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Cultivating Teachers' Morality: The Pedagogy of Emotional Rationality

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Abstract: Teachers are expected to act ethically and provide moral role models in performing their duties, even though teacher education has often relegated the cultivation of teachers' ethical awareness and moral development to the margins. When it is addressed, the main theoretical assumptions have relied heavily on the cognitivist developmental theories of Piaget and Kohlberg. A major pedagogical problem in adopting these theories of moral reasoning is that they may not help teachers to act as moral agents in real-life classrooms. This paper argues that one underlying difficulty is the insufficient attention given to the role of emotion in moral reasoning, even though it is increasingly accepted that rationality is laced with emotions and, moreover, emotions are crucial in brain functioning. This paper presents recent empirical findings, viewing them through the lens of dynamic systems theory, and discusses how they may help to inform and strengthen the cultivation of teachers' moral/ethical literacy in teacher education.

Introduction

There is a general and long-standing expectation among parents, policy makers, and teacher educators that newly qualified teachers entering the profession need to be morally aware. Parents expect teachers to be moral role models for their children and, in Australia for example, the standards set by the New South Wales Institute of Teachers (NSWIT) require that courses of teacher education ensure 'teachers adopt professional ethics with regard to their own conduct and that of others' (p. 3). Also, teachers are expected to 'demonstrate ethical behaviour' (p. 14). However, despite the expectations of the public and government directives, student teachers' moral and ethical development still seems to be regarded as peripheral in teacher training programmes. Even where there are recognised courses dealing with teachers' moral and ethical development, as reported in Cummings et al. (2007) for example, these are largely reliant on a cognitive developmental approach (e.g. Piaget, Kohlberg and Rest) whose validity is now questioned in mainstream developmental science (Thelen & Smith, 1994, 2006; Lapsley & Narvaez, 2005; Lapsley & Hill, 2008; Frimer & Walker, 2008; Kim & Sankey, 2009).

Two main criticisms of the cognitivist approach are that it is founded on a linear (stage-like) notion of development, onwards and upwards with pre-determined starting points and endpoints, and it has ignored the impact of emotional experiences on moral learning and behaviour. On the other hand, opposition to this approach, mounted by social intuitionists such as Jonathan Haidt (2001, 2008, 2012), does away with developmental stages and emphasises what he calls the role of moral emotions. Haidt contends that 'moral intuitions (including moral emotions) come first and directly cause moral judgements' and that 'moral intuition is a kind of cognition, but it is not a kind of reasoning' (Haidt, 2001, p. 814). He also suggests that 'moral education programs that focus on building strengths and triggering the positive moral emotions may be more effective than the more traditional reasoning-oriented interventions' (Haidt, 2003, p. 286). In addition to his dualistic view of reason and

emotion, Haidt's notion of positive emotions seems to be a product of so-called positive psychology, that is at best questionable, and his intuitionist model is indebted to Hume's emotivism and falls prey to the accusation of self-defeating moral relativism.

This paper will be concerned with emotion in morality, but it is important to indicate from the start that, in emphasising the role emotion plays in moral reasoning, I am neither denigrating the importance of moral reasoning nor am I advocating emotivism or moral relativism, as exemplified by Haidt. Rather, this paper is arguing that both models, cognitivism and Haidt's social intuitionism, are founded on a misleading dichotomy between reason and emotion (Sankey & Kim, 2013). Both models provide us with an unacceptable either/or. An important aim of this paper is therefore to provide a non-linear account of moral reasoning and action that rectifies the shortcomings of linear cognitivist models of morality by emphasising the role of emotion, without falling into the clutches of intuitivism and emotivism. In seeking an alternative 'third-way', this paper will adopt a dynamics approach to moral development. Dynamic Systems Theory (DST) is rapidly becoming a new metatheory in human development, as an alternative to cognitive theory (Overton, 2006, 2007; Kim & Sankey, 2009, 2010; Spencer et al., 2011; van Geert, 2011; Hollestein, 2011). The paper will highlight the role of emotion in moral behaviour and the neurobiological link between moral emotions and lower-level brain systems, when viewed through the lens of DST. It will also consider recent findings from neurobiological studies employing a dynamics approach, which provide new insights into human rationality and the role of emotion in moral development (Lewis, 2005a, 2005b). The underlying rationale for using dynamics theory is that brains and 'neurons are dynamical systems' (Izhikevich, 2010, p.7).

The origins of dynamics theory, also known as complexity or chaos theory, are in mathematics and physics, and it encompasses the realisation that, contrary to the Newtonian worldview, the natural world is often deeply unpredictable even though it is deterministic. We are often not able to know all the initial conditions or 'biases' of any developing system, and small fluctuations in initial conditions can have highly unpredictable outcomes. This was strikingly captured by one of the pioneers of complexity theory, Edward Lorenz (1972), in his notion of the 'butterfly effect'; the revolutionary idea that the flapping of a butterfly's wings in one part of the world could lead to a tornado in another. In developmental psychology, Esther Thelen and Linda Smith (1994) were early pioneers with their seminal work *A Dynamic Systems Approach to the Development of Cognition and Action*. In recent years, a number of authors have applied the same approach to the relationship between emotions and human rationality (Lewis, 2005a, 2005b), spiritual development (Cupit, 2007), and moral development (Kim & Sankey, 2009). The main purpose of this paper is to continue this debate in the context of teacher education and the cultivation of teachers' moral and ethical awareness, focusing particularly on the role that emotions play in moral development and decision-making; the values we espouse, how we think and what we do.

It is important to stress that, in turning to dynamics theory and neurobiology, this paper is emphatically not arguing that morality and human values reduce to biology. That is the position of Haidt and his fellow nativists. DST is opposed to the reductionist mindset and it is opposed to nativist assumptions. Rather, as we will see, it views moral development as resulting from the process of emergent self-organisation that requires only an initial value-bias, not moral blueprints in the head or in the genes as argued by Haidt. DST provides a non-reductive holistic account of development in which events are multi-causal, where neither the brain, nor biology, nor the so-called 'internalisation' of external norms is necessarily in the lead. Moral development and moral action result from multiple factors. Moreover, these are always in flux, they have a history and are always contextually situated. In this dynamic and multifaceted process of thought, action and development, emotions play an important role.

The overall message of the paper will be that teacher training courses that aim to enhance students' moral and ethical awareness and behaviour should take the role of emotion very

seriously. The following section begins by considering a recent review of moral education in teacher education, noting that the cognitivist developmental approach has dominated for over half a century, and then identifying its shortcomings when viewed from the perspective of DST.

The Cognitive Developmental Approach to Teacher's Moral Development

A number of papers emanating from philosophy and psychology have raised concerns about ethical and moral matters in teaching and teacher education. These include papers cited in the extensive literature reviews conducted by Cummings et al. (2007) and independently by Bullough (2011). Some of the papers cited have also attempted to suggest appropriate pedagogical approaches. In his review of articles published in *Teaching and Teacher Education*, Bullough (2011) concluded that 'there is agreement that while limited, both pre- and in- service teacher education can facilitate development of moral understanding and ethical sensitivity among teachers' (p.27). In terms of a possible pedagogical approach, Strike (1990) argued that the curriculum should teach 'a set of moral concepts that are highly important to the practice of teaching' (p. 48) and encourage development of student teacher's decision making ability. Mahoney (2009) advocated a 'reflective critical space' where student teachers might develop 'ethical literacy' (p. 984). However, the pedagogy they advocate is primarily direct instruction and dilemma discussion, based on cognitive developmental theory, which also seems to be the preferred approach in other fields of professional education, such as medical education (Miles et al., 1989; Eckles et al., 2005) and business education (Desplaces et al., 2007; Izzo, 2000).

The review by Cummings et al. (2007) also supports the claim that a cognitive developmental approach has been prevalent in programmes that are provided to help student teachers' moral and ethical development. Acknowledging that there are sparse empirical studies of student teachers' moral development, her paper presents the results of studies using the neo-Kohlbergian Defining Issue Test (DIT). The two premises of DIT studies are: first, that when moral development occurs, student teachers are more likely to adopt Lawrence Kohlberg's (1981, 1984) 'post-conventional' or 'principled level' of reasoning rather than the other two lower levels (e.g. pre-conventional and conventional) and, second, that student teachers' level of 'post-conventional' thinking is measurable with a 'self-report questionnaire' such as the DIT. Adopting these two premises, Cummings and colleagues concluded that intervention programmes using direct instruction (e.g. Penn, 1990) and dilemma discussion (Reiman, 2001) enhanced student teachers' moral reasoning ability, but, somewhat alarmingly, the levels of moral reasoning demonstrated by education majors were consistently lower than other majors (Yeazell & Johnson, 1988; McNeel, 1994; Cummings et al., 2001). They speculate this is because students entering teacher education courses view teaching 'as a less difficult major than others' and 'a less reflective student is attracted to teaching as a profession'. Also, they suspect that what they call 'ideational poverty within the types of courses education students experience' prepare teachers to be a 'technician rather than as a critical thinker' (p. 75).

These are rather sweeping generalisations and are obviously related to the American context in which the research was conducted. Nevertheless, they do open up important questions about student teachers' moral development. One such question is whether any impact that moral development intervention programmes might produce continues over the long term, after student teachers qualify and start to teach in schools. A more fundamental question, however, is whether current assumptions regarding moral and ethical development are correct? The frequently adopted cognitivist approaches (e.g. Kohlbergian and neo-Kohlbergian), focusing on the development of reasoning skills and the acquisition of ethical concepts, have provided handy solutions for curriculum design and teaching methods.

However, Haidt (2001) has argued that moral reasoning, the core of the cognitive developmental model, is rarely the direct cause of moral judgment and behaviour. Other commentators have noted that 'reasoning is often post-event; a narrative we tell to explain and justify our actions, but not the actual reasons or causes' and 'we often do not know why we do what we do, it is irredeemably below conscious awareness' (Sankey, 2011, p.419). If correct, these concerns suggest that some radical changes are needed in the assumptions underlying much current pedagogy. Haidt chooses to abandon rationality in favour of intuition. This paper stresses the importance of moral reasoning, even when it is post-event, but also argues that we need to reconceptualise the notion of rationality, by bridging the gap between rationality and action, rationality and emotion.

Even within the neo-Kohlbergian camp, there is recognition that the cognitive developmental model is looking 'a bit shop worn' (Lapsley & Hill, 2008). In direct response to that concern, a dynamic systems approach was proposed as an alternative comprehensive metatheory or paradigm, able to encompass aspects of the cognitive development approach and other approaches, but also go beyond them (Kim & Sankey, 2009). For example, it is able to encompass the role of the sub-conscious and emotion in moral judgement, while rejecting the dichotomy or dualistic gap that Haidt and the intuitionists set up between moral reasoning and moral intuition (including moral emotions). Dynamics theory is opposed to such dichotomies (Overton, 2006; Spencer, et al., 2011). Moreover, a long-standing problem in the cognitive developmental model is the insufficient attention given to the role of emotion in human reasoning. For example, Kristján Kristjánsson (2009) has highlighted the 'marginalisation' of emotions in the dominant paradigm of the moral self, pointing out that even the recent attempt by cognitivists to argue for an integrated model of moral functioning relevant to education (Reed et al., 2008) does not successfully incorporate emotions into the model.

However, this points to a deeper problem. There is a tendency within the debate to assume that emotion is an entity or 'thing' that can or should be incorporated into the developmental model, as one more component (like adding one more gadget in a machine), when emotion would be much better conceived as embedded within a holistic process of development. In other words, what seems to be required is a move from an essentially mechanistic to an organic model, in which human rationality, if it is to be truly rational, is conceived as always laced or tinged with emotion (Damasio, 1994,1999). Working in the context of DST, Mark Lewis (2005 a, 2005b) has provided just such a plausible account of emotion, which encompasses processes operating within the embodied and socially embedded brain. Gerald Edelman's (1987, 1989) theory of Neuronal Group Selection comes at the issue from another direction, arguing that a 'value system', physically located in the old evolutionary brain stem, plays a key role in the formation and pruning of synaptic connections, essential to brain development. It would seem from these and other neurobiological studies that 'the highest and most abstract kind of moral thinking is suffused with value, emotion and feeling' (Kim & Sankey, 2009). In what follows, this paper will further explore this idea, first, by showing how DST overcomes the mechanistic, dualistic gap between reasoning and action created by cognitive development theory, then considering recent findings from neurobiological studies of emotion which address the putative gap between reasoning and emotion, before bringing the discussion back to the issue of pedagogy in teacher education.

Moral Reasoning and Action from the Perspective of Dynamic Systems Theory

A central issue in moral psychology has been a perceived gap between moral learning and moral action. So one might ask, is moral thinking and reasoning that is learnt in a classroom setting actually transferable to real-life decision-making outside the classroom? If not transferable, what would hinder them from being activated and applied in practice? In the context of teacher education the question might become: are student teachers' moral reasoning skills learnt in training transferable to the real-life moral dilemmas they face in school, and if not, why not? From the perspectives of DST this kind of question is based on a false dichotomy; nevertheless this dichotomy has been ubiquitous in moral psychology. For example, Kristjánsson (2009, 2010) argues that a 'moral gap' between moral cognition and moral action has been particularly prominent in the post-Kohlbergian era. He also notes that in the field of moral psychology two potential 'contenders for bridging the gap' have been proposed: the construction of 'moral selfhood/identity' as suggested by Augusto Blasi (1993) and the cultivation of 'moral emotions' (Hoffman, 2000). Blasi's (1993) notion of 'moral selfhood', has met with wide-ranging criticisms. Larry Nucci (2004) said it seems to posit a 'reified homunculus' and Kristjánsson (2010) suggests that Blasi's ideal of a moral self 'has simply replaced Kohlberg's later stages of moral reasoning' (p. 404). Indeed, Blasi's notion of a 'moral self' still seems to reside in the cognitive developmentalists' camp, as a rather ad-hoc and unnecessary construct. By contrast, this paper suggests that 'the cultivation of moral emotions' should certainly play a very important role in teachers' moral development, but not as to bridge to span the putative gap between moral cognition and moral action.

The gap that has been created between cognition and action in moral psychology is similar to the gap that is said to exist between pre-existing 'competence' and here-and-now 'performance'. To give a concrete example, student teachers on teaching practice may be said to be equipped with a professional teaching competence, but their performance is observed to fluctuate from lesson to lesson. In fact, 'the distinction between competence and performance has been a major force in developmental thinking' (Thelen & Smith, 2006, p. 278), but is it valid? Are there really gaps between cognition and action, competence and performance that need to be bridged? The origins of this kind of dualistic thinking may be traced back to Descartes, but in more recent times 'the competence/performance distinction was proposed by Chomsky (1965) in an effort to explain why his theory of innate linguistic rules could not predict the wide range of variability observed in actual language usage' (Fischer & Bidell, 2006, p.346). A dynamics approach rejects the 'competence-performance' dichotomy in favour of a more holistic account (Overton, 2006); there is no logical way of deconstructing 'what is the essential, timeless, and permanent core' of development (competence) 'and what is only performance' (Thelen & Smith, 2006, p. 278). Indeed, what could be meant by the idea of a fixed competence that exists independently of any given performance?

What we observe is 'evidence of variability in performance' (Fischer & Bidell, 2006, p.346). In the context of sport, for example, it is often said that an athlete is only as good as her last performance. The athlete does not have a separate and fixed competence residing somewhere in her body or brain, to which her performance on any given occasion can be compared. What she has is a history of performances, some of which will be better than others. Similarly, scores on so-called lists of teaching competencies are actually scores of performance, as observed on one or more occasions, in particular contexts, influenced by a multitude of natural and social circumstances. In short, the alleged gap between competence and performance is illusory, as is the putative gap between moral reasoning and action. Any given action (performance) is a product of multiple factors coming together and feeding off each other, with some more salient and some more stable than others. Or in the words of DST, performance is always 'softly assembled' here and now, opportunistically

recruiting available components; for example, salient memory, cues, and information from the given task and context (Thelen & Smith, 1994; Spencer et al., 2011). The underlying image is that performance is always a dynamic *process*. What students learn in the classroom setting is not somehow 'lost' in performance, but neither is it the controller of performance. Moral action is always the result of multiple causes and influences working together in unison at any given time. We now need to say a little more about the notion of process in moral development.

The main premise of this paper is that moral development shares the same dynamic process found within the whole of human development; a process already identified in this paper as 'emergent self-organisation' (Thelen & Smith, 1994; Prigogine, 1997; Solé & Goodwin, 2000; Lewis, 2005a, 2005b; Kim & Sankey, 2010). Marc Lewis (2005a) defines self-organisation as 'the spontaneous emergence of order from nonlinear interactions among the components of a complex dynamic system' (p. 173). Here, 'non-linearity' has two meanings. First, cause-effect relationships among components (e.g., emotional appraisal, memory recruitment) are not unidirectional but bi- or multi- directional and recursive, 'as characterised by multiple feedback cycles' (p. 173). Second, effects within the system are generally neither additive nor cumulative but may be exponential. Human brains are complex dynamic systems that self-organise through constant recursive feedback, signals moving rapidly between synapses and between neurons and neuronal groups or maps. Synapses 'are strengthened the more they are used, and they are used the more they are strengthened' (Lewis, 2005a, p.264). Signals between maps go back and forth, constantly, in exceedingly large numbers, and in this dynamic process some of the many connective patterns formed become strengthened, because they possess salience or meaning for the individual, whereas those not valued are weakened or die' (Sankey, 2007, p.548). Whether we are observing behaviour at the manifest level of persons or at the level of the biology of the brain, the image is dynamic complexity always in flux, not a fixed and static set of rules or competencies.

Nevertheless, over time, students will tend to settle into or 'prefer' a limited range of manifestations or modes of action. In dynamic systems terminology this 'preferred' mode is an *attractor* state. Accordingly, we can picture an individual's developmental trajectory as moving across a landscape of hills and valleys, some deeper and steeper than others (Waddington, 1966; Thelen & Smith, 1994, 2006; Kim & Sankey, 2009). The landscape, representing life's on-going experience, is not static but shifting as hills and valleys form and reform over time in response to changing environmental and social circumstances. The person's thoughts and behaviour settle into preferred attractor valleys until they are shifted to a new preferred attractor valley. A deep and steep valley will be more stable and harder to move from than a shallow valley. Moral development can then be viewed 'as a trajectory of variability, continuously changing and stabilising in interaction with an ever-changing environmental landscape where attractor points both form and disappear over time' (Kim & Sankey, 2009). Any resultant behaviour is the 'product of parallel, developing, heterogeneous components and subsystems within an environmental and task context' (Thelen & Smith, 1994, p. 85). For the most part, stability and instability coexist in people's moral judgment and reasoning, and these are always context-sensitive rather than context-independent.

This dynamic and fluid account of development provides a strong corrective to the dichotomy between reasoning and action in Kohlbergian and neo-Kohlbergian theory. DST is concerned with how mutually constituting factors are assembled together and lead to specific thoughts and actions. From this perspective, 'action expresses cognitive-affective-conative meaning' (Overton, 2006, p.51), so there is no absolute separation between reasoning, emotion and action. Moreover, action and inaction are both actions and the decision not to act *is* a decision, whereas in cognitive theory non-action is portrayed as a failure of willpower or lack of motivation to act on a moral decision. A student may reasonably choose to be

either a silent bystander or an activist in a give controversial scenario. Being a silent bystander is not necessarily an indicator of failure of will; rather it may be conceived as a preferred attractor state of action, like the decision to abstain in an election.

The Role of Emotion in Moral Learning and Moral Action, and the Notion of Emotional Rationality

Recent findings from neuroscientific studies indicate that in fully functional brains there is a strong link between emotion, action, and real-life moral decision-making. Moreover, moral decision-making and action can be severely compromised in certain forms of brain damage that dampen emotional sensitivity. Arguably, the best-known research is Damasio's investigations of patients with lesions to the ventro-medial prefrontal cortex (VMPFC). These patients show 'impairments of reasoning/decision making and emotion/feeling' (Damasio, 1994, p. 61). One such patient, Elliot, who had frontal lobe tissue removed because it had been damaged by a tumour, was requested to respond to Kohlberg's Moral Judgment Interview (MJI) along with a number of other questionnaires. The result indicated that he retained 'a capacity to conceptualize means to achieve social objectives, to predict the likely outcome of social situations, and to perform moral reasoning at an advanced developmental level' (Damasio, 1994, p. 48). However, despite his normal performance when tested on a standardised moral reasoning task, the patient exhibited defective decision-making in real life. Damasio (1994) argued that reduced emotional reactivity and feeling, resulting from VMPFC damage, prevented the patient from 'assigning different values to different options, and made his decision-making landscape hopelessly flat' (p. 51).

In 1999, Damasio reviewed the conclusions he had come to five years earlier. He notes that in recent years there has been a growing recognition within science of the role of emotion, so that 'the presumed opposition between emotion and reason is no longer accepted without question' (p.40). The neurological evidence from his laboratory shows 'that emotion is integral to the process of reasoning' (p.41). However, he stresses that this new appreciation of emotion does not mean that emotions are 'a substitute for reason or that emotions decide for us' (p.42), which, as previously noted, seems to be suggested in Haidt's social intuitionist model. Rather 'well-targeted and well-deployed emotion seems to be a support system without which the edifice of reason cannot operate properly' (p.42). Damasio's insistence on the role of emotion in the process of reasoning would seem to have important messages for educating teachers' moral awareness and reasoning, taking us some way beyond how reason has been conceived in the standard cognitive models of Piaget and Kohlberg. Reason and emotion go hand in hand. Moral reasoning is inherently emotional. 'Rational choices, according to this view, depend as much on the exercise of emotion and feelings as on logical deliberation' (Sankey, 2006, p. 171). The important educational task is sensitising students to keep reason and emotion correlating in balance.

Working closely with Damasio on a combined psychological and neuroscientific study, Immordino-Yang and Sylvan (2010) claim that elevating emotions such as 'admiration' are not simply matters of conscious appraisals requiring a high-level cognitive process of social and cultural cues, they are also associated with the brain's 'non-consciously controlled regions that regulate the body and consciousness' (p. 112). By analysing activation level and timing of each brain region using fMRI scanning, it was found that morally motivating emotion such as admiration for another person's virtuous accomplishments involves two kinds of processing in the brain: (1) higher level neural systems related to memory retrieval and appraisal of current circumstances in light of past learning, and (2) induction of low-level systems (e.g. brain stem) related to biological regulation and feelings of the body (gut feelings). It is this latter process that gives 'motivating power' and 'the readiness for action to body and mind' (p. 112). This finding provides a clue to why inspirational stories and films

encourage altruistic behaviours in real life. It also indicates that sub-conscious processes associated with “feeling” play an important role in organising action.

Damasio claims there are strong connections between his model and Gerald Edelman’s Theory of Neuronal Group Selection (TNGS), which Damasio sees as a pioneer in the neurobiology of consciousness (p. 336). Edelman’s theory played an important role in Thelen and Smith’s (1994) advocacy of DST. As noted earlier, one of the three main tenets of Edelman’s TNGS is that a value system or value-bias in the brain plays a key role in the process of neural organisation and development. Value is imposed in the brain by the brain. Edelman’s notion of an inherent value system provides an alternative mechanism to nativism and modularity proposed by Haidt’s intuitionist theory. There is no need to seek the rudiments of morality in an inbuilt blueprint or basic architectural design as advocated by nativists. Rather, following Edelman, they are located in a value-bias or what I have elsewhere called a *predilection to value* built into the sensory system. I need to stress that I am not saying that the whole of morality is nothing but a natural predilection to value. Morality is highly complex, context dependent and develops within social settings. What I am pointing out is that nativists argue for blueprints or devices of one kind or another that are said to reside in the genes, such as Haidt’s ‘moral receptors’ or Chomsky’s ‘language acquisition device’. Dynamic Systems Theory, by contrast, argues that none of this apparatus is required. All that is required is the natural process of emergent self-organisation plus certain ‘valences or tropisms similar to those exhibited by simple organisms and even by animals without nervous systems’ (Thelen & Smith, 1994, p.315). Notice, however, positing a predilection to value inherent within every organism does not ‘put a ghost in the machine, or if it does, it is the ghost of life itself, for similar biases are exhibited even in single cells’ (Thelen & Smith, 1994, p.316).

Current neurophysiological evidence supports the view that new learning, including our moral and ethical learning, does not happen without these biases and valences. For example, working specifically within the context of dynamics theory, Marc Lewis has emphasised the role of emotion in the recursive signalling feedback process between neurons. According to Lewis (2005b), emotion is intimately involved in ‘organizing activity patterns spanning multiple neural systems, both within occasions and over development. Neural substrates of emotion can be seen to influence structural changes underlying all domains of development’ (p. 253). Lewis (2005a) delineated this process using the metaphor of a ‘double-edged sword’. ‘On one hand, *self-augmenting* feedback, orchestrated by limbic and paralimbic structures with the help of ascending neuromodulators, promotes synaptic activity *and hence initiates synaptic change*. In this respect, emotional processes yield novel synaptic configurations. On the other hand, *self-stabilizing* feedback, orchestrated by the same structures and neuromodulators, but lasting longer and recruiting additional subsystems, consolidates patterns of synaptic activity *and hence minimizes synaptic change*’ (p. 262). A key point to notice for our discussion is that emotion is not simply something that occurs at the level of everyday psychology, nor is it simply a social or cultural construct. Rather it is prior to conscious experience and essential to the functioning and regulation of the brain.

Towards a Pedagogy of Emotional Rationality and Ethical Literacy

We began this paper by pointing out that teachers are expected to act as moral agents, but that this is often overlooked or marginalised in teacher education courses. Even when included, it is often based on a cognitive developmental approach that has underestimated the role of emotion in moral functioning. In the foregoing discussion, this paper has argued that emotion is integral to all forms of reasoning, including moral reasoning. In what follows, some practical implications will be explored. The main message of this paper, so far, is that student teachers do need to develop their moral awareness as part of their professional profile and that this must include a clear acknowledgement of the role of emotion in moral functioning. The next issue is how this can be translated into pedagogy?

There has, in fact, been a long-standing discussion on the issue of educating the emotions, especially within Philosophy of Education (Bantock, 1986; Peters, 1972, Warnock, 1986). Bantock (1986) expresses agreement with R. S. Peters that 'the education of the emotions is inescapably a moral matter' rather than 'a matter of development', providing examples where 'evil emotions have been fostered' or where 'emotions have failed to play an *appropriate* role in judgements' (p. 141). Though this paper does not share his aversion to the notion of 'development' and would argue that he conceptualises development in a rather limited and narrow sense when compared with the more expansive view of DST, his appreciation of emotion's role in rationality is certainly important.

In parallel with this philosophical and theoretical debate, several explicit approaches have been suggested aimed at the development of affective aspects of personhood. Arguably, the best-known approaches are 'virtues' and 'character' education and 'emotional competence' education. However these initiatives have come under considerable criticism, which casts doubt on whether they could provide the basis for a pedagogy that cultivates student teacher's morality. For example, character education has been implemented in schools and also advocated in teacher education (Lumpkin, 2008). It has been defined as 'the deliberate effort to develop good character based on core virtues that are good for the individual and good for society' (Berkowitz & Bier, 2005). However, Kristjánsson (2010) notes that it is vulnerable to the charge of promoting 'uncritical conformism and conservatism' (p. 397). Cognitive developmentalists have expressed concern that approaching morality in terms of a "bag of virtues" (Kohlberg & Turiel, 1971) can easily lead to moral relativism. Unbridled relativism is certainly problematic, but there is a cultural dimension because the selection of virtues depends on the varying expectations about the good life and the ideal person that necessarily vary across different cultural and subcultural groups. What is 'good for the individual and good for society' will depend at least in part on the social and cultural context.

Arguably more damaging is the verdict of the American Institute of Education Sciences, reporting in 2010 on the school-wide Social and Character Development (SACD) intervention programs. The Report concluded that 'the analysis of the year-by-year impacts did not yield evidence that the seven SACD programs... improved student social and character development' (p. xlvi). It also noted that one possible reason is 'failure of the conceptualization and design of the intervention' (p. li). Meanwhile, attempts to develop emotional competence arising from the construct of *Emotional Intelligence* have also met considerable criticism. Daniel Goleman's (1995) description of emotional intelligence as 'character' and 'meta-ability' is not convincingly distinct from other psychological constructs (Matthews et al, 2006) and seems conceptually muddled. Furthermore, despite the emphasis given to empathetic ability within emotional competence, moral educators have criticised its lack of 'moral ballast' (Kristjánsson, 2010, p. 397). From the perspective of DST and neurobiology, the notion of a separate emotional intelligence makes little sense. As already argued, emotion is an integral part of thought and action whether viewed in terms of our everyday lives or at the level of the complexity of brain functioning. Emotions take their place within the process of 'evolving wholes' (Fogel, 1993; Lewis, 1995, 1996; Scherer,

2000).

Given the shortcomings in these and other available approaches, is it possible to move towards an alternative holistic theoretical base and pedagogy, in teaching and teacher education? Our previous discussion has already laid down some helpful markers. We began this paper by noting that previous attempts to address the development of teachers' ethical awareness have been patchy. Part of the problem has been the lack of a convincing theoretical base. We discussed the dominant cognitivist developmental approach, and the opposing intuitionist alternative. We saw that both models are founded on a misconception of rationality, which does not incorporate emotion. In seeking an alternative third way, this paper adopted a dynamics approach and has proposed that cultivating teachers' moral and ethical awareness should be based on the notion of *emotional rationality*, where rationality and emotion go hand in hand; not only as manifested in what we think and do at the macro-level, but also at the micro-level of the functioning brain. We also noted the importance of creating a reflective critical space where student teachers can develop *ethical literacy*. Let us now look at this idea in more detail.

There have been a number of references to developing ethical literacy in the context of professional education, such as Davidson and Morrissey (2011) in regard to the profession of psychology. They say that ethically literate citizens have 'a disciplined knowledge of, and theoretical approach to, moral decision making. They have a vocabulary for talking about morality. Their vocabulary acquires meaning from their knowledge of a number of moral philosophical perspectives' (p. 45). This is certainly helpful, though I would argue it provides a rather static view of knowledge and decision making, in contrast to the view expressed in this paper that what we know is often in flux and what we do is often highly dependent on circumstance. Also, while the development of vocabulary is certainly an important ingredient of moral literacy, the meanings acquired are generated as a result of life's on-going trajectory and not restricted to what they call 'philosophical perspectives', though these should play their part in the holistic educative process. What is strikingly missing from Davidson and Morrissey's paper is the role of emotion in ethical literacy, the important relationship between language and felt meaning and the emotional impact on decision-making and action. Consequently, the pedagogy they offer, which contains the kinds of seminar exercises advocated by the cognitivists such as dilemma case discussion and so forth, are pitched at engendering discussion (on ethical theory and justice), but entirely overlook the emotional element in human thought and the generation of meanings. My argument has been that this has to be included in what is meant by ethical literacy.

Ethical literacy is therefore defined here as comprising three different but overlapping components. In the context of teacher education, these are:

- (a) An understanding of past and present models of morality, including theories of moral development and moral philosophy;
- (b) A vocabulary of ethical discourse and decision-making that allows teachers to critique not only moral theory, but also real-life moral statements and actions as experienced in practice;
- (c) Emotional sensitivity and empathy, which incorporates the ability to recognise and articulate ethical meanings and relevance in practice.

Courses of teacher education should therefore: impart some understanding of moral development and theories of ethical decision making; teach ethical vocabulary and encourage dialogue regarding moral and ethical concerns; enhance emotional sensitivity and empathy, and; allow students to practice incorporating moral issues and concerns into classroom practice.

It is to the credit of University of Sydney, Australia, that all student teachers study *Human Development and Education* as a core unit of study. Whereas philosophy has been almost completely expunged from the teacher education programme, students nevertheless learn about moral development theory in the lecture component of the Unit and engage with the

vocabulary of moral discourse in the accompanying seminar component. The Unit introduces dynamic systems theory as a new meta-theory in human development where students' abilities and performances are viewed as self-organising from multiple factors and influences, and they are introduced to the concepts of 'emotional rationality' and 'ethical literacy'. Opportunities to develop ethical literacy and engage in moral sensitivity often arise when discussing issues of importance in teacher education. For example, when students are considering the long debate on the relationship between intelligence and race (using audio-visual aids such as video clips of expert interviews and photos of eugenic centres,) student teachers gain a new sensitivity toward the possible misuse of psychological testing and ethnic stereotyping in their classrooms.

In the tutorial seminar component of the Unit students undertake a task aimed at developing their moral awareness and emotional sensitivities. Working in small groups, student teachers from different majors (e.g. art, mathematics, science, humanities and social sciences) plan a lesson on an important value such as 'peace' or an issue such as 'caring for our world'. They are asked to imagine that the school is developing a cross-curricular tutorial programme that will include lessons on moral values. In planning the content of their lesson they have to begin by choosing the age group they will target, and then plan their lesson not simply to convey information, but also engage the children emotionally in the topic in a balanced and educationally appropriate manner. Each group of student teachers presents their lesson plan to their peers, with each presentation lasting close to 30 minutes. Their peers provide feedback on the lesson plan that has been presented. Based on their experience of preparing the lesson and the feedback received for peers and the tutor, each member of the small groups prepares a reflective report saying what changes they would like to make to their plan if actually teaching it in school, and why.

In some ways this might seem a fairly standard lesson-planning task, but the specific aim of this exercise is to create a discreet reflective critical space where student teachers can begin to develop ethical literacy. What we have found is that in the process of planning and presenting the lesson plan, intuition, rationality, and emotion are operating in unison through constant feedback. We also see the student teachers shifting their positions, in their thoughts and feeling, in response to undertaking this collaborative exercise and in the course of feedback and critical reflection. The deep attractors representing deeply held views often become shallower and shift in response to the dynamics of the learning environment provided by this exercise; new thoughts emerge while others dissolve or re-form. On reflection, students are able to appreciate just how much their emotions are influencing their intuitions and rational judgements, sometimes positively and productively, sometimes not. As a teacher educator, one hopes that the experiences gained in this Unit of study are significantly meaningful that they impact memory and are thus retained long-term into their careers as teachers, but only time will tell.

Conclusion

This paper began by noting teachers are expected to act ethically and morally and that there is evidence that teacher education can facilitate the development of moral understanding and ethical sensitivity. It also noted, however, that the way this is attempted, if at all, is based on cognitive development theory even though it is widely recognised that it is open to serious criticism and, at the very least, is in need of considerable rethinking. In particular, cognitive theory and the alternative social intuitionist theory, fail to appreciate that human rationality is emotional rationality. The approach advocated in this paper advocates the notion of emotional rationality and is strongly influenced by dynamic systems theory. But theory on its own is not enough. If teachers are really going to develop their moral awareness, such that it impacts on their actions, opportunities need to be identified in teacher education courses for engaging

students with moral and ethical issues and appropriate pedagogies need to be developed. Building on insights drawn from dynamics theory, a number of possible strategies have been proposed for developing student teachers' ethical literacy, in such a way that they will be better prepared to respond to the moral and ethical challenges they will inevitably face in their professional practice.

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