitted from the picture is culture, understood only as ‘artifice’ and ‘the dead hand of tradition’ in Progressivist/constructivist models. Running in circles reinventing the wheel will not hasten the dawning of the new educational day, however, but it could conceivably result in the progressive loss of the accumulated wisdom of the culture. Improvement in educational practice demands the dispassionate examination of the heritage of Progressivism and individualism and a readiness to move beyond accepting solutions that ‘feel right’ because they fit with what we already believe.

**Future Policy Directions**

Soon after I finished the first version of this article I embarked on teaching some professional development courses to practising teachers. I was struck – yet again – by the disjunction between the every-day work of the teachers and the ways teaching is talked about outside the school system. I was taken with an image of the debates I describe as arguments between academic educators shouted at each other over the heads of teachers.

Falling back on intuitive models of teaching and learning, and thus rediscovering the same set of wheels, is inevitable when those doing the theorising do so in relative isolation from the day-to-day practice of schools. This is in stark contrast to, say, medicine, where those who teach in medical schools include a large percentage of practising physicians.

The main feature of education theories discussed here is that they don’t work. More familiarity with the actual challenges of teaching, and with children and their learning, might short-circuit the
process by which ‘fixing schools’ leads back to the same non-solutions. For reasons that Labaree (2004) discusses, in education too much of what is written is meant for consumption by other academicians, and not for the edification and assistance of teacher practitioners.

A good number of teachers know that ‘constructivism’ does not work, although they may not express it in these terms, and so their practice is informed less by the ideas they encounter in pre-service education than the results of their own trial-and-error learning and the example and advice of experienced practitioners, including the ones who taught them. This is also a less than satisfactory state of affairs but a great deal of teacher education is devoted to matters that have little to do with the practical skills of the teaching craft. In other words, programs of teacher preparation notably do not actually teach people to teach (Labaree, 2004; Cunningham, 2008).

The trends I describe are universal, or at least typical of the situation in English-speaking countries, including Australia where the inklings of a way forward are being seen, a way that includes the voices of practitioners in decision-making about vital issues, such as pre-service education. The creation of state institutes of teachers and current movements towards national accreditation of teacher education courses and national certification of teachers have led to informed scrutiny of teacher preparation courses with the result that many are being found in need of change in the direction of more emphasis on subject content, practical teaching skills and methods that ‘work’. These initiatives are often underpinned by professional standards and assessment and quality assurance processes to which teachers and their representative professional organisations have significant input.

In addition, Federally funded action-learning programs whereby practitioners in partnership with university advisors design projects to address specific questions framed by the teachers about improving their practice point the way to the creation of fruitful partnerships between the two (Aubusson et al, 2007). This model of the two professions working together to improve classroom practice has much to recommend it, rather than the spectacle of professors arguing over the heads of practitioners about matters that have been proved to have little to offer as guides to classroom teaching.

Notes

[1] Critiques of Piaget go back further than this of course, if one includes the writings of Lev Vygotsky, whose socio-cultural theory was formulated in part to refute Piaget’s ideas.


[3] Opposites that are often nearly as ineffective and harmful of children’s literacy learning, based as they are on misunderstanding of English orthography, cognitive development and effective ways to teach it. See McGuinness (2004, 2005).

[4] The basic knowledge and skills of other disciplines also come into this category: one cannot think mathematically without basic mathematical knowledge and there is not room to construct personal versions of the number series or mathematical operations. There are also more or less efficient ways of teaching these and leaving learners without appropriate guidance in the hope that they will discover these for themselves is not one of the more effective techniques.

References


Catherine Scott


Now the Ghosts of the Nineteenth Century Still Haunt Education


Catherine Scott has worked as a primary and high school teacher and school psychologist. She has also taught educational and developmental psychology in a number of Australian universities at the undergraduate and graduate levels. Correspondence: Dr Catherine Scott, Swinburne Professional Learning, Swinburne University of Technology, PO Box 3122, Hawthorn, Victoria 3122, Australia (cathlscott@gmail.com).