Patchwork quilts and speed cars: Metaphors for teaching and learning

Reesa Sorin, James Cook University

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Imaginative practice, Imaginative inquiry

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Imaginative Practice, Imaginative Inquiry:  
The impulse of Imaginative Education

It is with great pleasure that we introduce the conference proceedings for the 6th International Conference on Imagination and Education, Imaginative Practice, Imaginative Inquiry, 29-31 January, Canberra, Australia. Welcome!

Ever since 2003, when the Imagination and Education Research Group (IERG) convened the 1st Conference on Imagination and Education in Vancouver, Canada, we have had the idea of bringing this event to Australia. At a time of uncertainty and stress about how to make teaching and learning engaging enough to counteract behaviour problems, about an overcrowded curriculum and a complex and multi-levelled society in general, a gathering of this sort is overdue in Australia.

It is not so long ago that imaginative processes were held up to be the apex of human experience by a whole movement. When Romantics like William Wordsworth claimed that, ‘Imagination... is Reason in her most exalted mood’ (The Prelude, Bk. XIV, line 192), he exemplified a belief that our imagination is a direct link to the spiritual world, to which we can gain access only through the creative powers of our being. The Romantic Period has since been claimed to have been a type of counter-reaction to the dry intellectualism of the Enlightenment. Indeed, the Romantic Period and the Enlightenment Period are often seen as polar swings of preference between understanding the world through ‘mind’ and understanding it through ‘emotion’.

One would think that by now we would have outgrown the dichotomy created by seeing ‘mind-rationality-objectivity’ as separate to ‘emotions-imagination-subjectivity’. But the reality is that the tensions between the ‘factual’ and the ‘artistic’ still resurface in educational theory and practice. We now have terms like ‘imaginative education’ (eg. Egan 2005, 1997), ‘emotional intelligence education’ (Goleman 1998) and ‘multiple intelligences education’ (Gardner 1983), which implies a need for such initiatives! As John Dewey (1916) highlighted almost a century ago, when education does what it is supposed to do in all its aspects, then we probably do not need prefixes in front of it anymore!

Today, there isn’t a place in the world, however, where maths and science do not take up more time in mainstream education than do the humanities and the arts (Robinson 2006). While ‘imagination’ and ‘emotions’ are not – and nor should they be – confined to the arts and the humanities, the hierarchical
structure of our education system does reflect a preference for human qualities that we have most often come to equate with ‘academic’ ability.

The only problem is that the notion of ‘academic’ ability derives from a 19th century concept of schooling – a concept driven by the needs of the industrial revolution, which are incompatible with the multi-social and multi-technological world of today. It has been said that we are now part of a ‘knowledge age’; however, the abundance of information and knowledge that come with it offers no immediate solutions to the challenges that face our planet. Moreover, the world has changed so rapidly in the last century that we now find it hard to predict what skills and attributes will be in demand just a few years ahead. We are to educate children for jobs that do not yet exist. These uncertainties highlight an even greater need for an education that caters for the whole human being and all its faculties.

There is, in other words, a need for thinking about thinking and learning in newer and much more flexible ways than exist within the normal conception of ‘academic’ ability. We need to think about thinking and learning in much more imaginative ways. This intent is getting more widespread and is abundantly evident in the presentations at this conference. From Kieran Egan’s notion of embodied thinking as an expanded notion of learning, to Mark Fettes’s argument that the modern project hasn’t fulfilled its promise, to Noel Gough’s interplay of dialogical space between the sciences and narrative inquiry, we see an intent to view the body and the imagination as integral to the mind and rationality.

In the presentations by Sean Blenkinsop, Miranda Armstrong and Bernie Neville we hear about how this intent is being implemented in communities, schools and teacher education institutions. Indeed, in the presentations at this conference as a whole, we see evidence of a widespread intent to teach and learn holistically across the curriculum, as well as across communities and institutions. At time of writing we have 140 confirmed delegates attending (and a number of virtual delegates), who represent 20 countries. Our web-based conference system has nearly 167 registered users (authors and readers). There is a movement on the rise – again.

But unlike the polar swings of the past, we hope that this movement will not be seen in hindsight as yet another ‘knee-jerk’ reaction to various educational manifestations of capitalism, consumerism or competition. It is our hope that this conference will provide a strong impulse to synthesise notions of ‘romanticism’ and ‘rationality’, the spiritual and the practical, imaginative enquiry and imaginative practice, so that we can work to establish the Imaginative Education initiative in Australia and the Asia-Pacific region.

With these words we hope you have an enjoyable and intellectually challenging conference. All conference submissions were double-blind peer-reviewed by an international panel of IERG associates and invited scholars. Following rigorous peer-review, the conference organisers finally accepted 88 submissions across the five conference tracks of evaluating imaginative learning; imagination in science and/or mathematics teaching; imagination in the arts and/or humanities; imagination across the curriculum; research and theory in imaginative education; and unexplored territories and new frontiers.

We would like to thank our sponsors: IERG at Simon Fraser University, the Imagination and Education Group at University of Canberra, La Trobe University, and Elite Audio Visual. Special thanks to IERG for their support and
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The present study describes the Teachers Moral Imagination Scale (TMIS). An exploratory factor analysis of the data collected from 182 Egyptian teachers identified 5 correlated factors: (a) reflection (4 items), (b) perception (5 items), (c) rationality (4 items), (d) emotion (4 items), and (e) caring for self (4 items). The reliability of the TMIS subscales ranged from .76 to .80. There were gender differences in moral imagination. High and low experienced teachers diverged significantly on reflection, perception, and rationality. Age correlated positively with rationality. The TMIS correlated positively with a measure of reflective thinking. Implications of these findings for measuring teachers’ moral imagination are discussed.

Introduction

Recent developments in education have spurred calls for making moral dimension of teaching a crucial component of teacher education (Beyer, 1997; Campbell, 1997; Fallona, 2000). Such developments have also highlighted deep appreciation of the moral nature of teaching, of teaching as a moral craft, and of teachers’ own sense of their work as moral in nature. For example, researchers in teacher education have emphasised teaching as moral practice (Pring, 2001), moral discourse and reasoning (Beyer, 1997), the moral and spiritual potential of education (Noddings, 1992), teachers’ examination of their own conduct (Fallona, 2000), values within teaching practices and the culture of the school (Hansen, 1998), educators’ moral commitment to democratic and equitable schools (Goodlad, Soder, & Sirotnik, 1990), and specific moral education curricula (Benninga, 1991; Wynne & Ryan, 1993).

The notion of moral imagination refers to “The ability in particular circumstances to discover and evaluate possibilities, not merely determined by that circumstance, or limited by its operative mental models, or framed by a set of rules, or rule governed concerns” (Werhane 1999, p. 93). Werhane (1999) added that “Moral imagination entails an ability to understand a context or a set of activities from a number of different perspectives, the actualizing of new possibilities that are not context-dependent, and the instigation of the process of evaluating those possibilities from a moral point of view” (p. 5).
Furthermore, researchers have referred to the cognitive and emotional components of moral imagination (see Werhane, 1999). For example, Johnson (1993) defined moral imagination as “The ability to imaginatively discern various possibilities for acting within a given situation and to envision the potential help and harm that are likely to result from a given action” (p. 202). Johnson’s definition highlights two important elements of moral imagination: (a) creativity, as in being able to imagine many possibilities and their consequences, and (b) rationality, as in being able to morally evaluate the possibilities. Thus, one cognitive form of moral imagination is perspective taking. This refers to “The ability to project ourselves imaginatively into a situation into the roles of the parties affected” (Lickona, 2001, p. 243). Similarly, Heath (1995) described moral imagination as taken sympathetically the point of view of all those affected by a decision. Noddings (1993) argued that the emotional connection that an individual feels towards another is a manifestation of moral imagination as an experience of empathic feelings. Garrison (1997) added that moral imagination, as an affective element, highlights the needs, feelings, and vulnerability of moral agents themselves.

The notion of moral imagination seems to be of particular interest for researchers, educators, and policy makers. Several reasons could be identified. For example, Nussbaum (1990), and also Wicks and Glezen (1998) referred to moral imagination as a creative force in decision making that practitioners can benefit from. Similarly, Werhane (1998) argued that moral imagination can improve moral decision. Werhane (1999) highlighted that moral imagination could influence moral reasoning by allowing individuals to “think more creatively within the constraints of what is morally possible” and to “evaluate from a moral point of view” the context of a situation that requires moral judgement, the moral rules that come into play, and “the new possibilities one has envisioned” (Werhane, 2002, p. 34). As a catalyst of a deliberative process, moral imagination could also help “sharpening powers of discrimination, exercising the capacity for envisioning new possibilities, and imaginatively tracing out the implications of metaphors, prototypes, and narratives” (Johnson, 1993, p. 198) as individuals construct their ethical decisions. In addition, Kekes (1991) noted that moral imagination has both an exploratory and a corrective function. The exploratory function of moral imagination allows the individual more choices regarding courses of action and character development. It provides individuals with the ability to compare and contrast their culture with that of others. The corrective function of moral imagination contributes to self knowledge. It provides the individual with the ability to perform a retrospective imaginative recreation of past situations.

Although the concept of moral imagination seems to receive a deliberate discussion (see Johnson, 1993; Werhane, 1999), there is a possible lack of consensus regarding a self-report measure that could articulate further the concept of moral imagination. For example, Johnson (1993) claimed that moral imagination could be measured as a multifaceted concept. Similarly, Werhane (1998) conceptualized moral imagination as a three-stage process of approaching moral decision. Such process entails (a) reproductive, (b) productive, and (c) creative. Reproductive imagination involves attaining awareness of contextual factors that affect moral perception such as “(a) awareness of one’s context, (b) awareness of the script of schema functioning in that context, and (c) awareness of possible moral conflicts or dilemmas that might arise in that context—that is,
dilemmas created at least in part by the dominating script” (Werhane, 1994, pp. 21-22). Productive imagination involves reframing the problem from different perspectives. That is “Revamping one’s schema to take into account new possibilities within the scope of one’s situation and/or within one’s role” (Werhane, 1994, p. 22). Creative imagination entails developing novel, morally acceptable alternatives to solve problems. It highlights “(a) The ability to envision and actualize possibilities that are not context dependent but are encouraged by- or project-a fresh schema, and/or (b) the ability to envision possibilities that other reasonable persons could envision, and (c) evaluation: envisioning of how to morally justify actualizing these possibilities and/or how to evaluate both the status quo and these newly formulated possible outcomes” (Werhane, 1994, p. 22).

Yurtserver (2006) used Werhane’s framework of moral imagination (Werhane, 1994) to develop the Moral Imagination scale (MI) within the area of business administration. The sample of the study included 491 participants from six organizations in Turkey. The MI scale consisted of 29 items; 12 positively and 17 negatively worded items. Participants rated their agreement or disagreement per item on a 7-point scale. The scale was translated into English and then into Turkish by different translators to ensure accuracy of translation. An exploratory factor with varimax rotation of the MI scale identified three factors that explained 41.5 per cent of the total variance extracted. Factor 1, with 29.3 per cent of variance, was labelled Reproductive Imagination (12 items). Factor 2, with 6.7 of variance, was labelled Creative Imagination (10 items). Factor 3, with 5.5 percent of variance, was labelled Productive Imagination (7 items).

The overall reliability of the MI scale was above .87 in all samples. The reliabilities of all subscales of the MI scale ranged from .71 to .86 in all samples. The validity of the MI scale was assessed by three methods. In the first method, the 19 items for which there was agreement by fewer than seven judges out of eight were not included in the MI scale. Thus, the MI scale consisted of a total of 29 items. In the second method, the correlation coefficients between the judges’ ratings of participants’ moral imagination (as reflected in participants’ answers to several questions about a moral case) and the participants’ self-ratings of their own moral imagination were .71 for overall moral imagination, .50 for reproductive, .46 for creative, and .51 for productive imagination. In the third method, the MI scale correlated significantly with measures of locus of control, tolerance of ambiguity, machiavellianism (i.e., to be emotionally less concerned with others), and empathy. In addition, the MI scale was found to be social desirability free. Yurtserver concluded that “Future researchers …may improve the existing MI component scales as well as uncover other possible behavioural dimensions of moral imagination that have not been empirically addressed.” (p. 218).

In a recent theoretical review of the concept of moral imagination based on several seminars with teachers students, Joseph (2003) stated “...I have come to an integrated understanding of moral imagination as a multifaceted concept with five interwoven elements: (a) perception, (b) rationality, (c) reflection, (d) emotion, and (e) caring for self” (p. 16). These five elements of moral imagination are reviewed in the following sections.

Perception refers to “The ability of people to become aware of others and their needs, desires, interests, wishes, hopes, and potentials.” (Joseph, 2003 p. 16). This perception “allows us to perceive ‘their’ needs, desires, interests, wished, and
hopes” (Garrison, 1997, p. 66). According to Simpson and Garrison (1995), “Moral perception allows ‘teachers’ to see the unique needs, desires, and interests hidden in the words and deeds of ‘their’ students. It also allows them to see not just who students are here and now, but the future of their best possibilities” (p. 252).

Moral rationality refers to realistic understanding of situations and events calling for moral responses. That is, moral rationality refers to the ability to be flexible and not just apply a moral value or rule to every situation (Joseph, 2003). Johnson (1993) stated that “Our imaginative rationality is the chief means we have for dealing critically, creatively, and sensitively with the novel situations that arise for us each day” (p. 77). Put bluntly, we do not tend to just apply a moral value or rule to every circumstance or situation, but we are expected to understand the particular issues and problems at stake.

Reflection refers to “The continuing examination of beliefs and actions and consideration of how they affect other people and the questioning of the origins of our beliefs and values” (Joseph, 2003, p. 16). Reflection seems to help us investigating the origins of our values and to question if ours ethics stem from thoughtfully constructed choices or unexamined convention (Joseph, 1990). In addition, reflection could help determine if our worldviews and values are identical to or contrast with those of others. According to Joseph (2003), “By fostering critical reflection, we, as teacher educators, do more than merely celebrate our students’ moral voices; rather, we help them to question their own values and actions” (p. 16).

The fourth element of moral imagination is emotions. Emotions are embedded in our sympathetic connections and responsiveness to others. According to Noddings and Shore (1984), “Moral intuition constructed as moral feeling is clearly very different from the intuition of moral knowledge...it provides the initial impulse to act in a caring fashion. A person senses the pain of others and, without deliberation, feels that I must do something! The catalyst for moral action is the capacity for feeling” (p. 63). Nurturing the emotional connection of educators to their students seems to remove the sense of teachers as controllers and students as objects.

The fifth element of moral imagination is caring for self. Caring for self refers to “Affirmation of individuals’ need for their lives to have meaning and purpose...awareness that as moral agents, individuals have needs that must be considered” (Joseph, 2003, p. 16). Garrison (1997) highlighted that moral imagination does not imply ‘self-eradication’. ‘Ethical agents’, he continued, should “consider their own needs as well as those of others in the context of formulating a caring response... To perceive the needs of others, we must be vulnerable enough to know that we, too, are needful” (p. 66). We, as teacher educators, should broaden our ideas about the moral dimensions of teaching by imaginatively taking into account the hopes and experiences of teachers, caring about them as people, and helping them to care about themselves.

**Aim of the study**

The primary goal of the present study was to develop a new measure of moral imagination that is consistent with Joseph’s analysis of teachers’ moral imagination (Joseph, 2003). Using Yurtserver’s MI scale (Yurtserver, 2006) as a
starting point, we developed items which reflected moral imagination as a multifaceted construct that include (a) perception, (b) rationality, (c) reflection, (d) emotion, and (e) caring for self. Accordingly, we developed the Teachers Moral Imagination Scale (TMIS), and sought to test its psychometric properties using data collected from a sample of Egyptian teachers.

**Methods**

**Participants**

Subject of the present study included 182 (98 males and 84 females) teachers recruited from 8 primary schools in El-Minia, Egypt. The mean age was 31 years, with a range from 25 to 46. Participation was voluntarily. Although the exact numbers are unknown, it is believed that 18 teachers in the approached schools declined to participate in data collection for the present study.

**Measurements**

The Teachers Moral Imagination Scale (TMIS) was developed for use within the present study. A pool of 21 items was developed to measure five factors: (a) perception, (b) rationality, (c) reflection, (d) emotion, and (e) caring for self. Respondents rated their agreement or disagreement per item on a 4-point Likert type scale that ranged from 1 (Strongly Disagree) to 4 (Strongly Agree).

**Procedure**

The initial version of the TMIS was prepared in English and the first author translated it into Arabic. Applying a blind-back-translation strategy, two qualified translators, working without referencing to the English version of the TMIS, translated the Arabic version into English. Other two qualified translators independently compared the original English version of the TMIS to the new English version that was translated back from Arabic, and rated the match between the two versions on a scale from 1 to 10. A score of 1 represented poor match, whereas a score of 10 represented perfect match. The average percentage of match between the two versions of the TMIS was 96 per cent which could be considered acceptable (see Brislin, Lonner, & Thorndike, 1973). All the translators were accredited with the British-Egyptian Centre in El-Minia, Egypt. The Arabic version of the TMIS was administered to the sample of the study with some assistance from other teachers in the targeted schools. The sampled teachers were also requested to respond to several questions concerning their age, gender, years of teaching experience (as measured by the numbers of years working as a full-time teacher).

**Results**

**Factor analysis**

An exploratory factor analysis with oblique rotation, presented in Table 1, of the 21 items of the TMIS identified five factors: (a) reflection (4 items, Cronbach alpha = .78), (b) perception (5 items, Cronbach alpha = .80), (c) rationality (4 items, Cronbach alpha = .77), (d) emotion (4 items, Cronbach alpha = .77), and (e) caring for self (4 items, Cronbach alpha = .76). The TMIS item factor loadings
<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I enjoy discussing moral issues with others.</td>
<td>.72</td>
</tr>
<tr>
<td>4</td>
<td>I ponder about my moral beliefs.</td>
<td>.68</td>
</tr>
<tr>
<td>11</td>
<td>I am flexible to review my moral beliefs.</td>
<td>.66</td>
</tr>
<tr>
<td>15</td>
<td>I tend to criticize my moral beliefs.</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td><strong>Eigenvalue</strong></td>
<td><strong>1.8</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>I respect others’ moral beliefs.</td>
<td>.70</td>
</tr>
<tr>
<td>6</td>
<td>I think that all people should have the same moral beliefs as mine.*</td>
<td>.68</td>
</tr>
<tr>
<td>7</td>
<td>I think of moral beliefs as rules of thumb.*</td>
<td>.65</td>
</tr>
<tr>
<td>10</td>
<td>I feel sad when others do not agree with my moral beliefs. *</td>
<td>.62</td>
</tr>
<tr>
<td></td>
<td><strong>Eigenvalue</strong></td>
<td><strong>1.8</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>I consider all situational factors before taking a moral decision.</td>
<td>.68</td>
</tr>
<tr>
<td>5</td>
<td>I sometimes fail to justify my moral decisions.*</td>
<td>.65</td>
</tr>
<tr>
<td>8</td>
<td>I think that the same moral beliefs are applicable to every situation. *</td>
<td>.64</td>
</tr>
<tr>
<td>13</td>
<td>I can adjust my moral beliefs to match the situations.</td>
<td>.60</td>
</tr>
<tr>
<td>16</td>
<td>I am creative when solving moral issues.</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td><strong>Eigenvalue</strong></td>
<td><strong>2</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I feel sympathy when others are suffering.</td>
<td>.70</td>
</tr>
<tr>
<td>12</td>
<td>I do not mind unfair moral decisions as long as they do not affect me.*</td>
<td>.68</td>
</tr>
<tr>
<td>14</td>
<td>I avoid pushing others to accept my moral decisions.</td>
<td>.66</td>
</tr>
<tr>
<td>20</td>
<td>I consider others feelings when I take a moral decision.</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td><strong>Eigenvalue</strong></td>
<td><strong>1.9</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring for self</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I consider my needs as well as others’ needs when I take a moral decision.</td>
<td>.70</td>
</tr>
<tr>
<td>18</td>
<td>I should feel comfortable about the moral decisions I am taking.</td>
<td>.66</td>
</tr>
<tr>
<td>3</td>
<td>I do not mind if the moral decisions I am taking may not satisfy me.*</td>
<td>.64</td>
</tr>
<tr>
<td>17</td>
<td>I tend to seek others’ advice before taking a moral decision.</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td><strong>Eigenvalue</strong></td>
<td><strong>1.7</strong></td>
</tr>
</tbody>
</table>

*Note. N = 182. * indicates items to be reverse scored.
ranged from .60 to .72. The percentage of variance explained was 19 per cent for perception, 15 per cent for rationality, 12 per cent for reflection, 10 per cent for emotions, and 10 per cent for caring for self.

Reflection had a positive relationship of .32 with perception, and .30 with rationality, emotions, and caring for self. Perception had a positive relationship of .31 with rationality and emotions, and .30 with caring for self. Rationality had a positive relationship of .32 with emotions, and .31 with caring for self. There was a positive relationship of .34 between emotions and caring for self. All reported correlations were significant ($p < .01$).

**Differences in TMIS**

**Gender**

A series of ANOVA was run to test gender differences in moral imagination (see Table 2). The analysis showed that male teachers had significant higher scores than female teachers on reflection, perception, and rationality. However, the analysis showed that female teachers had significant higher scores than male teachers on emotions and cares for self.

**Table 2. Gender differences in moral imagination**

<table>
<thead>
<tr>
<th>Variables / Statistic</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>$F$ (1, 180)</th>
<th>$d**$</th>
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</thead>
<tbody>
<tr>
<td>Reflection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>98</td>
<td>12.2</td>
<td>4.3</td>
<td>13.2</td>
<td>.32</td>
</tr>
<tr>
<td>Females</td>
<td>84</td>
<td>11.0</td>
<td>3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>98</td>
<td>10.8</td>
<td>3.1</td>
<td>9.3</td>
<td>.28</td>
</tr>
<tr>
<td>Females</td>
<td>84</td>
<td>10.0</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>98</td>
<td>9.6</td>
<td>2.6</td>
<td>9.8</td>
<td>.29</td>
</tr>
<tr>
<td>Females</td>
<td>84</td>
<td>8.8</td>
<td>2.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>98</td>
<td>8.1</td>
<td>2.2</td>
<td>9.5</td>
<td>-.29</td>
</tr>
<tr>
<td>Females</td>
<td>84</td>
<td>8.7</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring for self</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>98</td>
<td>9.8</td>
<td>2.5</td>
<td>8.4</td>
<td>-.26</td>
</tr>
<tr>
<td>Females</td>
<td>84</td>
<td>10.5</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. $p < .05$ for all instances. **$d$ represents Cohen’s effect size (Cohen, 1988)*

**Age**

A series of Pearson’s product moment correlation coefficient showed nonsignificant relationship between teachers’ age and their reflection ($r = .09, p > .05$), perception ($r = .08, p > .05$), emotions ($r = .07, p > .05$), and caring for self ($r = .08, p > .05$). However, there was a significant positive relationship between teachers’ age and rationality ($r = .29, p < .01$). This relationship hold true for male ($r = .31, p < .01$) and female teachers ($r = .28, p < .01$). The $z$- statistic ($z =$
.22, p > .05) indicated nonsignificant differences between the correlation of age and rationality for male and female teachers.

**Teaching experience**

A median split procedure was adopted to compare teachers with different levels of teaching experience over reflection, perception, rationality, emotions, and caring for self. The median of teaching experience was 13 years. Teachers whose teaching experience falls on or around the median (11, 12, and 13 years) was deleted from the total cohort. Such procedure has resulted in a deletion of total of 31 teachers. Thus, a total of 151 teachers were coded into high (N = 78) and low (N = 73) levels of teaching experience.

A series of one-way ANOVA showed significant differences between teachers with high and low levels of teaching experience in reflection, perception, and rationality (see Table 3). These differences were in favour of teachers with high levels of teaching experience. The analysis did not detect any significant differences between teachers with high and low levels of teaching experience in emotions or caring for self (see Table 3).

**Table 3. Differences between high and low experienced teachers in moral imagination**

<table>
<thead>
<tr>
<th>Variables / Statistic</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>F (1, 149) *</th>
<th>d**</th>
</tr>
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<tbody>
<tr>
<td>Reflection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.32</td>
</tr>
<tr>
<td>High experience</td>
<td>78</td>
<td>8.7</td>
<td>1.8</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>Low experience</td>
<td>73</td>
<td>8.1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.30</td>
</tr>
<tr>
<td>High experience</td>
<td>78</td>
<td>7.5</td>
<td>2.2</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Low experience</td>
<td>73</td>
<td>6.8</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationality</td>
<td></td>
<td></td>
<td></td>
<td>15.8</td>
<td>.33</td>
</tr>
<tr>
<td>High experience</td>
<td>78</td>
<td>10.3</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low experience</td>
<td>73</td>
<td>9.6</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotions</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High experience</td>
<td>78</td>
<td>8.4</td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low experience</td>
<td>73</td>
<td>8.2</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring for self</td>
<td></td>
<td></td>
<td></td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>High experience</td>
<td>78</td>
<td>6.7</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low experience</td>
<td>73</td>
<td>6.5</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. p < .05 for all instances. ** d represents Cohen’s effect size (Cohen, 1988)

**Correlation with reflective thinking**

An Arabic version of the Questionnaire for Reflective Thinking (QRT, Abd-El-Fattah, 2006; Kember, Leung, Jones, & Loke, 2000) was administered to the sample of the study. The QRT is a self-report questionnaire that consisted of four-items subscales intended to measure teachers’ reflective thinking. The habitual action subscale (Cronbach alpha = .77) measures an action “which has been learnt before and through frequent use becomes an activity that is performed automatically or with little conscious thought” (Kember et al. 2000, p.383). The
understanding subscale (Cronbach alpha = .78) measures understanding as described by Mezirow (1991), and also Kember et al (2000, p.384) as a thoughtful action that “makes use of existing knowledge, without attempting to appraise that knowledge, so learning remains within pre-existing meaning schemes and perspectives. Thoughtful action can be described as a cognitive process.” The reflection subscale (Cronbach alpha = .81) involves “the critique of assumptions about the content or process of problem solving. The critique of premises or presuppositions pertains to problem posing as distinct from problem solving. Problem posing involves making a taken-for-granted situation problematic, raising questions regarding its validity” (Mezirow, 1991, p. 105 as quoted by Kember et al, 2000, p.384). The critical reflection subscale (Cronbach alpha = .79) involves the testing of premises. “Premise reflection requires a critical review of presuppositions from conscious and unconscious prior learning and their consequences.” (Kember et al., 2000, p.385). Students rated their agreement or disagreement per item on a 4-point Likert type scale that ranged from 1 (Strongly disagree) to 4 (Strongly agree).

A series of Person’s product moment correlation coefficients showed significant relationship between teachers’ moral imagination and reflective thinking (see Table 4).

**Table 4. Correlation between teachers’ moral imagination and reflective thinking**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reflection</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Perception</td>
<td>.32</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Rationality</td>
<td>.30</td>
<td>.31</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Emotions</td>
<td>.30</td>
<td>.31</td>
<td>.32</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Caring for self</td>
<td>.30</td>
<td>.30</td>
<td>.31</td>
<td>.34</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Habitual action</td>
<td>.31</td>
<td>.30</td>
<td>.33</td>
<td>.26</td>
<td>.27</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Understanding</td>
<td>.30</td>
<td>.32</td>
<td>.34</td>
<td>.27</td>
<td>.28</td>
<td>.30</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Reflection</td>
<td>.30</td>
<td>.30</td>
<td>.33</td>
<td>.27</td>
<td>.26</td>
<td>.31</td>
<td>.33</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>9. Critical reflection</td>
<td>.31</td>
<td>.30</td>
<td>.32</td>
<td>.27</td>
<td>.26</td>
<td>.30</td>
<td>.32</td>
<td>.35</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note. N = 182. p < .05.*

**Discussion**

Joseph (2003) conducted several seminars with teacher students to conceptualize the notion of moral imagination. She summarised that moral imagination could be described as a multifaceted concept that includes reflection, perception, rationality, emotions, and caring for self. The present study aimed at developing a self-report scale of teachers’ moral imagination based on Joseph’s framework. We call it the Teacher’s Moral Imagination Disposition Scale (TMIS). Since the scale is of 21-items, and can be completed within 5 minutes, we believe that the TMIS is an instrument that will prove useful in further studies into moral imagination.
The original intention was for the scale to be serviceable, brief, and easy to administer and score.

Our data suggest that the TMIS has merit as an index of teachers’ moral imagination. The exploratory factor analysis identified five correlated factors that were consistent with Joseph’s framework of moral imagination. (a) reflection (4 items), (b) perception (5 items), (c) rationality (4 items), (d) emotion (4 items), and (e) caring for self (4 items). The TIMIDS showed acceptable reliability coefficients. It appears more appropriate to employ the TMIS to describe scores along traditional psychometric dimensions. Within the current datasets, responses to all items of the TMIS conform to standard distributional assumptions, and coherent and normal properties appear to be evident.

In terms of gender differences in moral imagination, the analysis showed that male teachers (a) tended to re-examine and think carefully about their moral beliefs (b) analyse moral problems and consider all situational factors when taken a moral decision, and (c) appreciate individuality in moral beliefs (e.g., individuals are unique in their needs, desires, and interests). However, female teachers tended to be more emotional when taking a moral decision. That is, female teachers showed higher levels of sympathetic connections and responsiveness to others. They were also more likely to assure balance between their own needs and desires (i.e., self-affirmation and self-caring) and others’ needs and interests when taking a moral decision.

This finding is consistent with what Johnson (1993) highlighted that women possesses elevated levels of self-caring and affirmation. However, their sympathetic feelings work to balance between what they need and what others desire. It is such balance that conceptualizes women’s moral beliefs. However, men are more likely to think analytically and scrutinize the moral situations. Similarly, researchers have found that females were most concerned with issues of care, in that they either incorporated care concerns to a greater extent when making moral judgments than did males (Gilligan, & Attanucci, 1988; Kalkoske, 1993), or that they used ethics of care to a greater extent (Gilligan, & Attanucci, 1988).

The analysis has also indicated that there is a positive relationship between teachers’ age and rationality of moral imagination. That is, the elder the teachers, the more likely they were to show realistic understanding of situations calling for moral response and judgment. This finding has been replicated in several studies based on samples of college students (Shaver, 1987; Foster & LaForce, 1999). In addition, the results of the present study showed that experienced teachers tended to show higher levels of rationality, perception, and reflection. That is, experienced teachers were more likely to think rationally about their moral decisions and speculate on their moral beliefs. Furthermore, the concurrent validity of the TMIS was evident through its correlation with a measure of reflective thinking. The analysis showed that teachers who tended to ponder about their moral beliefs and think rationally about their moral decisions showed high levels of understanding, reflection, and critical reflection but low levels of habitual action.

In brief, the TMIS represents an acceptable measure of teachers’ moral imagination based on Joseph’s (2003) conceptualization of moral imagination. The TMIS consisted of five subscales with a total of 21 items that proved to possess satisfactory psychometric properties. Also, the validity of the TMIS was evident when correlated with a measure of reflective thinking.
Educational implications

Linking to educational development, the concept of moral imagination highlights several important implications for teaching practices. Firstly, moral imagination can be used as a guide to integrate the moral dimensions of teaching into teacher education and development. Secondly, moral imagination requires us to encourage teachers to articulate issues stemming from their own concerns as practitioners and as individuals to perceive the moral possibilities of their work. Thirdly, moral imagination entails a perception of moral values, beliefs, and actions as inherent characteristics in all human activities, particularly teaching practices. Fourthly, moral imagination could help nurture teachers as they reveal their moral dilemmas associated with their own teaching profession. Fifthly, moral imagination could encourage us to have teachers critically challenge their own beliefs and thinking as they articulate values and characterise themselves as moral agents. Finally, moral imagination could allow teachers to see their students’ potentials for future educational developments.

References


For marginalised secondary school students, mainstream education may no longer be an inviting place. While proposed solutions to the problem appear to concentrate on transforming the students and finding ways to coerce them back to mainstream education, this paper suggests that solutions may be found by engaging with the students in the margins that they occupy. It is suggested that, through the scaffolded application of active imagination via a 'students-as-researchers' model, it is possible for the students to identify their own connections to the mainstream where appropriate for them.

“The margin is the place for those feelings and intuitions that daily life doesn’t have a place for and mostly seems to suppress” (Donoghue, 1983, in Greene, 1991, p. 27).

At risk, marginalised and disengaged

Many labels are applied to secondary school students who, for various reasons, inhabit the margins of formal education. They are considered to be ‘at-risk’, ‘disengaged’, ‘disaffected’, ‘disadvantaged, and ‘marginalised’ to name a few. Perhaps this variety of terms indicates the difficulties in identifying solutions to the problems associated with educational marginalisation. While most proposed solutions appear to concentrate on transforming the students and finding ways to coerce them back to mainstream education, this paper suggests that solutions may be found by engaging with the students in the margins that they occupy. It is suggested that, through the scaffolded application of active imagination via a ‘students-as-researchers’ model, it is possible for the students to identify their own connections to the mainstream where appropriate for them.

The aim of this paper is not to romanticise marginalisation, nor to ignore its potentially damaging outcomes for students, but to suggest that once students have moved into the margins, the mainstream is no longer an inviting place and other means must be found of working with them towards educational empowerment.

This paper builds on a previous virtual IERG conference presentation (Bland, 2004), investigating further the issues involved in working with marginalised students as researchers. The data is developed from focus groups and interviews with participants in an action research project. In the previous paper, features of a students-as-researchers project were considered that had contributed to
positive outcomes for the project participants and their schools. The current paper looks at the reasons behind marginalisation, identifying the ways in which project participants have found for themselves a purpose for connecting to the mainstream and considering tertiary education. The Education reforms that require students to be “learning or earning” may not be appropriate to those already hostile to mainstream institutions. Voices from the margins may, instead, inform more imaginative means to build bridges of engagement.

Resistance and marginalisation

Marginalisation is the educational option of choice for many secondary school students who feel excluded from school cultures. Self-marginalised young people may see education as offering the potential to open their future prospects but frequently feel devalued by their schools while the pathways available to them are also less valued (Australian Centre for Equity through Education & the Australian Youth Research Centre, 2001). When schooling becomes an alienating and irrelevant experience, students “see themselves as having little choice other than to walk away from it” (Smyth & Hattam, 2001, p. 403), withdraw their labour (McInerney, 2006) and actively exercise “their right to resist, which means they are making choices to ‘not learn’” (Smyth, 2006, p. 282). Attitudes may then harden into hostility towards the institution of schooling (Smyth , 2006) which maintains an authority and privilege to which they have no access (Connell, 1993), attending only because of legal requirements.

In his classic study of self-marginalised students in Britain, Willis (1977) argued that “the lads” (a self-titled sub-culture of working-class schoolboys) resistance to school was associated with affirmation of their working-class culture. Similarly, in the US, Traber (2001) tracked the self-marginalisation of groups of disenfranchised US youth, aligning themselves with the punk movement that had itself appropriated the margins of society. In doing so, these young people were constructing an oppositional identity, worn as a “badge of honour” (Traber, 2001, p. 47), and perceived as undesirable by the conservative mainstream, and consciously rejecting the privileges of the dominant culture. Separation through sub-cultures can empower a “collective confidence” and often serves as a “primary function in youth cultures formed by disaffiliated adolescents” (Kearney, 1998, p. 152). Kearney, for instance, described the growth of the “riot grrrl” sub-culture, formed in the early 1990’s in both the US and the UK and comprising adolescent females. Some riot grrrl members, Kearney said, found the group to be a safe haven from misogyny and homophobia.

Intervention strategies

One government response to dealing with the risks associated with educational marginalisation has been to enforce a regime of attendance in an approved activity. Recent changes to government policy in Queensland relate to research demonstrating improved life choices for students who complete Year 12.

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1 Students and teachers quoted in this paper were participants in the Student Action Research for University Access (SARUA) project. A full evaluation and description of the project is included in a PhD study on which much of this paper is based. Follow up interviews with participants are also referred to in this paper.
Effectively raising the school leaving age, the legislation requires young people to be “learning or earning ... for two years after they complete compulsory schooling (i.e. completed year 10 or turned 16 years of age) or until they turn 17 years of age or until they complete a Queensland Certificate of Education or a Certificate III (or higher level) vocational qualification” (Education Queensland, 2007). This legislation also increases the policing and surveillance of young people through “Student Accounts”, “Learner Unique Identifier” numbers, and the establishment of overseeing committees. Using the information thus collected “the Department will have information on young people who are not participating in eligible options during their compulsory participation phase. From this data, the Department will be able to identify young people who are not engaged in learning.” (Education Queensland, 2007).

Whether the resulting “engagement” will offer genuine and broad-ranging post-school options to disaffected students remains to be seen. In an investigation of alternative education provision in a disadvantaged area of a major Queensland city, Connor (2006) found that such students are offered limited choice through a focus on vocational education and training (VET). While this may suit some of the marginalised students, a one-size-fits-all approach closes off other options and, as stated by Zyngier (2003), “a practical hands-on curriculum is not necessarily an engaging curriculum” (p. 43). Connor calls for an education that builds connections to a range of post-compulsory learning. Similarly, recent UK research that concluded that education policy should encourage “all disadvantaged young people to value and aspire towards post-compulsory education” (Joseph Rowntree Foundation, 2000, para. 24).

**Deficit approaches**

A problem with attempts to maintain disaffected students within the mainstream education system is that they are, in general, deficit-based. One of the most pervasive assumptions surrounding students who have disengaged from school is that the cause rests with the student (Smyth & Hattam, 2001) and, in such reasoning, academic (in)ability is attributed to shortcomings in the home, impoverished language, a lack of ambition and other “key” attributes for success (Connell, 2003). Variations of deficit theory imply that the disengaging student has anti-social tendencies, has an unsupportive family, comes from an undesirable community or is influenced by an anti-academic peer group. While some of these factors may be true of some students and environments some of the time, these students are not necessarily delinquent nor lacking in ability, but find the middle class institution of schooling to be “completely banal, meaningless and without purpose, except as a reasonably pleasant place in which to meet and socialize with one’s friends” (Smyth, 2006, p. 286). The generalisation of deficit interpretations to all disengaged students’ unwelcome behaviour avoids questioning the relevance of official knowledge (Apple, 1996) for non-mainstream students and, how cultural and structural biases exist in schools, entrenching processes of social reproduction and disadvantage (Meadmore, 1999).

There may be little incentive for marginalised students to return to mainstream schooling. Levin (2000) cites a considerable body of evidence showing that “disadvantaged students tend to receive the least interesting, most passive forms of instruction” (p. 164) and one recent Queensland study found
that the most educationally disadvantaged students are condemned to mediocrity by exposure to the least stimulating and relevant material (Neville, 2005; Zyngier, 2003). This study echoed an earlier but much cited US report (Haberman, 1991) highlighting the dulling routines predominant in schools serving educationally disadvantaged communities. In such learning environments, young people are denied any real sense of agency and the opportunity to change their world (McInerney 2006).

Strategies such as time-out rooms and Responsible Thinking Centres (RTCs) have their place in assisting teachers to deal with immediate behaviour problems in classrooms but may well be used to avoid addressing questions of appropriate pedagogy, system, oppression, powerlessness and discrimination. Further, such remedies, though well-intentioned, mostly rely on transforming or reforming the student to stay in or fit back into the mainstream (Smyth & Down, 2004) through compliance with its culture and curriculum. For one of the students in this study, Zack, disruptive behaviour was a means to be sent to the RTC where he had time away from the pressures of classwork. Zack, a year 8 student, was in danger of expulsion due to frequent suspension from class together with many unexplained absences. Zack’s behaviour typifies the observations of Bourke, Rigby and Burden (2000) who suggested that Indigenous students may be using “protective mechanisms” (p. 7) to avoid frustrating or shameful aspects of school.

As stated by Holdsworth (2004), we know ‘through many evaluations, that ‘alternatives’ that focus on ‘fixing’ behaviour or learning problems through withdrawing students from the ‘mainstream’ and then seek to return those students to the original situation, do not work” (p.7), apart from providing temporary relief, and may, in fact, serve “to hide severe problems from view”.

Moral exclusion

Closely allied to deficit perspectives is the problem of “labelling” and the possibility that students may become known through the deficit labels applied to them that may then become self-fulfilling prophecies (Graham, 2007; McInerney & McInerney, 2006). Labels are stigmatising and constitutive - the person is seen by others through the distorting lens of that label, taking blame away from the school or the teacher and placing it on the child. Teachers, however, may be unwittingly contributing to the reproduction of social inequity through discriminatory practices, such as low expectations of some students due to the labels that they have accepted as factual descriptors. Students may also contribute to their own stigmatisation: as students progress to secondary school age, they start to believe that their abilities are fixed. They may use avoidance techniques to “avoid being labelled ‘dumb’” (McInerney & McInerney, 2006, p. 239).

Some school cultures, such as that at Zack’s school, may further marginalise at-risk students or allow them to drop out through official practices such as academic requirements for progression, and while others may employ unofficial forms of exclusion, such as institutional racism. ‘Demonising discourses’ (McInerney, 2006, p. 12) portray marginalised students as a danger to the well-behaved majority, deviant, ‘contaminating’ the school culture (Zyngier, 2006, p. 4). Within these cultures, relations of power construct the social and spatial boundaries of place, defining who may belong and who may be excluded (Angwin,
Blackmore & Shacklock, 2001). These practices, extending deficit notions, frame some students as undeserving of attention and they become “morally excluded” (Opotow, Gerson & Woodside, 2005, p. 305), undeserving of fair treatment, and “eligible for deprivation, exploitation, and other harms that might be ignored or condoned as normal, inevitable, and deserved”.

Rather than attempting to being them back to mainstream, we need to go where they are, on the margins of formal schooling. Greene (1991) argued that if we are indeed to make the margins visible and accessible, if we are to encourage dialectic movements from margin to text and back, we ought to open larger and larger meeting places in schools... There might be new collaborations among questioners as teachers and students both engage in perceptual journeys, grasp works and words as events in contexts of meaning, undertake common searches for their place and significance in history to which they too belong and which they invent and interpret as they live. (p. 38).

The margins of education may indeed be places of great creativity. Science writer, Stephen Jay Gould, extolled margins as spaces of creative change in which “the first fruits and inklings of novel insights and radical revisions” can appear (2001, p. 92).

**Students as researchers**

One means of working with students in the margins is through a students-as-researchers (SaR) approach which offers ways for young people to engage with the educational issues that are of direct concern to themselves. The SaR experience, in which students begin to understand the ways that unseen forces act on their lives, allows students to “imagine new possibilities for themselves” (Kincheloe & Steinberg, 1998, p. 230). Kincheloe and Steinberg (1998) noted that SaR cultivates empathy with others and that it provides opportunities for imagination to be released in a way that posits new possibilities. The insights gained assist the participants to “place themselves hermeneutically within the often messy web of power relations” (p. 230) represented by their schools.

The SaR project from which this paper derives its data was a university/schools collaboration targeting students in schools with little progression to tertiary education. The project was based on social justice principles and a belief that higher education should be an option for all students, regardless of background or culture (Bland, 2006). The process employed by the project provided a dialogic space that allowed and encouraged participants to “ask ‘why’ and to ‘think differently’” (Noone & Cartwright, 2005, p. 4) - an engagement of the students’ imaginations in ways that re-connect them with the possibilities that formal education can offer, helping them to deal with the current requirements and constraints of their school education, while imagining “that things could be otherwise” (Noone and Cartwright, 2005, p. 2).

Imagination can be grouped into four broad and overlapping categories (Bland, 2004):

- fantasy, which is generally unproductive but can play a role in problem-solving, includes daydreams, wishful thinking and reverie;
- creative/aesthetic, includes problem-solving, poetic and pragmatic abilities;
Imaginative practice, Imaginative inquiry

- critical/social, which can be investigative, disruptive, hermeneutic, and challenging; and
- empathic/ethical, which includes questioning from the point-of-view of marginalised others and recognises the right of the other to be recognised and heard.

Each of these types of imagination has a place within education practice and can contribute to an engaging pedagogy where the necessary scaffolding and supportive spaces are in place. In this SaR project, the scaffolding was provided by university researchers and selected school staff working in a collegiate environment of trust and parity of esteem. This collaboration was developed in workshops which also provided opportunities for the engagement of critical imagination to “jar” students out of their usual ways of thinking (Noone & Cartwright, 2005, p. 3) and a process of “conscientisation” (Freire, 1998) through which the students could gain an understanding of the power relationships that constrained them. The students’ creative imaginations were engaged in the first instance so that they could see a reason for participation. Throughout the project, their empathic imaginations were engaged so that they could see a purpose in maintaining their involvement and their critical imaginations were engaged so that they could take advantage of the empowering potential of the project and finally imagine themselves as university students.

The ways in which students have used the faculty of imagination demonstrate its role in empowerment. Without this ability, according to Saul (2001) students are likely to disconnect in frustration; a condition he believes contributes to functional illiteracy as the “combination of controlling forces” (p. 155) marginalise imagination. He calls for the normalisation of imagination and its re-centring “on something real” (Saul, 2001, p. 155), particularly the conditions of the marginalised, to enable an engagement with system forces.

Working in the margins

While participant schools have credited the project with increasing a general awareness of tertiary education options among their student cohort, many stories of student empowerment have been reported by the project participants. These students’ insights represent “voices of possibility and hope” for themselves and others who are too often in schools where their own knowledges “are ignored and/or intentionally shut out” (Butler, 1998, p. 108). For example, a group of students, whose classroom behaviour had seen them marginalised to a “last chance” program attached to their school, recently undertook research into low tertiary aspiration at their school. This resulted in a DVD being created by the group to reveal some of the relevant concerns of their peers and to demonstrate through interviews with current university students that these could be overcome. None of the participants had previous experience in film-making and they were required to undertake all associated administrative tasks.

The DVD has been widely acclaimed with some of the project students speaking about their experiences and presenting the DVD at education conferences. The program coordinator saw the university’s students-as-researchers project as having potential to engage these Year 10 school resisters in a new and purposeful way. Like most of the student group, Kev (interview) conceded that he initially agreed to become involved in the project because it
would give him time away from school, and sounded like it might be fun. His attributed his disruptive behaviour to being with ‘the wrong friends’ and simply not enjoying school. He became labelled as a “problem student” and had very poor relationships with staff. His ambition was to leave school as soon as possible and follow other members of his family into the construction business, believing he had no other choice. Mick (interview) was simply bored and became involved in the project later but played a key role.

The success of the DVD took the team by surprise and, since it was launched at a students-as-researchers conference at the university, it has won two awards and the students have been guest speakers at three more conferences. Their coordinator reported that “Mick and Kev are becoming old hands at public speaking”. One educational association has requested a copy of their written paper presentation at an interstate conference to publish in their journal. At one award presentation, the young students “rubbed shoulders with (and were congratulated by) Queensland’s biggies in the film industry” and other independent film makers, all of whom were also up for awards.

It was a result of this experience that led at least two of the project group to give consideration to higher education. The DVD became influential in the school, encouraging others to investigate tertiary options, and, as its reputation grew, new respect was generated for its creators among school staff and relationships between the teachers and the students improved greatly. As noted by Rudduck and Flutter (2004) “disengagement can be reversed if students feel that significant others in the school are able to see and acknowledge some of their strengths” (p. 70). Kev now has his sites set on a degree in business and technology and is working to remain at school to achieve this while Chris is considering an acting career.

Improved relationships with teachers also developed at another high school involved in the SaR project, through the work of Indigenous students. One teacher reported that the project resulted in increased awareness in the school community of Indigenous issues and a “mind-shift” among staff that included discussions of how Indigenous culture could be recognised within the school curriculum. The student participants themselves had, according to the school’s project coordinator, set a benchmark for other Indigenous students, giving them the “confidence to recognise their culture but also talk about their culture with their peers” (interview). In achieving these results, the project participants realised two of the major objectives of their project: raising the visibility of Indigenous students within the school, and taking more ownership of the school.

Many students who took part in this study claimed that they were given no encouragement to consider university as an option. Layla, (interview), for example, was told “that I should quit and not even think about going to uni” while others in her school, particularly those of Pacific Islander background, complained of never having been given information relating to university courses. Typical of the student groups were Jean and Wes, neither of whom had received advice nor encouragement from their schools to consider a university course. Following involvement in the SaR project, Jean, surprised her teachers through her change of attitude towards her education, her university aspiration, and then by gaining a place in an education course at a local university. Wes, who displayed strong skills in graphic art, gained entry to the same university having found out about alternative entry options.
Bridges to the mainstream

These instances illustrate the notion that, given supportive environments, marginalised students can use their imaginations to build bridges back to mainstream education, if it can be seen as a viable and useful option. While university entrance is a very welcome result of project participation, it is not a key objective. It is, though, an indication of empowerment gained through the Project and of active agency, as was the ability of some students to make an informed decision that university did not offer a suitable pathway. Empowerment in this sense is the process in which both students and collaborating researchers are continually “coming to power” (Lankshear, 1994, p. 68) through participation in and critiquing the relevant discourse. Via the project, many students developed a sense of agency essential to being effective actors in the discourse of education. “We all make sense of the world with the discourse we have access to” (Smyth & Hattam, 2001, p. 411) and one of the strengths of the SaR project was to immerse the participants in the language of education.

The SaR method is in line with a socially just education that enables students “to have more control of their lives, ... to inquire, act and reflect on the issues that are of concern to them and to positively transform situations where they see disadvantage or unfairness in their own and other’s lives” (Zyngier, 2003, p. 43). The features identified by the students for their positive engagement, summarized in “adult-speak”, include:

- the establishment of a community of research leading to a sense of belonging and purpose in which teachers and students learn together;
- mutual respect and parity of esteem in which each participant brings particular skills and knowledges to the research process;
- real life, relevant problems connected with their own realities;
- ownership of the process;
- ownership of the outcomes and the ability to make decisions that affect their environment and help others;
- cooperation in teams rather that competition;
- a process of conscientisation, overcoming misrecognition and doxic attitudes;
- learning from mistakes, the action research methodology allowing students to take risks, trial ideas, make mistakes and keep learning;
- scaffolding, based on a Vygotskyian constructivist approach, through which students work in collaboration with and alongside teachers, peers and university researchers who provide a supportive environment that is needed while the students learn to re-connect with ideas about schooling and while they learn that the SARUA project genuinely values their input.

These elements of the project are of educational importance in that the students themselves have identified them as features of educational engagement that can be extrapolated to assist classroom teachers to maintain the connectivity of at-risk students. Such notions can inform Queensland’s education system where current policy is resulting in segregated, specialised institutions for gifted and talented students to complete their senior education. Meanwhile while there are pressures to integrate and mainstream disadvantaged students (Connor,
Perhaps a more imaginative solution can be found by listening to the voices of the marginalised students.

**Conclusion**

Thomson (2004) asserted that social justice requires schools to listen specifically to the voices of those who are the most at risk and the least likely to be heard on issues that directly affect their educational outcomes. Some school cultures, however, have the potential “to deny students a voice on issues that matter to them” (Johnson & O’Brien, 2002, p. 9) with the education system failing “to support students to engage successfully in a ‘fair share’ of the full benefits of education and training” (p. 9). Low teacher expectations, even in a welcoming school environment, can lead to student underachievement and disengagement from school (Johnson & O’Brien, 2002). Disengagement can then have both immediate and long-term social and economic effects, leading to some students silently voicing their responses and “voting with their feet” (p. 6) or being mere spectators of their own learning. Students own expectations of themselves are crucial in finding connections between their current choices and their future options and how their decisions are investments in their own futures (Johnson & O’Brien, 2002). As noted by Thomson (2004), at risk students have themselves appealed for opportunities to demonstrate their strengths in addressing “the ways in which their education is (not) working for them” (para. 28).

Well-intentioned government and school strategies to re-engage marginalised students may be doomed to failure as they maintain a deficit approach to the problems surrounding disengagement. The students, however, may have chosen the margins of schooling as an act of resistance to being forced to comply with practices and school cultures that they perceive as having little relevance to their lives. Rather than attempting to bring these young people back to the mainstream through coercion, a preferable action may be to work with the students in the spaces that they have chosen. A students-as-researchers approach offers a means by which marginalised students may find empowerment through imagination and to build for themselves the bridges that could connect them back with the mainstream. As Greene (1995) observed, “it takes imagination on the part of the young people to perceive openings through which they can move” (p. 14).

The right to learn and to learn with joy would empower through active engagement in thinking differently, imaginatively [...] This is a teaching toward liberation through a teaching toward imagination, for at the root of anti-oppressive pedagogy is the vitality and art of imagining different ways of being in the world, and finding opportunities for their realization as lived. (Swanson, 2005, p. 5)

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Imaginative practice, Imaginative inquiry


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The skill of negotiation is a skill that is crucial for lawyers to master. It is a skill which is now taught explicitly alongside the substantive law and a number of Australian law schools including that at the Queensland University of Technology. Methods of teaching the skill may vary but a traditional approach involves some form of instruction followed by a role play. This paper examines the author’s imaginative use of technology to create an engaging and challenging learning environment in which students will themselves be required to exercise and imagination in development of their skills.

INTRODUCTION

The skill of negotiation is crucial not only to the practice of law but also other professions and indeed other walks of life. It is a skill now explicitly taught in the Faculty of Law at the Queensland University of Technology in Brisbane in a program that spans subjects in different years of the undergraduate Bachelor of Laws course. Until recently a traditional approach to this training for large groups (as opposed to, for example, specialist small group mediation courses) has been taken, in the form of lecture-style instruction on theory followed by role plays. However, from 2008 a greater use of technology will be employed in the form of a suite of online modules called Air Gondwana. The Air Gondwana program is the product of imagination employed with an attention to detail, and will engage students with authentic settings in which they will be required to exercise their own imaginations in practising and developing their attainment of the skill of negotiation.

Negotiation training in an Australian law school: A contextual setting

For many years organisations including employer groups and government bodies called for review of the objectives of legal education and content-driven Law School curricula (Pearce 1987, McInnes and Marginson 1994). These calls were echoed by the Australian Law reform Commission in its 1999 Managing Justice Report, in which it championed the cause for a re-orientation of legal education
around “what lawyers need to be able to do, [rather than remaining] anchored around outdated notions of what lawyers need to know” (ALRC 1999, [2.21]). This recommendation mirrored the conclusions of a 1992 American Bar Association report which examined and reviewed the status of legal education in the United States. This report identified a number of fundamental skills and professional values that it felt law schools should seek to inculcate in their graduates (American Bar Association 1992). Negotiation was one of these skills identified.

In a seminal report, a project team in the QUT Faculty of Law recommended that graduate capabilities become an embedded component in the undergraduate law program (Christensen and Cuffe 2003). This report suggested that a student’s development of skills should develop in three stages: stage 1 in the first year of their course, stage 2 in the second year and a final stage 3 in either third or fourth year. At stage 1 students are to be instructed to a basic level of attainment of the skill in question, being instructed on the theoretical framework and application of the skill, which might be practiced under guidance with feedback provided (Christensen and Cuffe 2003, 21; Christensen and Kift 2000, 219). The recommendations of the project team were adopted by the Faculty with an embedded graduate capabilities program introduced into the Law School undergraduate curriculum from 2004. Stage 1 of training of the negotiation skill became the responsibility of the first year subjects Contracts A and Contracts B. Responsibility for stage 2 in development of the skill was assumed by the second subject Trusts and stage 3 by the third/fourth year elective Mediation.

The two Contracts subjects (Contracts A is a prerequisite to Contracts B) are offered to both full-time and part-time internal students and external students and have annual enrolments in excess of 500 students. Some external students live locally while others are studying at a distance. Once a semester these external students are required to attend a three-day weekend attendance school at the Law School’s Brisbane campus. The subjects are taught by a variety of staff, both full-time and sessional. From the introduction of the graduate capabilities program in 2004 until 2007 a traditional format of instruction and role play was utilised as a means of developing students’ negotiation skills to the stage 1 level of attainment. In other words, students were lectured on a principled approach to negotiation before undertaking an exercise in their following tutorial groups in which they were provided with one of two two-page briefing sheets containing the background facts needed to conduct the negotiation. Students were then divided into pairs and expected to negotiate an outcome, which they then summarised in short form. This exercise was repeated in the second semester with a role play based on different facts, although on this occasion the “Heads of Agreement” document was graded. This traditional format of negotiation training was well received by students. As a student remarked in a formal survey of the subject Contracts B:

“Negotiation exercise was a useful and practical piece of assessment.”

However, it might be queried the extent to which this contentedness had anything to do with the program itself, and how much could instead be attributed to its novelty value. There is no doubt that students regarded the program as welcome relief from the usual grind of studying legal principles and reading case reports. As another student pointed out in the same survey of the unit Contracts B:
“Doing negotiation once and calling it skills learning is a joke. Either do it more frequently to allow skills development or scrap it.”

The traditional approach is deficit in its expectation that the initial instruction can on its own sufficiently equip students with the essentials that are necessary to conduct a successful role play and thereby attain a basic level of attainment of the skill. As Williams from Utah’s Brigham Young University has stated

“Ask[ing] a new negotiation student to conduct a full negotiation is like asking a new violin student to play a complete musical piece on the violin – it calls for the performance of a large number of underlying skills, many of which have not yet been adequately developed.” (Williams 2004)

The notion that proper skills training requires the provision of greater opportunity to practice the “building blocks” of the skill was a sentiment that was also felt by one further student in the formal 2005 survey:

“I think in order for the negotiation exercise to be beneficial there should be practices leading up to it so that you can learn what you did wrong the first time and then put into practice any corrections.”

A more effective approach would be to break negotiation skills down into well-defined tasks which students may practice and upon which they could receive feedback (Williams 2004). Focusing exercises on these “building block” tasks also would emphasise to students the importance of the preparation stage of negotiation. At the same time it might correct any misconceptions, which may be unintentionally reinforced by the traditional role play-only approach, that the main or indeed sole focus should be on the bargaining phase of the negotiation (Roper 1983, 53). It was with these objectives in mind that the author applied for and was awarded a University Small Learning and Teaching Grant to develop a new program for the teaching and learning of the basic level skills of negotiation, to be called **Air Gondwana**. As at the time of writing, development of the program was almost complete, and it is planned for the program to replace the current approach from semester 1, 2008.

**Air Gondwana: An imaginative response**

When designing a new approach to negotiation training it was important to recognise that students who are new to negotiation should ideally, in addition to receiving instruction concerning the theory and practice of negotiation skills, observe the conduct of a successful negotiation before being expected to participate in a role play themselves (Carr-Greg 1992, 37). Any new design also needed to accommodate the context in which the training was to take place, such as the large numbers of students and the different modes of offering. Apart from anything else, any in-person model negotiation would therefore need to be demonstrated on numerous occasions and would pose logistics problems. There is also the variety of staff teaching the subjects, not all of whom are confident or feel qualified in passing on effective feedback on negotiation, since in most cases they will not have had training in negotiation skills themselves.

However, it has been recognised that technology may be an effective means by which instruction may be given in negotiation skills and a positive model of negotiation practices may be demonstrated (Cukier 2006). Further, technology in the form of online modules also allows skills to be broken down into well-defined tasks which provide students with the ability to practise the essential elements of
successful negotiation, and to provide consistent and effective formative feedback on their attempts, at their own pace and at a time of their convenience. In this way technology can be effectively used to facilitate better inculcation of negotiation skills before students engage in a face-to-face exercise themselves during a designated tutorial session, or at the attendance school in the case of external students.

Air Gondwana is based on the central theme of a fictional airline and the wide variety of negotiations with which it is involved. It utilises the well recognised interest-based approach to negotiation promoted by the Harvard Negotiation Project (Fisher and Ury 1999). This approach includes:

- a focus on interests – in the sense of the underlying needs, desires, hopes and/or fears of the parties – rather than the upfront positions;
- the invention of options which produce mutual gain (as opposed to outcomes that leave one party as a winner and the other as a loser);
- the adoption of objective criteria such as market value, precedent, scientific or professional standards, or determination by an independent third party; and
- the development of a BATNA (Best Alternative to a Negotiated Agreement) or fallback position, and WATNA (Worst Alternative to a Negotiated Agreement) or worst case scenario, to help set the parameters and context for the negotiation.

This approach is also used in the later subjects Trusts and Mediation and should ensure a smooth transition between the different levels of attainment pursued in the various subjects. Air Gondwana consists of six modules to be undertaken by students across the two Contracts subjects. Air Gondwana utilises a number of different platforms to achieve its overall objectives. The first five of the modules require students to access an online site, which features an interface screen depicting a pilots’ lounge (see Figure 1).

In Contracts A the first module involves video instruction on the theory and practice of negotiation. This video, which features Law Faculty staff as actors, includes a demonstration of a poorly conducted negotiation, instruction on effective negotiation followed by demonstration of the same negotiation done properly. A professional actor was engaged to provide the formal instruction through presentations to camera and voice-over narrative for graphics. Two modules then require students to focus on particular aspects of good negotiation practice. These modules utilise Authorware software to present students with a
series of scenarios. For each scenario a number of questions based on the “building blocks” of negotiation theory are asked, which require students to enter short responses. Formative feedback is then provided in the form of model answers against which students may compare their own responses.

*Contracts B* is generally undertaken by students in the following semester, usually after a break of several weeks. The first module in this subject – the fourth of the program – provides an opportunity for students to refresh their minds of the concepts to which they were introduced in *Contracts A*. Rather than simply adopt the text and image approach used in the preceding two modules, this module presents a single scenario (the purchase of an aircraft) by way of “machinima”, that is the rendering of three dimensional images by the use of an online virtual environment, in this case *Second Life*. The capabilities of *Second Life* and its potential as a synchronous form of interaction with students are beginning to be realised by educators (Kelton 2007, Conklin 2007). However, its capacity as a valuable asynchronous tool should not be underestimated. It is in this capacity that it is being used in *Air Gondwana*: to depict realistic scenarios using video using virtual “actors” and locations, thereby avoiding the cost and scale of using real actors and locations. (see Figures 2 and 3).

![Figure 2. Examples of Second Life characters.](image)

![Figure 3. An example of a Second Life setting.](image)

In the case of module 4, the *Second Life* machinima provides a context in which to pose refresher questions focusing on the principles of negotiation and their practical application. This is then followed by the fifth module, which involves an actual face to face negotiation with a fellow student. This module is a summative exercise measuring students’ level of attainment of negotiation skills.
Briefing material is provided via the on-line site in advance, and includes background information on the parties to be represented in the negotiation, and the subject of the negotiation. Further background information is provided by way of a second piece of Second Life machinima.

The final module explores the relationship between negotiation skills and the laws of contract law governing negotiation. Unlike the other five modules, this module forms part of the Contracts B broader tutorial program. The module therefore provides an interesting blending of the skills and the content aspects of the Contracts subjects.

The program is embedded within, and is accessed by students via, the university’s Blackboard learning management system. It thereby takes advantage of the hyperlinking, “hotspot” linking, and tracking capabilities of that software. The overall appearance of the Air Gondwana is enhanced throughout by use of realistic images of aircraft, featuring an Air Gondwana livery, created with the use of the Flight Simulator X program, with the permission of the creators Microsoft (see Figure 4).

![Figure 4. Example of Flight Simulator X image of an Air Gondwana Avro RJ85.](image)

Discussion

Imagination, according to the Shorter Oxford Dictionary, is the “the mental consideration of actions and events not yet in existence; scheming or devising; ... the power which the mind has of forming concepts beyond those derived from external objects.” Air Gondwana represents imagination in both its design and in the students’ learning experience.

Imagination in design

Imagination has been demonstrated in Air Gondwana in the creation of an authentic learning environment for students. “Authentic” is a term that has been given a variety of meanings. According to a study by Bennett, Harper and Hedberg (2001), interpretations described in the literature range from activities based on real situations to models that focus on applying conceptual knowledge or skills, such as critical thinking or problem solving. Air Gondwana provides an authentic learning experience by replicating the kinds of task that are undertaken in practice (Anker et al 2000, 124) in the form of the contract negotiations of the fictional airline. The name of the airline itself has been carefully chosen. Gondwanaland, or Gondwana, was the name of the Jurassic era southern
supercontinent, which later separated to become Australia, New Zealand, South America, Africa and India. Hence *Air Gondwana* is the “Great Southern Airline” which now links these now distant lands.

The authentic theme is firmly embedded in a solid foundation of realistic detail which enhances rather than hinders the learning experience. This includes, for example, an introductory video using machinima created using Microsoft’s *Flight Simulator X* (with permission) which describes the operations of the airline as an international and domestic passenger carrier, with charter and cargo divisions. This short video features the various types of aircraft flown by the airline, all shown in especially-designed *Air Gondwana* livery, as well as the range of destinations that the airline serves. The same background information could be provided simply in the form of text. However the realistic three dimensional depictions help to initiate what the poet Samuel Taylor Coleridge first called a “willing suspension of disbelief”. A willing suspension of disbelief allows us to enjoy movies and books like *The Lord of the Rings*, *Star Wars* and the death-defying exploits of James Bond. As Herrington, Oliver and Reeves (2002) observed, the same willing suspension of disbelief is “highly applicable” to education. This is because it enables or facilitates engagement. As Laurel (1993) observed: “Engagement is what happens when we are able to give ourselves over to a representational action, comfortably and unambiguously. It involves a kind of complicity”. (p. 115). The authentic learning environment created by *Air Gondwana* promotes students’ willing suspension of disbelief. It therefore holds strong prospects for enhancing learning and promoting knowledge construction (Herrington, Oliver and Reeves 2002). Put succinctly, the angel is in the detail.

This attention to detail is carried throughout the program. For example, the role play undertaken in module 5 involves a scenario in which the airline wishes to purchase or lease a freehold island off the Queensland coast. It is forced to negotiate when a competing bid is received from a worldwide environmental foundation whose charter includes the establishment of nature preserves for wildlife. The island is portrayed as being located at a specific location, having been discovered on Cook’s second voyage and named after the Earl of Lancaster, and having been granted in freehold by the then Governor of Queensland to a descendent of the Earl, “Sir Cecil Lancaster”, as a sign of appreciation for his role in the colony becoming a State. The relevant fact sheet presents this portrayal in an economy of words and is therefore not burdensome for the student to consume. Nevertheless, when a learning designer who was associated with the project read the fact sheet, she was moved to ask: “Does this island really exist?”

**Imagination in learning**

*Air Gondwana* also promotes and inspires imagination in the learning process. The instructional video in module 1 portrays a newly appointed *Air Gondwana* executive, Karl Keen, who has the task of interviewing a pilot for the purposes of the airline’s new “island initiative”. In the first part of the video Karl is shown as being poorly prepared and carries out the bargaining in a haphazard fashion which ultimately proves to be unsuccessful. In the second part of the video, instruction is provided on principled negotiation by a presenter. This instruction is illustrated by vignettes of the Karl character being mentored by a fellow *Air Gondwana* executive, Ally Albright. Ally in effect operates as the presenter’s alter ego, translating the presenter’s theory into practice by mentoring Karl in its application to the negotiation with the pilot. Thus, for example, the presenter
explains the importance of focusing on interests rather than upfront positions: Ally tells Karl that the negotiation will not just be about the pilot’s salary (ie the upfront position) and asks him to identify the respective interests of the airline and of the pilot. The final stage of the video demonstrates a well prepared Karl conducting the bargain in a professional manner that ultimately proves to be successful.

The learning that takes place in this module is reinforced by modules 2 and 3 which provide a wide range of scenarios based on negotiations in which the airline is involved, for example, refurbishing an aircraft, arranging a charter and resolving an outstanding freight debt. These scenarios form the basis of questions that allow students to practise their understanding of negotiation principles. Each of these exercises in turn requires students to be creative and imaginative. Thus when identifying what they perceive may be the relevant interests, students must imagine what the various needs, desires, hopes or fears of the contracting parties might be (Fisher and Ury 1999). This is artificial to the extent that in reality a negotiating party may know his or her own or the client’s/principal’s interests. However, even in the real world the same cannot be said for anticipating the other side’s interests, where imagination and best estimation is needed. Requiring students to imagine the interests of both sides is therefore an extension of that requirement of practice.

The other principles of negotiation are similarly, or even more, demanding of imagination. Imagination is a vital commodity in formulating options and opportunities that may result in mutual gain for both parties: the “win/win” as opposed to a “win/lose” outcome (Fisher and Ury 1999). The multiple scenarios are designed to inculcate an attitude in students that any problem need not have only one solution. Similarly, when developing the relevant BATNA (next best alternative) and WATNA (worst case scenario) in different circumstances, students are required to open their minds to imagining alternative endings to particular sequences of events. Further, in identifying useful criteria students must imagine how they can inject objectivity into their deals, thereby avoiding the possibility of disputes between the parties at a later date.

The student’s preparation for the role play is completed when in the refresher module 4 the new Air Gondwana chairman, Remington Rich, serves as a vehicle for asking questions about the principles of negotiation and their practical application. Rich is portrayed as a former jetsetter playboy who is entrusted by his father, the owner of an industrial empire, with stewardship of the airline as a trial for an eventual succession. He is therefore a convenient neophyte to negotiation who requires an explanation of the principles of negotiation. His questions about negotiation, while ostensibly directed to Karl, are in fact answered by the student who has learnt about the principles of negotiation alongside Karl in module 1. In this sense, the Air Gondwana program involves the preparation cycle being completed by the student learning through assuming the role of teacher.

**Conclusion**

A traditional approach to a basic level of negotiation training for large groups requires students to undertake a role play or role plays after some form of instruction. Such an approach is deficit in a number of respects, including the
expectation that the instruction is sufficient to enable students to appreciate the nuances of the principles of negotiation and their practical application. A more desirable approach is to provide students with the opportunity to focus on the “building block” essentials of negotiation and to practise their application across a range of realistic scenarios. That opportunity will now be provided at the Queensland University of Technology by the *Air Gondwana* program.

*Air Gondwana* is the product of imagination in its design and is demanding of imagination in its use. A variety of multimedia platforms is used to create an authentic setting for student learning. The scenarios are practical and based on real world experiences, and the program involves an attention to detail which is presented in such a way that it enhances rather than hinders the students’ learning. This rich and engaging environment enables students to willingly suspend their disbelief and to exercise their own imaginations in completing the necessary tasks before undertaking their face-to-face role plays. The package is then completed by a tutorial in which the connections between the law and the skill of negotiation are examined.

**References**


In this essay, I make a case for, and begin to lay out, a realist conception of imagination. In the first section, I show that the legacy of contrasting imagination and reality persists, even if it now takes more subtle forms. In the second section, I outline the contours of an alternative model of imagination as a set of related dispositions which enable us to make greater contact with the world in its complexity.

Why we still don’t have the theory of imagination we need

According to a popular bumper sticker, "reality is for people who lack imagination." In this paper, I want to argue that this conception of imagination, as that which enables us to embellish or depart from reality, is pretty much exactly wrong. When properly understood, imagination can be seen as a kind of epistemic virtue. If you are a realist, then precisely for this reason you should care about the imagination; if you care about the imagination, you are a realist. If you take yourself to care about one of these things but not the other, then you are confused. Or so I shall argue.

The alert reader will already have his or her first objection ready: surely there are nobler tasks for philosophy than debunking bumper stickers! In point of fact, I will reply, bumper stickers are almost where the rubber meets the road for philosophy; we would do well to see what beliefs people actually hold clearly enough to affix and dearly enough to display. William James was right to note that everybody has a philosophy under his hat; people were simply more discreet back then. Bumper stickers, T-shirts, and the like often give us a direct look at important assumptions in a raw form, the same assumptions that appear, in disguise or gussied up, in sophisticated theories.

In any case, this particular bumper sticker has a distinguished and explicit philosophical provenance. For Plato, famously, imagination (and the artists who fed the imagination) were a threat to the Republic. As imaginative beings, Plato thought, we were especially gullible, prone to believe whatever stories we were exposed to, regardless of their truth. And for Plato, even true stories and images are suspect since they make us feel that we have grasped the truth when we have
but apprehended only the outline of its shadow. Or consider David Hume, who thought all of us amateur liars for our everyday use of imagination and poets "liars by profession." As recently as Jean-Paul Sartre, we find the imagination defined as a form of "magical thinking," as a "function of consciousness [that creates] a world of unrealities." Throughout the history of philosophy, imagination has been understood primarily as the capacity to picture that which is unreal or absent, as a power of inventiveness, and often in combination as a fictive capacity.

Now any reflective reader of fiction will tell you that this is an unfortunate name for a major branch of literary art, since just about the least interesting thing we could say about the epistemological status of novels is that novels are not factually accurate. But the problem remains. The products of the imagination are thought to be, in a word, imaginary. When we speak of realism in novels, we typically mean a convincing form of illusionism, a particular rhetoric for mimicking the real. Despite my respect for bumper stickers, especially those backed up by 2400 years of intellectual history, I propose that a better word for this is fantasy. What we admire in the imaginative is not the ability to lead us away from this world towards an as-if world, but the ability to increase our contact with this world in its complexity. C.S. Lewis is hardly more imaginative than Richard Ford just because he takes us all the way to Narnia and Ford takes us only as far as exit 8A on the NJ Turnpike. Indeed as anyone who has read both authors will attest, The Sportswriter ultimately takes us much further than The Lion, the Witch, and the Wardrobe.

There are two main exceptions to this rule, but in my view, one protests too little and one too much. The overly modest response is to upgrade the imagination from a fictive to a hypothesizing capacity. For Alan White, and following him Kieran Egan, the imagination becomes "thinking of something as possibly being so." This upgrades imagination to a mode of thinking rather than a

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2See Plato, Republic, trans. G.M.A. Grube and C.D.C. Reeve (Indianapolis: Hackett, 1992), 63. The critique of poetry begins at 376e-398b; the poets are finally banished at 595a-608b. Imagination (eikasia) is introduced at 509d-511e in the famous figure of the "divided line," as the lowest of four modes of grasping reality, one that apprehends the merely visible world through mere likenesses. It is certainly possible to complicate this standard reading of the Republic by attending to Plato's own use of images, from the very project of building "a city in speech" to the fact that the lowly place of imagining is conveyed by the image of the divided line. Indeed, immediately after the divided line is introduced, Socrates' interlocutors are invited to "imagine" (514a) the allegory of the cave. For an interesting reading of Plato's anti-mythic myths, see Jonathan Lear, "Allegory and Myth in Plato's Republic," in The Blackwell Guide to Plato's Republic, ed. Gerasimos Santas (Malden, MA: Blackwell, 2006).

3Hume, A Treatise of Human Nature (B1.3.10).


5It is customary to note that ancient versions of the imagination tend to be more passive, modern ones more active. For my purposes here it makes no difference whether we are talking about a passive mirroring function which reproduces appearances in the soul or an active faculty which embellishes reality or invents its own forms. In either case, the products of imagination stand at some remove from the real.


imaginative practice, imaginative inquiry
type of non-thinking, and it allows for imagination to play a role in types of thinking aiming at the truth. Similarly Gilbert Ryle chides us for our bad habit of equating imagination and make-believe, of contrasting thought and imagination.\(^8\) He offers the example of an historian who must both "be fertile in hypotheses and careful about his evidence."\(^9\) Both of these are forms of thinking, Ryle argues, and both are crucial for arriving at historical insight. But human beings often give themselves cognitive "half-holidays." When it is the imaginative component that is abandoned, the result is dreary, unenlightening history. When it is the evidence-weighing and hypothesis-testing component that is left behind, thought goes on the half-holiday Ryle calls "pure make-believe." He calls it pure make-believe, because he sees imagination, like White and Egan, as a kind of make-believe that can partner with serious truth-seeking inquiry. Imagining, he writes, is "the innovating, inventing, exploring, adventuring, risk-taking—if you like, creative—vanguard or scout patrol of thinking."\(^10\) This first exception, then, carves out a place for the imagination as an aid to inquiry while still not quite establishing imagination as a form of knowing in its own right. As White puts it, "our imagination is equally neutral as to whether we have either any knowledge of, or any belief in, what we imagine to be so."\(^11\) It is not enough to protest against the equation of imagination and fantasy; we need to develop the connection between realism and imagination in a robust way.

If Ryle and White protest too little, Coleridge and company protest too much. I am thinking of the view, running from German speculative idealism into British romanticism, that combines two features of Kantian thought into a synthesis Kant never dreamed of: the conception of the productive imagination (Einbildungskraft) which appeared in the first edition of his first Critique and the concept of genius on offer in the third Critique. Indeed, as Richard Kearney and others have noted, Kant seemed to sense what he had unleashed, weakening his account of the primacy of the imagination in the second edition of the Critique of Pure Reason.\(^12\) And as Hans-Georg Gadamer has noted, later readers of Kant were greatly taken with his concept of genius but much less so with the humble role he accorded it in the Critique of Judgment.\(^13\) Regardless of the accuracy of its Kantian provenance, the result, as Kearney puts it, was an "absolute conflation of reason and imagination."\(^14\) Specifically, the idea was that imagination was:

...the primary and indispensable precondition of all knowledge. Nothing could be known about the world unless it was first pre-formed and transformed by the synthetic power of imagination.\(^15\)

The price for this epistemological reassessment of imagination is twofold. First, it is not clear how much is gained if imagination becomes a condition of the real, since this may and has been taken to mean that the real is not that real after

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\(^9\)Ibid., 51.

\(^10\)Ibid.


\(^12\)Richard Kearney, \textit{The Wake of Imagination: Toward a Postmodern Culture} (Minneapolis: University of Minnesota Press, 1988), 157 & passim.


\(^14\)Kearney, \textit{Wake of Imagination}, 177.

\(^15\)Ibid., 157.
all. If the only world is a created world, than as much as creating it may be special, knowing it seems rather unimpressive. Rather than concluding that the imagination is a form of knowing, we may instead conclude with Schelling that "the objective world is simply the original, as yet unconscious, poetry of the spirit."16 (Or put another way, one repercussion of the Kantian revolution was a fresh wave of epistemological skepticism). And really how special is this act of creation? That is, the second price we seem to pay for the romantic inflation of the imagination is that it becomes a universal and transcendental operation in the human mind. The idealist productive imagination is invisible, ubiquitous. Each of us performs the synthesis of apperception that allows a unity of perception, but it is our transcendental ego that does the job. In reference to this imagination, it makes little sense to talk of those who are less and who are more imaginative, or of cultivating the imagination.

Coleridge tries to solve this problem by distinguishing this transcendental imagination, which he calls "the primary imagination," from a "secondary imagination," which is an "echo of the former, coexisting with our conscious will."17 Coleridge's secondary imagination, epitomized in the sensibility of the poet, is a "synthetic and magical power" to reconcile "discordant properties."18 It "dissolves, diffuses, and dissipates," even as it "strives to idealize and unify," all in the effort "to recreate"; it is the human power to find the vitality in things, which "as objects... are essentially fixed and dead."19 This conception solves the problems adduced above: it allows us to speak of imaginative acts rather than a ubiquitous faculty operating behind our backs; it enables us to make sense of the fact that some people are more imaginative than others (or that one person is more imaginative in one sphere or moment in her life than in another); and, it retains the possibility that the imagination is educable. Despite these advantages, this conception ultimately offers us another "magical power" of invention rather than a cognitive one enabling us to have truer and fuller contact with the real.20

Let me sum up this part of what I have to say by comparing my view to Kieran Egan's balanced and helpful review of theories of the imagination.21 Like Egan, I am troubled by the tendency to see reason and imagination as "more or less discrete, and mutually anti-pathetic, categories," a tendency which, Egan rightly notes, "remains influential still."22 In countering this tendency, our bumper sticker might be Wordsworth's "imagination is reason in her most exalted mood."

18Ibid., 524.
19Ibid., 516.
20Coleridge does distinguish imagination from both fantasy and fancy. By fantasy, though, he means an image in the mind that simply mirrors an object in the world. [See Kearney, Wake of Imagination, 182. By fancy, he means any mere rearranging of "fixities and definites" as opposed to a genuine synthesis that dissolves and recreates in a vital fashion. [See Coleridge, "The Portable Coleridge," 516.] Nonetheless this still leaves the secondary imagination closer to world creation than to tracking the reality of the world.
22Ibid., 20.
Imagination, I will argue, is not only compatible with truth-seeking and reality tracking, but is a name for one kind of excellence in these pursuits. It is for this reason that I also share Egan’s sense that it is a mistake to construe the imagination as something "implicated in all perception and in the construction of all meaning." On this view, calling someone’s thought imaginative becomes superfluous.

By attending to what we might call the grammar of imagination, I can bring out one further similarity with Egan’s view and show where we begin to diverge. Like Egan and others, I embrace the Wittgensteinian insight that human beings have a bad habit of believing that every noun we use corresponds to a thing in the world, a habit that, when it encounters the names of personal qualities, leads to the doubly bad habit of inventing mental faculties. Ryle captures this insight with his usual pith when he writes:

> It is quite proper to say that *Pickwick Papers* is a work of imagination. But to say this is not to say that it is a work issued by a sub-department of Charles Dickens.

Here, however, is where I begin differ even from those, like Egan, who wish to de-reify the imagination. The typical strategy for curing us of the tendency to treat imagination as a substantive noun has been to emphasize the verb, "to imagine." Instead, I want to suggest that imagination is best understood as a sort of virtue term. When we say that a person or work has wisdom, courage, or imagination, we mean that he, she, or it is wise or imaginative. In other words, imagination is essentially a predicate, a predicate which comes in both adjectival and nominal forms (e.g., Annabel is imaginative; Zoe shows imagination). Returning to Wittgenstein and Ryle, we can say that it is only because we tend to give pride of place to the nominal form of this predicate, and to reify it, that we get caught up in the hoary debates over what sort of psychological apparatus the imagination is (faculty, sub-faculty, coordinating faculty, meta-faculty?).

I do not want to overstate this difference between building one’s account of imagination around the verb, "to imagine," and around the adjective, "imaginative." If imagination is a virtue than it is a quality of persons, which shows itself in their works and actions. When we say that someone is courageous, for example, we mean that they have a disposition to act courageously. If one never displayed courage, we would have reason to doubt their courage. The difference between verb-based and predicate-based accounts, then, is largely one of emphasis.

Nonetheless, it does make a difference whether we start with idea of a quality that we find in a person’s being and doing or start from the assumption that imagination is a special kind of doing. The latter assumption leads to significant problems in the analysis of imagination. When we start by equating imagination with the act of imagining, we typically end up with the idea that imagining means literally picturing something in the mind’s eye. This then leads to a further problem, since imagining must be distinguished from dreaming and hallucinating. This is what seems to drive Egan and others to conclude that imagination must be "an intentional act of mind,” a solution that entails problems

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23Ibid., 21.

of its own. Imaginative acts willed as such would seem to be the exception. When we display imaginativeness, it is rarely because we are trying to be imaginative; more likely, we are trying to write an essay, play a sonata, make a joke, create a syllabus, and so on. There may be a moment where I consciously try to imagine a framing device for the essay or a new activity for my class, but it seems wrong to limit imagination to these moments. Finally, it is not even clear how much the verb approach does free us from faculty psychology. Because actions must come from somewhere, we find ourselves tempted to back-order a "capacity," which turns out to be faculty in disguise. In my view, then, imagination is best understood neither as noun or as a verb, but as a predicate, a quality predicated of persons along with their actions and works.

My difference with Egan, however, is not confined to this grammatical point. In filling out his verb-centered account, he follows White in saying that "to imagine something is to think of it as possibly being so." My account departs from both parts of this definition. First, I will argue that imagination shows up in all of the major modes of human interaction with the world. The quality I am interested in is certainly found in thinking, but not only there. Second, as I have already suggested, I believe it is a mistake to center the imagination around notions of the possible, the hypothetical, or as Brian Sutton-Smith puts it, "the subjunctive mood of mind." At one point, Egan notes a capaciousness in White's definition, claiming that it captures both the sense in which we can conceive of the world as other than it is, with flying horses and ourselves ruling it and the sense in which the historian or physicist or any of us strives to conceive of the world exactly as it is.

In my view, we must at long last corral these flying horses if we are truly to do justice to this second, neglected aspect of imagination.

It is not that I disagree with Egan when he states that imagination "is the source of invention, novelty, and generativity," but I do worry that this might be taken to mean that imagination itself is equivalent to fabrication and fictionalization. Imagination may well lead to inventions, but imagination itself is not about adding to the world, but about connecting with it. As Dewey says, a person of full or imagination perception is capable of "seeing what is there." Rather than speak of novelty, then, we would do better to think of imagination as kind of freshness of vision. Indeed, this is how Egan himself glosses the second half of White's definition, noting that it encompasses Coleridge's sense of imagination as thinking that is unsubdued by habit, unshackled by custom, and as that which enables us to transcend those obstacles to seeing the world as it is that are placed before us by conventional, inadequate interpretations and representations.

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26White, The Language of Imagination, 184. Emphasis in original.
28Ibid., 17, 21.
30Egan, "Short History," 17.
Here Egan seems to be referring to the passage from the *Biographia Literaria* where Coleridge describes Wordsworth as the truly imaginative poet, as the one capable of "awakening the mind's attention from the lethargy of custom, and directing it to the loveliness and wonders of the world." This idea will be important to the model of imagination I propose, a model that does not merely object to the opposition between reality and imagination but is built from the ground up around the insight that the real and the imaginative go hand in hand. It is to this task we now turn.

**Imagination and complex realism: Outline of a theory**

In the course of my review of the literature, I have already indicated some of the features of my theory of imagination. I would now like to lay out my account more fully and systemically, in a series of relatively succinct, numbered theses. My intention is neither to feign mathematical precision nor to affect epigrammatic profundity. It is simply to sketch the broad contours of an alternate model of the imagination quickly and clearly. A discussion follows each thesis.

**Thesis #1: Imagination is a virtue.**

1.1 The defining form of this family of terms is "imaginative." Imagination is simply the nominal form of this predicative.

1.2 Imagination is a normative predicate, a term of praise.

1.3 What we are praising is a capacity of persons as embodied in their words and deeds and works.

1.4 Virtue terms are those that help us answer the questions what is human flourishing, what are the qualities of an admirable person, and what is excellent to become? "States that are praiseworthy," Aristotle writes, "are the ones we call virtues."\(^{33}\)

1.5 There is no definitive list of the virtues. Virtue terms are controversial by nature, since visions of human flourishing are thick, various, and rooted in contingent ways of life (as opposed to thin and easily generalizable).\(^{34}\) Still, in many such schemes imaginative excellence has held a place of honor.

**Discussion**

\(^{32}\)Coleridge, "The Portable Coleridge," 518.

\(^{33}\)Aristotle, *Nicomachean Ethics*, trans. Terence Irwin (Indianapolis: Hackett, 1985). One question I will not have time to pursue here is whether, according to Aristotle's famous distinction, imagination should be considered a moral or intellectual virtue. My basic position is that imagination like phronesis tends to complicate this distinction rather than to fit in either category.

\(^{34}\)For a history of changing conceptions of the virtues along with a defense of the inextricability of the virtues from the plural and parochial practices in which they are discovered and nurtured, see Alasdair MacIntyre, *After Virtue: A Study in Moral Theory*, Second ed. (South Bend, IN: University of Notre Dame Press, 1984), chaps. 10-14. MacIntyre's account of the virtues is also helpful for showing how the virtues are simultaneously deeply shared and individualizing possessions. The virtue of imaginativess as I am understanding it is learned in communal practices, such as disciplines. I am grateful to an anonymous reviewer of this essay for pointing out the need to show more clearly why my approach does not lapse into the individualism that has marked much of the discourse on imagination, for example in the concept of a creative genius. As the reviewer rightly notes, any complex realism must factor in the way social and cultural forces shape our commerce with the world.
Before moving on to the second thesis, in which I say more about what kind of virtue I take imagination to be, I want to pause to consider some of the advantages of a virtue framework for imagination theory. By viewing imagination as a virtue term, we can make good on two intuitions which cause trouble for faculty (and quasi-faculty) theories: namely that imagination is variable and that it is mutable.

That imagination is variable I take to be an observable fact: some people are more imaginative than others, and individuals may be more imaginative in some regards than in others. This fact accords well with my contention that imagination is a term of praise. Theories that excessively broaden imagination, for example making it synonymous with mind itself, have difficulty accounting for such variability or the idea that imagination is praiseworthy. In such theories it makes as little sense to praise someone for being highly imaginative as it would to praise someone for perceiving objects in spatial and temporal terms.

Theories that view imagination as something more like a sense could maintain that some people happen to have keener imaginations, just as some have a keener sense of smell or sight. These theories, however, have trouble accounting for the idea that imagination is mutable, that it can be educated and miseducated. Certainly, eyesight may deteriorate over time, but this does not capture the force of the powerful romantic idea that many people lose the imaginativeness they possessed as children. Meanwhile, the idea that imagination is formed over time by our interactions with teachers and the works of culture will seem completely alien in theories where imagination is understood as cognitive equipment.

In contrast, virtue theory holds that virtues are acquired excellences of character. The virtues are not in-born, but cultivated over time, through practice and contact with those who embody and display the virtues. Virtue theory is also compatible with the notion of miseducation. One may well become less virtuous over time. It is worth noting, however, that a virtue approach to imagination is only compatible with a soft form of romanticism. In its strongest form, romanticism holds that imagination is paired with innocence and impaired by our entry into the life of language and culture. If a quality is at its fullest in early youth and only declines over time, that quality is not a virtue. However, a virtue approach is compatible with the notion that specific cultures over specific periods tend to cultivate the vices of unimaginativeness more than excellences of imagination.

Thesis #2: Imagination is acquired skill in contacting the real world in its complexity.

2.1 Here I am understanding the real not as that which is left over when human conceptions and perceptions are removed, not as a world of brute facts or primary qualities. Neither am I arguing for an idealistic conception in which the world is simply the product of our projections. Rather, I am arguing for a complex realism. The world is accessible to us, but it also admits of an infinity of aspects.

2.2 In other words, it is a mistake to assume that interpretations necessarily distort. Bad interpretations can distort, and there are certainly enough bad interpretations to keep us busy. But what distorts is not their interpretativeness, but their sloppiness, vagueness, narrowness, solipsism, tourism, proneness to wish fulfillment, and so on. The point is that good interpretations reveal. Do they reveal the world itself? No. They reveal to some degree an aspect of the world.

2.3 Human beings are capable of rich and thoroughgoing contact with the world, but we are also prone to narrow and falsify our commerce with complexity. We equate the world with our familiar interpretations of its familiar aspects, or retreat to as-if worlds.

2.4 We call a person, or their works or actions, imaginative when they manage to free themselves, and often us along with them, from such banality and fantasy. We experience imagination as a good, the good of a return to ourselves, as the relief of letting go of a lie, as an enlargement of prospect.

2.5 Each cramp in human sensibility calls for its own uniquely fashioned crowbar, and thus not much can be said in general about how imagination works. There is no imaginative method or recipe. Casuistry is required in the study of imagination.

2.6 We can however take one further step before turning to cases. This is to note that human beings relate self and world through a variety of modes, central among them thinking, feeling, and perceiving. By saying this, I do not mean to suggest that these are the only modes of connecting to the world, nor to suggest that they are entirely separable from one other. Blindness in one mode usually has an analogue in one or more other modes. Insights in one mode will often reverberate in another.

2.7 The original thesis, then, can be refined as follows: Imagination is acquired skill in one or more of the major modes of relating self and world; to be imaginative is to be skilled at making greater intellectual, emotional and/or perceptual contact with the real.

Discussion
At this point, let me consider two questions likely raised by my linking of imagination and realism. The first asks how this relates to the more traditional association of imagination with idealism. Imagination, it has often been thought, is less about exploring the actual than it is about conceiving of the possible. Writers who speak about the social imagination, for instance, typically have something like this in mind. Human hope and social change are both predicated on the ability to stare down the facts and maintain: and yet, I can imagine this otherwise.

My response to this is to refuse the very dichotomy between realism and idealism. When properly understood, realism and idealism should be seen as allies, both of which require imagination. I think the true contrast here is between fantasy and banality, as two rival strategies for escaping the real. By fantasy, I mean the setting up of an as-if world. By banality, I mean the gleeful equation of the real with our familiar labels for the familiar aspects of the world. Confusion enters because fantasy likes to distance itself from the real in the name of idealism, and banality likes to grab the mantle of realism when it rejects talk of ideals. But we must insist that realism is no closer to banality than it is to fantasy. And we must insist that idealism is no closer to fantasy than it is to banality.
It is the hallmark of fantasy, not of idealism, when someone indulges in airy invocations of truth, beauty, and goodness. Such sentimentalism and kitsch are the rhetorical markers of fantasy. The tone of idealism is decidedly different and much crankier. The true idealist loves ideals too much to write fiction about them. She wants as much contact with the actual article as she can get, but this means confronting ideals as they enter the world, namely as attenuated, distorted, obscured, compromised. The person who loves a good seminar discussion, for example, is more likely to be found worrying over the discussion they just had: how it left the text behind, or left the participants’ actual concerns behind, or lacked seriousness or a sense of playfulness and so on. The pseudo-idealist comforts himself after a bad discussion with pep talk about the beauty of a good discussion. The true idealist is not a cheerleader but a critic who sees compromises as such and who ruthlessly exposes impostors to the ideal.

The opposite of idealism, then, is not realism but cynicism and complacency. From the point of view of idealism it makes little difference whether the cynicism of the day is to give up on making things better by acting as if things already are better or by asserting that things are what they are. One type of cynic indulges a facile optimism, the other a facile version of acceptance. Genuine idealism, however, is not easy. It takes effort, and indeed imagination, to hold the ideal and the real in relation without minimizing the tension between them. The idealist works hard to learn genuine acceptance in the face of the cynic’s complacency and genuine hope in the face of the cynic’s facile optimism. Ultimately, then, the true idealist is a realist. And we could just as easily have chipped away at this dichotomy from the other direction, starting from realism. The realist aims to cultivate just and loving attention for the real, but the real includes the actual and the possible. Consider the following questions: What is really happening? What is really there? How does this really work? What is really possible in this situation? Is this really the path we should be pursuing? All of these questions make sense and in each the adverb has the same force.

I mentioned above that I anticipated two questions about my model of the imagination as a virtue in the service of a complex realism. The second question is simply, why call this imagination? In other words, why not leave the word imagination as it is, as a synonym for creativity, and develop some other more appropriate term for this epistemological virtue of getting at what’s really there? My response to this is that most of what I am calling imagination falls outside of the scope of epistemology as it is typically conceived. First, recall that thinking is only one of three modes of contacting the real that I identify, along with feeling and perception. Second, even what I am calling imaginative thinking itself is broader than knowledge as ordinarily construed.

In a rough and ready way, we could define knowledge as mastery of the current stock of accepted interpretations, awareness of the best answers we have to the questions we have so far learned to pose to the world. As such, this falls short of all of the following interrelated features of cognitive life:

- **thinking** (proper): the process of carefully retracing lines of thought to perceive paths not taken and open up new aspects of a phenomenon for consideration.
- **insight**: the moment when a piece of knowledge is related to a question that matters to us, enlarging our understanding.
• **understanding**: the ability to make sense of the world by discerning which of our stock answers are important and how they might fit together.

• **wisdom**: the ability to perceive on the basis of our understanding what various situations demand of us.

The point is that imagination is at work in the posing of questions to the world, in the act of listening for a response, in the act of constructing interpretations. It is at work in the synthesis of pieces of knowledge, in the act of connecting such syntheses to the world before you, in the act of fitting a new element into your understanding. Still, someone might press me. Why not call what you are after mental acuity, emotional maturity, or perceptiveness? Here my response is fine, but which? That is, I am arguing that these three qualities share an important family resemblance, and the word imagination is meant to name what they have in common.

**Conclusion**

Here I have briefly tried to limn the outlines of a theory of imagination as that which enables us to make closer contact with the real. Let me even more briefly say in conclusion what the major implication of such a theory could be for educators. My emphasis here has been on understanding imagination as a central aim of education, as a core component of our ideals of the educated person, and indeed, as a vision of human flourishing. Such a conception could become the basis of new initiatives to support imaginative education, not only within the arts but across the whole curriculum. As long as imagination and knowledge remain disconnected, our efforts to provide imaginative education will be vulnerable to description as luxurious, and therefore optional, "extras." In the face of this discourse, we ask: what could be less optional than learning to think beyond received ideas, learning to feel what is really happening, learning to see what is really there?
References


This paper identifies the rationale for developing Creative Explorations, a co-constructivist teaching and learning approach for primary science that addresses issues associated with the decline in primary students' attitudes towards science, and the need for all students to develop a level of scientific literacy. Theoretical positions associated with the interrelationships between aesthetic experiences, the exploration and the explanation of natural phenomena when developing and communicating science understanding, children's science and the nature of science are identified and discussed. Tentative connections between some aspects of the rationale and recent literature on the role of imagination in education have been identified. A narrative of a school based case study centred on the material world/ rates of change and the investigative aspect of the nature of science, identifying and testing variables is used to exemplify elements of Creative Exploration in action.

Introduction
This paper identifies the rationale for developing Creative Explorations, a co-constructivist teaching and learning approach for primary science that addresses issues associated with the decline in primary students' attitudes towards science, and the need for all students to develop a level of scientific literacy. Theoretical positions associated with the interrelationships between aesthetic experiences, the exploration and the explanation of natural phenomena when developing and communicating science understanding, children's science and the nature of science are explored. Connections between some aspects of creative exploration and relevant recent literature on the role of imagination in education are identified.

Significance
The lack of status of science teaching and learning in a crowded curriculum and the decline in students’ attitudes towards further learning in science education are two areas of challenge to primary science educators. Despite the availability of many quality teaching and learning resources, science as a curriculum area in primary schools is generally perceived of as low priority. As well as the lost status of science amongst teachers, there is also concern that the decline of secondary
school students interest in being involved in further science is becoming increasingly evident in students in primary school (Crooks & Flockton, 2003). The ever increasing call for “scientific literacy for all”, as encapsulated in the OECD,(2006) PISA project and Tytler’s, (2007) “contention that science education needs to diversify its emphasis beyond focussing on canonical abstract ideas, and place an emphasis on the nature of science and the way it operates”, (p.31) identify the affective domain as an insight to a way forward for primary science educators. For most young children experiences of natural phenomena promote a sense of curiosity and wonder. This natural curiosity and interest that motivates young learners to be engaged to seek explanations needs to be enhanced and recognised as an essential element of science programmes in primary schools (Fried, 2001; Bell,2001). The challenge for primary school science teachers and educators is to develop teaching and learning approaches that showcases science education in such a manner that will firstly appeal to teachers and their students as being significant and worthwhile, and secondly counter the decline in attitudes towards science being expressed by children.

**Creative exploration: A sequential and cyclic model of exploring for understanding in children’s science**

*Introducing the model*

This teaching and learning approach is based on the assumption that children naturally seek explanations for experiences that have some affect on their feelings, attitudes and the manner in which they think about or view natural phenomena. Children will often construct creative explanations when seeking to understand and explain these aesthetic experiences. Rich aesthetic experiences can lead to the development of a sense of fascination that in turn leads to a greater degree of engagement in the learning process. The outcome of this engagement is a greater depth of understanding, especially if the learner involved has communicated and justified their ideas with others. In a teaching and learning situation children participating in rich aesthetic experiences of natural phenomena can be guided by informed facilitation towards a greater depth of personal understanding. This authentic process of enquiry not only leads to the development of personal conceptual understanding but also to the development of procedural knowledge and skills and a tentative appreciation of the nature of science. Although the approach is presented here in a linear fashion, it should be viewed as cyclic in nature. The cycle can follow the whole process or it may only complete parts of the process. The more elements of the process used deepens the depth of engagement and subsequent understanding.
Table 1.
Sequential elements of Creative Exploration model for developing personal understanding in primary science

<table>
<thead>
<tr>
<th>Creative Exploration</th>
<th>Wonder</th>
<th>Wonder</th>
<th>Wonder</th>
<th>Wonder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore</td>
<td>a problem, situation, phenomenon, artefact, model, event, story.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe</td>
<td>What is happening? What changes happened? What materials are involved? What are the main parts? What are the key aspects? What do these parts/structure do?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify evidence</td>
<td>What is the cause and effect of changes? What is the function? What parts are interacting with other parts? What are the outcomes of these interactions? What trends and patterns keep occurring?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create explanations</td>
<td>Personal explanations supported by evidence are created and processes to test them are planned</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigate</td>
<td>Find out, measure, compare, verify, test, clarify identify</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>A self evaluation of these investigations may lead to, new or modified explanations, doubts about existing ideas or tentative conclusions. These tentative explanations need to be communicated to others for peer evaluation and feedback</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further investigation</td>
<td>Evaluated explanations can lead to: re-exploration, seeking further explanation, leading to further investigation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Theoretical justification of the teaching and learning model

Creative Exploration is a co-constructivist approach that incorporates many aspects of the following four elements associated with socio-cultural views of learning identified by Tytler 2007 as offering insights into the conditions needed for engaging learning programmes in science education. These elements include:

- the active role of the teacher in providing opportunities for students to engage with and explore phenomena
- the support for students to engage with meaningful contexts
- the negotiation of meaning implied in the teacher’s guidance of students towards the scientific views
- the meta-cognitive implications of making ideas explicit, and extending and evaluating these

Creative Exploration evolved as a teaching and learning approach through the development of the science assessment exemplars (Ministry of Education, 2004). The exemplars identified the demonstration of awe, wonder and interest in science as a key aspect of learning for the goal of “Developing interest and relating science learning to the wider world” (Arcus, 2003; Ministry of Education, 2004). The project developers identified the following set of dispositional indicators that science education fosters student's ability to do at all levels.
Display curiosity about the world around them
Demonstrate enthusiasm and excitement about how science works
Take an interest in a particular science topic
Become absorbed in a science related activity
Pursue science interests without prompting, outside the formal learning environment
Display initiative and commitment when seeking answers to their questions
Express awe and wonder and enthusiasm about an observation, experience or idea/explanation
Develop and declare an interest in some aspect of science or the environment
Persevere to solve problems and overcome difficulties while pursuing their own interest in science

The Creative Exploration approach has similar features to the Primary Connections learning model (Hackling & Prain, 2005) that elaborates on the 5 E’s model developed by Bybee (1997) of engage, explore, explain, elaborate and evaluate. In particular, Creative Exploration as an approach places an emphasis on the exploration of aesthetic experiences and the subsequent desire by the learners to make sense of, or explain, the natural phenomena involved. The underpinning philosophy of the approach is also strongly influenced by the interactive approach (Biddulph & Osborne, 1984) that resulted from the Learning in Science Project, and the notion of children’s science (Osborne & Freyberg’s, 1985).

**Children’s science**

If science can be defined as the current acceptable explanation of natural phenomena and the process by which the evidence underpinning this explanation is generated then children’s science can be defined in much the same way. Children’s thinking can be classified as being scientific if their explanations of phenomena and change include the identification of the evidence they used when constructing their explanations and this evidence is subsequently tested. Children generating new thinking to explain the phenomena they are exploring are being creative. Creativity is defined by the National Advisory Committee on Creativity and Culture in Education as “imaginative activity fashioned so as to produce outcomes that are both original and of value, (NACCE, 1999, p. 29 cited in Feasey 2006)” A person acting creatively is “thinking or behaving imaginatively in the process of trying to solve a problem or answer a question, (Feasy, 2005 p.6)” It could be argued that this is a rather broad use of the notion of behaving imaginatively, Takaya (2007) identifies a distinction between behaving imaginatively and behaving creatively, she contends that creativity is more closely associated with the creation of an idea or product whilst imagination is more closely associated with the disposition of the person involved in the process. She suggest “being imaginative suggest being in pursuit of ideas driven by curiosity and fascination about the subject or task, (pg 39)”. These affective aspects identified by Takaya are significant elements of this co-constructivist teaching
Imaginative practice, Imaginative inquiry

and learning approach that has children creating, communicating and evaluating their own and others’ explanations for the phenomena they experience.

Taking children’s ideas seriously in science was identified by Harlen (2001) as one of the two most significant developments in the past 100 years of primary science education. She suggests that any explanation that is supported by a positive response to the question, “What made you think that?” must be considered as having an impact on further learning. The significance of intuitive ideas on further learning in science was recognised by the learning in science project (LISP) conducted at University of Waikato during the 1980’s and further explored during the SPACE project in the UK (Harlen, 2001). Explanations developed by children as they interact with natural phenomena become the foundation blocks on which further and more sophisticated explanations are developed. A knowledge of these ideas and how they were constructed is vital for a teacher when facilitating deeper understanding and guiding the children’s learning in science. From and imaginative educators perspective Egan (2001) cautions the unabridged acceptance of Ausubel’s (1968) decreed “The most important single factor influencing learning is what the learner knows. Ascertain this and teach him accordingly”. Egan’s contention that young children are able to imaginatively generate explanations not linked to lived experience offers a subtle reminder about the importance of having an open mind when interacting with the ideas children share. If the learning environment is conducive, children’s expressed imaginations may well provide a much fuller account of their understanding and thinking about the phenomena being explored. To be able to capitalise on and effectively use these ideas will require the teacher to approach their teaching in an interactive manner.

As mentioned previously, Creative Exploration as an approach draws heavily on the assumptions underpinning the interactive approach in particular the exploratory stage and the need to negotiate common explanations for the phenomena being explored. This negotiation includes the clarification of the terms and their meanings used when communicating about the phenomena and contexts involved. It is important that teachers use active listening strategies when teaching in an interactive style. An interaction can be described as an interchange of communications in a context where there is a genuine desire by the facilitator to understand the student’s point of view (Rivers, 1987). The recent call for more dialogic teaching and learning in the UK (Alexander 2006) highlights the significance of the need for quality communication to truly understand the students current ideas about the phenomena in question. The valuing of children’s thinking by the teachers involved can substantially influenced the student’s attitudes towards further engagement and learning in science.

**Importance of affective attitudes on developing explanations**

The decline in attitudes towards being involved in learning in science has resulted in the call by some science educators to promote the development of affective attitudes like curiosity, awe, wonder and interest as an essential goal of science education (Millar & Osborne, 1998; Arcus, 2003). Similarly others, Dahlin, (2001), Girod and Wong (2002) and Wickman,(2006, p. 38 cited in Tytler, 2007) claim that a more phenomenological - aesthetic approach is required. That is an
approach to teaching and learning in science that stresses the importance of aesthetic experiences of natural phenomena that leads to the development of a sense of fascination by the learners involved. Girod and Wong (2002) contend that Dewey's notion of educated experiences, or fulfilled experiences of phenomena over time, could be described as aesthetic experiences that can have a significant influence on learning in elementary school science. Similarly, Dahlin (2001) also contends that there needs to be a greater “emphasis on the aesthetic dimension of knowledge formation” (p. 130). He defines aesthetic as “a point of view which cultivates a careful and exact attention to all the qualities inherent in sense experience... an approach to natural phenomena would not merely be to appreciate their beauty but also understand them” (p. 130). Learners involved in aesthetic experiences of nature can develop a sense of fascination (Godolovitch, 1998) that can generate a sense of anticipation which can in turn lead them to a depth of engagement and learning (Girod & Wong, 2002). It could be argued that the contention that the affective elements associated with aesthetic experiences may strongly influence how children approach their learning is supported by Egan (2007), proposal “Whatever content is to be dealt with needs to be attached to students emotions in some way... and need to be part of what is dealt with in the class” (p.19). A feature of Creative Exploration is the significance of exploratory activities that, with teacher direction and input, provide aesthetic experiences of natural phenomena that will promote a sense of wonder leading to a desire for understanding and explanation of the phenomena for the learners involved.

**Wonder and its relationship with aesthetic experiences**

The links between awe and wonder, and aesthetics and fascination are inherent in Goodwin's work (1994; 2001) where he contends that there are three aspects of wonder that directly relate to the teaching and learning of science: “Wonder about”, “Wonder at” and “Wonder whether”. Goodwin’s suggestion that “Wonder about” pertains to questions relating to: How does it work? What would happen if? Why? When? What next? is similar to the notion of anticipation that Girod and Wong contend evolves from initial fascination. The notion “Wonder at” pertaining to the exclamations like: wonderful! wow! how interesting! how exciting! how beautiful!, relates to the appreciation phase of an aesthetic experience of nature (Dahlin 2001). The third aspect; “Wondering whether” includes a value aspect and involves value laden questions pertaining to: Should I do this? Must I do this? Would this be better than that? Is it right? Why is this significant /important? Goodwin (2001) includes a need to provide a greater emphasis on the process and value dimensions affecting teaching and learning in science. Goodwin argues that if the goal is to develop enjoyment of and a commitment to learning in science then there are serious value judgments implicit here that only pupils can make. Goodwin’s reference to value judgement can be used not only to clarify our understanding of the relationship between awe and wonder and fascination and anticipation but also link the use of wonder when investigating scientific related issues from a nature of science perspective.
Nature of science

The increasing demand for science education programmes to present science in relevant context for all students highlights the importance of including aspects of the nature of science into the classroom work in an overt manner. Recent curriculum developments in the United Kingdom “Twenty First Century Science” and in New Zealand the introduction of the overarching Nature of Science Strand in the 2006 National Curriculum draft are both examples of attempts to develop science education programmes that will result in scientifically literate students who will be able to participate in making informed decisions about scientific issues that may impact on them as they go about their daily lives. PISA (2006) identifies scientific literacy as “A willingness to engage in science-related issues and with the ideas of science as a reflective citizen.”(Prenzel, 2006) The Nature of Science strand in the New Zealand curriculum identifies four aspects that include:

- Understanding about science
- Investigating in science
- Communicating in science
- Participating and contributing (Ministry of Ed, 2007).

A feature of Creative Exploration is the overt manner in which the nature of science is featured in learning intentions. The children are made aware that they are doing science and the Nature of Science aspect involved in the scientific activity is made explicit to the learners.

As highlighted already communication plays a central role in the Creative Exploration approach. Firstly, the learners are encouraged to think and talk to themselves before sharing their ideas with others. The learners are encouraged to work in a meta cognitive manner as they share their ideas with their peers and teachers. They evaluate their and others ideas and in the process further negotiate their understanding and subsequent explanations. A wide variety of communicative strategies can be used when sharing ideas in science. A feature of the early work in exploring this approach is the use of drama and role play to model the phenomena being explored. Initial anecdotal evidence suggest that children creating explanations communicated by models or drama not only increases the engagement of the learners involved but also lifts the level of understanding of the phenomena being explored.

Teachers’ actions in promoting engagement and learning

The quality of teachers’ actions and responses when interacting with students can have a significant formative influence on students’ attitudes towards science (Osborne and Collins, 2000). The quality of these behaviours is dependent on the attributes, skills, and dispositions that the teacher brings to his or her work with learners. Osborne and Freyberg (1985) identified five aspects of the motivational role that the teacher must play if they are to capitalize on the pupil’s intrinsic control over their attention to the learning activity in hand. They suggest that the teacher must;

“explicitly state the intent of the lesson or activity so that pupils can reconstruct for themselves the problems to be solved or the learning task”
“encourage pupils to ask themselves, and each other questions which will focus attention and initiate generative learning,
encourage pupils to take responsibility for, and to direct, their own learning,
choose situations of demonstrable interest to the pupils whenever possible,
and encourage pupils to reflect on their own ideas and ideas of others” (p. 92)

These aspects presented by Osborne and Freyberg over twenty years ago are still very relevant today, not only for science education but education in general. They could be described as a set of guiding principles which teachers could apply to their interactions with the learners they are working with as they explore, seek and create explanations. These principles focus the attention on the learners and the control individuals have on their learning as they make sense of, communicate and evaluate ideas associated with the phenomena being explored in a scientific manner.

Ice hands
A context for exploring Creative Exploration based around the material world - melting / rates of change and the investigative aspect of Nature of Science, identifying and testing variables.

Recently I was invited to assist a group of junior class teachers to plan and teach a material world unit based around kitchen chemistry with the key idea being identifying changes that occur when preparing food. There was a school focus on lifting the level of investigative skills in science. The following narrative describes an example of creative exploration in action. I was asked by a teacher to model the identification and testing of variables with five year old children. The key science understanding involved was change in the form of melting and the context used was water?

The introductory stage of the lesson was spent revisiting the children’s understanding of melting. There had been some prior exploratory activity and experiences of changes in material when heated. Firstly the children were asked to share their understanding of melting in a general way. To support this process the children sat around an electric fry pan and were asked to predict what would happen when a range of materials were placed firstly on the cold pan and then if the pan was heated. In the process of testing the materials we established the idea that some form of heat energy was required for materials to melt. The children also noted that some things melted whilst others did not, they only got hotter. Several children were asked to touch the cold pan and hold their hands above the hot pan to establish that there was temperature change between the two.

The children were then introduced to an ice hand made out of frozen water and red dye and asked to predict what would happen to the red frozen hand. The children enthusiastically responded “it will melt.” The children were then asked “I wonder what part would complete melting first?” The most common response was “the pinkie (the little finger) would melt first”. When asked why they thought this? One student suggested that the pinkie would melt first “because it was smaller than the other parts of the frozen hand”. A short discussion with the children established the shared theory, “the size of the piece of ice will effect how long it will take to melt”. As a class we set out to test this theory. Working in pairs
the children were each given three different sized pieces of ice and a dish to test the theory out. In the process we established the idea that the only thing that was different was the size of the ice cubes. In their pairs the children found spots around the classroom to observe the melting process. At this stage the teacher visited each group, discussed the progress of their investigation and had the children identify the relationships between the different size ice cubes and the different parts of the ice hand.

After the consultation with each group had taken place the children and teacher returned to the fry pan and the investigation was redone using the heated fry pan. Sets of different sized ice blocks were tested and the prediction that the smaller sizes would melt first was confirmed. The slowly melting hand was placed on the hot pan and the children observed the melting process. The children were spellbound and the engagement was intense. At the conclusion of the melting process the children revisited their theory and decided that their observations from the investigation had confirmed their explanation. To further aid their understanding the children were then asked to role play what had happened to the ice blocks. Each child was asked to pretend they were a very cold ice block. The children then stood tall and erect and then acted out the melting process until they were spread out on the floor. Selected children were asked to model the process in front of the class, the observing class members then explained the process that was being modelled. The whole teaching and learning sequence took approximately 35 minutes and the children were completely enthralled and engaged throughout. There was an emphasis throughout on working with the children ideas, prompting and challenging their thinking, and introducing them to the key idea that science is about developing explanations that can be supported by evidence. Throughout the process the classroom teacher was taking digital photographs which were later used in literacy time to develop a record and account of the activity and to revisit later as the experiences were relived as a power point presentation.

Summary

Although Creative Exploration is still in a developmental stage, it does identify significant practices that could be beneficial for teachers when reviewing their practices. It stresses the importance of making the learner realise that exploration is part of science and, through close observation and wondering, patterns and trends can be identified. The testing and further investigation of these tentative observations and evidence through systematic inquiry can lead to validated explanations that are able to be communicated to others. In short they are using scientific processes to create explanations that are new to the individuals involved. They are doing science.
References


MULTIPLE INTELLIGENCES IN THE SECOND LANGUAGE CLASSROOM

Josiane Parrouty

Capella University, USA

MI theory is a definition and conceptualization of human intelligence. The suggestions of MI theory offer all educators a guide to enhance their teaching methods. In MI classrooms learners gain more confidence and take control over their own learning and teachers allow that to happen. Having a grasp of students’ general metacognitive abilities and their understanding of learning-to-learn skills can help teachers design MI Reflections experiences that are appropriate for their students and avoid or overcome student resistance. Students’ theories of what it means to be intelligent can affect their performance. Research shows that students who think that intelligence is a fixed entity are more likely to be performance-oriented than learning-oriented. Teachers need to understand that the MI theory is not a technique but a framework that validates and extends many good teaching practices. Planning a curriculum that offers students multiple pathways to learning a particular skill, concept, or subject is a skill in its own right. To implement such a curriculum may require risk-taking beyond a teacher’s comfort zone. Both teachers and students need to understand how and why MI theory is relevant to their particular learning context.

Introduction

Teaching is becoming more complex and more demanding in the 21st century. Many educators have increased their repertoire to respond to those complexities and those demands.

Effective teachers know that students do not all learn in the same way or at the same rate and they have embraced the theories of Multiple Intelligences and Developmentally Appropriate Practices to provide safe environments and meaningful content in a variety of ways.

Many educators realize that teaching is about the artful and thoughtful integration of multiple approaches to teaching and learning in the classroom setting. Learning is not about recall or facts on meaningless tests. Learning is about being involved in meaningful events that increase students’ understanding of the world; it is about authenticity, being actively involved, and experiencing variety (Wiggins, 1998). No greater source than Albert Einstein said the true sign of intelligence is not knowledge, but imagination. Imagination is essential to the mental health of a child and society. We have to remember that everything that has been created came from someone’s imagination. The theory of Multiple
Intelligences reminds teachers that students bring different strengths to a learning situation (Armstrong, 2000).

**The theory of multiple intelligences**

Howard Gardner has been highly influential in the academic marketplace since publishing his original findings in his book Frames of Mind: The Theory of Multiple Intelligences in 1983.

Multiple intelligences theory has become widely recognized as a useful framework for teachers making sense of their observations that individuals have different strengths and learn in a variety of ways. Multiple intelligences theory includes the traditional academic intelligences of linguistic and logical mathematical intelligences as well as spatial, visual, musical, bodily kinaesthetic, interpersonal, intrapersonal, naturalist and existential intelligences. Critical to MI theory is that each intelligence has a different developmental trajectory and different core processing operations (Gardner, 1993). This implies that learners may engage higher order thinking and problem solving in an area of intellectual strength and only lower order thinking in an area of relative weakness. For example, a learner gifted in linguistic intelligence may produce a creative and original text but may struggle with a task that demands high-level spatial ability.

One of the greatest challenges for educators today is to provide a curriculum that effectively caters to their diverse student population. The one area that teachers in schools have most control over is how they teach the curriculum. The theories of Multiple Intelligences and Developmentally Appropriate Practices help educators to diversify their teaching and learning strategies to cater to their students’ different intellectual strengths. Effective teachers are no longer satisfied with using instructional guides as sole indicators for instructional planning. They adopt innovative methods to teach students and evaluate their progress. Today, there are many new insights on the research of intelligence. The concept of intelligence has been extended and the traditional assessment of intelligence has been challenged extensively. The new insights have provided educators wider and deeper dimensions for research as well as for instructional and curriculum design. Harvard University Professor Howard Gardner’s (1983, 1993) theory of multiple intelligences has had the greatest influence on educators’ beliefs and talk about individual differences during the past 22 years. In our day, many educators, policy makers, and informed parents understand that people differ in their abilities to solve problems.

The application of the theory of Multiple Intelligences has been found to lead to increases in learning objectives and other holistic outcomes and has been lauded to be one of the most positive and influential theories in education today (Campbell & Campbell, 1999).

The theory of Multiple Intelligences has united educators whose classroom reality demonstrates the need to craft an educational experience that addresses a variety of ways people learn (Darling-Hammond, 1998). The application of MI theory at the K-12 level has been found to improve behaviour, aid in the inclusion of students with special needs, encourage parent participation, and create a learning environment supportive of critical thinking and problem solving skills (Kornhaber and Fierros, 2000).
MI theory has evolved through a complex series of investigations of human behaviour and the brain that found distinct ways humans can be smart (Gardner, 1983, 1993). The application of MI theory suggests “a need for active, authentic, problem-based approaches and performance based real world assessments” (Kellenbach and Viens, 2002). A primary goal for the implementation of MI theory advocated by Howard Gardner (1995) is that instruction and curriculum be personalized so that students may use their intellectual strengths as a means to achieve greater academic and personal success. The challenge in education is for teachers to create learning environments that foster the development of all nine intelligences. Educators acknowledge that balanced instructional presentations that address all the intelligences benefit all learners. It is important to provide a physical environment that has personal work spaces for independent activities as well as centres that encourage imagination. Howard Gardner who introduced the concept of multiple intelligences pin-pointed several areas where students can excel. These include musical, spatial, linguistic, math, relationships and others that serve as a good base for developing an innovative learner.

Individuals using their verbal/linguistic intelligence use words effectively and learn best by speaking, writing, reading, and listening. People using mathematical/logical intelligence are good with numbers, logic, problem solving, patterns, relationships, categories, and they are likely to enjoy science. When individuals learn visually and by organizing things spatially, they display visual/spatial intelligence. They think in images and pictures and understand best by seeing the subject. People using bodily/kinaesthetic intelligence prefer physical activity. They enjoy activities like dancing and building things. Individuals using musical/rhythmic intelligence enjoy musical expressions through songs and musical instruments. They are sensitive to various kinds of sounds, and enjoy drumming, humming, and whistling. People using intrapersonal intelligence are aware of their own feelings and values. They tend to be self-motivated, intuitive, and reserved. Individuals using interpersonal intelligence are sensitive to the feelings and intentions of others. They often make good leaders. Individuals using the naturalist intelligence love the outdoors and recognize details in plants, animals, rocks, clouds, and other natural formations. People using their existentialist intelligence enjoy asking questions such as “Why do human beings exist?” and “Is there a God?” They usually excel in philosophy. Learners can constantly explore new ways of being smart in the multiple intelligences classroom (Gardner, 1999).

Howard Gardner encourages teachers to re-examine their teaching methods. This re-examination focuses upon current instructional practices and seeks to determine if these practices are adequate for addressing diverse students’ needs. When teachers use diverse instruction that is more congruent with all the intelligences, students have more opportunities for achievement because of the variety of instructional methods used in the classroom.

Gardner (1991) articulated one of the most direct summaries regarding the theory of Multiple Intelligences when he stated,

... students possess different kinds of minds and therefore learn, remember, perform, and understand in different ways... I have posited that all human beings are capable of at least seven different ways of knowing the world - ways that I have elsewhere labelled the seven human intelligences... (p. 11-12).
Second language educators need to be better equipped to widen their pedagogical repertoire to accommodate linguistically, culturally, and cognitively diverse students. The theory of Multiple Intelligences suggests that there are many “savoir faire”. From birth, individuals may differ in particular intelligence profiles, that is to say, “all human intelligences are a function of genes and environment interacting in different ways and in different proportions for each group and for each individual” (Kagan and Kagan, 1998). The MI classroom offers a multisensory learning experience to the learner. The teacher is a facilitator and a reflective practitioner. The theory of Multiple Intelligences offers second language teachers a way to examine their best teaching techniques and strategies in light of human differences (Christison, 1996).

Providing opportunities for students to learn in ways in which they are most receptive maximizes their potential for success in the academic setting and in real life (Beckman, 1998).

Integrating multiple intelligences into the second language classroom setting does not require a major overhaul of teaching methodology. Supplementing and revising existing lesson plans with creative and innovative ideas suffice (Campbell, 1997). The Theory of Multiple Intelligences has the potential to make a positive impact on both teachers and students in second language classrooms.

Success in helping learners develop their intelligences, including linguistic intelligence, is a combination of the right environmental influences and quality instruction. Second language educators can effectively control these factors. No intelligence exists by itself. Therefore, learning language activities may be successful because they actively encourage the use of several intelligences (Christison and Bassano, 1995). MI Theory offers a model that can help language educators understand how their own learning style affect their teaching style and, ultimately, how their teaching style can affect student learning.

According to Howard Gardner (1993), educators need to revise their roles and their views about intelligence. His groundbreaking work has advanced our knowledge beyond simplistic and naive definitions of intelligence. Gardner’s theory of multiple intelligences offers a more holistic accounting of individual potential and talents. Early childhood education should focus on a broad exposure to the nine intelligences. Gardner (1993) states that children should be given many opportunities to develop their skills. The Multiple Intelligence Theory resonates with what educators have known for many years about good teaching - that children have different strengths and interests, and that they need to actively participate in their own learning. The Theory of Multiple Intelligences offers a new, student-centered way to look at instruction and evaluation in the educational setting. It also provides educators with innovative and comprehensive ways to approach important skills.

**Developmentally appropriate practices**

Based on theories about early childhood development and learning, the National Association for the Education of Young Children has developed guidelines that support effective early childhood teaching practices (NAEYC, 1998). “Developmentally Appropriate practice” (DAP) refers to educational methods that promote children’s self-initiated learning with emphasis on individualization of services in response to children’s characteristics, preferences, interests,
abilities, health status, and curricula that are unbiased and non-discriminatory around issues of disability, sex, race, religion, and ethnic/cultural origin (Bredekamp, 1987).

The purpose of this document was to help practitioners integrate the values and principles of developmentally appropriate practice in five inter-related areas of practice. Creating caring communities of learners is basic to developmentally appropriate practice. Developmentally appropriate practice occurs within a context that supports the development of relationships between adults and children, among children, among teachers, and between teachers and families. Teaching to enhance development and learning is achieved when there is balance between a child’s self-initiated learning and adult guidance or support. Constructing appropriate curriculum is based on decisions on many factors, including the various disciplines, social and cultural values, parent input, and the age and experience of the learners.

Assessment of individual children’s development and learning is essential for planning or implementing appropriate curriculum. Establishing reciprocal relationships with families is accomplished through building relationships with children’s families. This provides information about the interests of the child and the social context of his/her family (Bredekamp and Copple, 1997). A major theme in Developmentally Appropriate Practice is to make learning meaningful for the child and to use practices which reflect both his age and his individual needs.

Citing social, cognitive, and emotional benefits for children, a number of early childhood educators advocate for mixed-age grouping (Miller, 1994). Multi-age classrooms allow children to progress according to individual rates of learning, without being compelled to meet normative standards (Katz, 1994). Children are expected and encouraged to exhibit individual differences. Teachers must possess a greater repertoire of instructional strategies and skills, and take more time for planning and materials preparation (Nye, 1993).

Developmentally appropriate practice seeks to optimize the development of the “whole child” (Johnson and Johnson, 1992). Therefore, decisions about how to care for and educate children cannot be made without knowledge of the child’s cultural and social context. Effective teachers have an understanding of individual children’s growth patterns, strengths, interests, and experiences. They use knowledge of child development to prepare the learning environment and plan appropriate experiences for a specific age group. For example, younger children learn best in small groups or one-on-one interactions with adults in the classroom setting.

Current trends in education emphasize the importance of allowing children to explore concepts in a variety of ways, using real objects and events and authentic materials (Bredekamp and Copple, 1997). The early childhood educator has an important role when teaching a second language to young children. The teacher acts as a facilitator and prepares an environment suitable for active exploration. Effective language teachers provide instruction that is developmentally appropriate, account for individual differences in children, and meet the different learning styles of the students. The early childhood teacher should use a variety of ongoing assessments that measure students’ levels of understanding and achievement in second language acquisition. Early childhood is the perfect time to develop the language skills that young children use in everyday life. Second
language educators must strive to ensure that early language instruction is taught using developmentally appropriate practices.

Brain research supports the importance of developing and implementing a curriculum that is appropriate for the learner's particular developmental age. Early childhood educators are aware that certain periods in a young child's life are more receptive for some kinds of learning. It is exciting to observe how the literature also indicates that particular "windows of opportunities" for learning do exist when the brain's plasticity, or adaptability, allows for greater amounts of information to be processed and absorbed (Wolfe and Brandt, 1998). Second language acquisition is most successful in the primary grades when the necessary structures in the brain for language learning are still in place. Introducing young children to more than one language is very beneficial, even if they do not yet understand how language is structured grammatically or written down.

This early learning creates a foundation for later, more formal, study of another language (Sorgen, 1999). Recent research highlights the beneficial impact on children that results when teachers use varied vocabulary, read and discuss books, and engage children in intellectually stimulating conversations (Dickinson and Tabors, 2001). The recent union by neuroscience and education has taken educators by storm. Effective teachers know that learning is a process of active construction by learners.

MI theory and developmentally appropriate practices in the 21st century

Developmentally appropriate programs are based on what is known about children's development and cognitive ability. Such programs promote the development and enhance the learning of each child in the academic setting (Katz, 1995). According to Gardner (1993), learning theorists and developmental psychologists have recognized that human beings come to understand the world in many ways and that individuals tend to have preferred or stronger modes of learning. Researchers and practitioners have learnt more about the brain in the past thirty years than ever before. The advancements in the field of neuroscience require that educators now shift their focus on the learning process. In our day, teachers have a thorough understanding of how the brain develops, learns and organizes itself. Many educators use programs such as Multiple Intelligences and Developmentally Appropriate Practices in the school setting.

Educators who embrace the theories of Multiple Intelligences and Developmentally Appropriate Practices acknowledge that learning involves the "whole child". In a developmentally appropriate classroom, the teacher strives to help children become lifelong learners, who can think critically and imaginatively, ask meaningful questions, appreciate diversity, work collaboratively, and have the capacity to form caring relationships with others. By understanding the different times and areas of brain growth, second language educators can decide how best to approach the content and skills in their curriculum, and provide an enriched, brain friendly classroom environment (Sylwester, 1997).

Creating learning centres around the classroom with a range of language activities to do and materials to use can accommodate the differences among second language learners. Learners have the opportunity to choose language activities that fit their level of development, experience, and interest. They can
use worksheets and individualized contracts to discover their strengths and weaknesses in the area of second language acquisition. Second language learners enjoy working in small groups. Every child is involved and accountable. The curriculum is thematically organized through the learning centres. Students answer a variety of questions at different levels of Bloom’s Taxonomy (knowledge, comprehension, application, analysis, synthesis, and evaluation). Learners rotate through various work stations in the second language classroom, each with different learning tasks or goals. They progress at their own pace and experience success in the process. Learning centres are associated with child-centered approaches to the curriculum and students learn as much as is reasonably possible on the basis of personal choice. Educators who embrace the theories of Multiple Intelligences and Developmental Appropriate Practices attempt to create a comfortable learning environment to facilitate second language acquisition.

**Conclusion**

Educators who embrace the theories of Multiple Intelligences and Developmentally Appropriate Practices strive to accelerate their students’ learning by creating multiple ways to interact with the learning environment. According to Gardner (1997), the Theory of Multiple Intelligences offers a teacher a number of different approaches to second language acquisition, several modes of representing key concepts, and a variety of ways in which students can demonstrate their understandings. Both theories offer second language teachers a great variety of teaching tools. Through the lens of MI Theory and DAP, the teacher sees the child as a unique person with the ability to create, experiment, learn, and grow. Kieran Egan (1999) argues the importance of the practical value of tools and techniques as educators attend to the centrality of imagination in the teaching and learning process.

Teaching effectively is a highly creative, inquisitive, reflective, and interpersonal process.

Becoming a master teacher involves continual practice and reflection over time. Effective teachers are kind, thoughtful, caring, and enthusiastic. They find the instructional skills, tactics, and strategies that make instructional concepts come to life in the second language classroom. Educators who embrace the Theories of Multiple Intelligences and Developmentally Appropriate Practices structure opportunities for experiential and social learning. They design meaningful, realistic challenges, understand how children learn over time and they carry out their professional work in an environment that supports intelligent and creative teaching.

**References**


Metaphor is a common, everyday technique for talking about objects or events in terms appropriate to other objects or events. Rather than confusing the issue, presenting facts of one sort as if they belong to another group can develop richer and deeper understandings of the world and our place in it. Metaphors of teaching have been used for many years as a route for teachers and preservice teachers to explore their philosophies and approaches to pedagogy, where the impersonal becomes personal through image and rich description. But while it is used extensively to develop images of teaching, it has not been used as much to explore images of learning. This paper looks at teaching metaphors produced by third year preservice teachers and learning metaphors as produced by Year 1 students to see if there are matches/mismatches between images of teaching and learning.

Introduction

I’m a giraffe. I can reach tall stuff when I’m learning.
I am a speed car as a learner. I am fast!
I’m a racing dolphin, number 8. I’m a winner!

While metaphor-making is said to reach its peak at four years of age (Egan, 2005), I was hesitant introducing a lesson about metaphors to a group of five and six year olds in Year 1 class. As I waited for them to enter the class after a long school assembly, I drew a mouse on the whiteboard – a metaphor for the way I was feeling at the time. Hesitant not only about facing a group of early learners years after I’d left the classroom for academia, but also because I wasn’t convinced that they would “get it”; produce images and words that I could compare with teaching metaphors.

I introduced myself through my mouse metaphor, asking the children why I thought I was a mouse. They had many ideas, all of which helped to create the story of my metaphor. I read a story in which a slovenly father and children are portrayed as pigs (Browne, 1996) and then I asked the children to create metaphor to describe themselves as learners.

The puzzled Year 1s picked up their papers and drawing materials and moved to their desks, looking to their neighbours to make a mark on the paper so they would have a model to follow. I didn’t think it was working. As I circulated, a few
children began drawing. A little girl picked out some colours and drew a giraffe. She added details – a leafy tree, the sun, a rainbow. When asked by the teacher what she had drawn and why the giraffe described her as a learner she said, “I’m a giraffe. I can reach tall stuff when I’m learning.”

A little boy who, I later heard avoided drawing and had great difficulty expressing himself, outlined shapes which, as he coloured in blue, yellow and red, took on the appearance of a car with something that looked like smoke coming from the back. He wrote: “I am a speed car as a learner. I am fast!”

Others watched, some copying images that had already been created, others drawing their own. As I moved around the room, I came to a little girl who had written her name on the paper, then turned it over and sat, head down on her arms, sobbing. I pointed it out to her teacher, who took her aside and found that she was having trouble working out what was required of her. The teacher revisited my metaphor with her, and how it described how I was feeling teaching the class. So what was she asked to do? She was asked to draw a picture of something that described her as a learner. The girl thought for a bit, then said, “I’m a racing dolphin, number 8. I’m a winner!” She returned to her desk and happily created her picture.

For many years I have been exploring metaphors with preservice teachers. I have used Fox’s (1983) categories to group metaphors: Transfer Theory, where knowledge is seen as a commodity that can be transferred from all-knowing teachers to “empty vessel” learners; Shaping Theory; where teachers shape their students to a predetermined template; Travelling Theory, where teachers guide or facilitate their students’ learning journeys, and Growing Theory, where teachers are seen as nurturers of young seedlings. I have linked Fox’s theories to philosophies and seen them enacted through metaphor. For example, Growing Theory resembles Froebel’s (1885) notion of kindergarten education, where the teacher is seen as a gardener and the learners as seedlings in a natural state of goodness (Aries, 1962).

“Man, as a child, resembles the flower on the plant, the blossom on the tree; as these are in relation to the tree, so is the child in relation to humanity – a young bud, a fresh blossom; and as such, it bears, includes and proclaims the ceaseless reappearance of new human life” (Froebel, 1885, p. 7).

Growing Theory, which alludes to Developmental Theory, presents through images of gardeners or other caregivers who delicately and intricately tend their innocent/helpless seedlings and take great satisfaction in the finished product, often following their learners through their school years and into their adult lives.

Shaping theory speaks of Behaviourism. Motivation is extrinsic and learning is teacher-centred, based on what the teacher/expert considers important for their learners to learn (Arthur, Beecher, Death, Dockett and Farmer, 2005). Learners are very much disempowered in this whole-class, outcomes-based approach where work sheets and curriculum support documents form a large part of the learning resources (Arthur et al, 2005). Metaphors see teachers as artisans: sculptors shaping the clay; bakers shaping the dough; carpenters shaping the wood; dog trainers training dogs.

Sociocultural theories seem to link to Fox’s Travelling theory. Children and teachers learn together and from each other, with the teacher acknowledged as the expert guide, the one who has gone before and can now point the way (Fox,
Metaphors are those of tour guides, bus drivers, Scout Leaders, etc.

Transfer Theory is reminiscent of the Information Processing Model, where passive children (empty vessels) receive and process expertise from the “already-processed” adult teacher (Fox, 1983). Metaphors for Transfer Theory include librarian, warehouse manager, petrol station attendant, or other service providers who dole out knowledge in carefully parcelled portions.

Notably, Post-structural/Postmodern/Critical theories do not appear in Fox’s Theory. In these modes, children are positioned as agentic, not only interacting with their environments, but also making choices and taking direction for their learning and development. They are critical consumers, coming to learning situations with knowledge and experience and taking from the learning what they need (Arthur et al, 2005). Teachers go beyond scaffolding or guiding learning, to encouraging children to be critical, to act and react as active consumers of knowledge. This could be called “Social Action Theory.” Metaphors for these teachers could include union leader or consumer advocate. As Fox’s theories were created in the early 1980s, it might be that this image of teaching, and particularly of learners, was still embryonic. Images of the agentic child emerged somewhat later, largely through the popularity of the Reggio Emilia approach to early childhood teaching and through the New Sociology of Childhood (Corsaro, 1997). In Queensland, the new curriculum for the first years of school, The Early Years Curriculum Guidelines (EYCG), recognises this perspective. “The EYCG is fundamentally based on a view of children as capable young people who have been learning since birth. They are able to take part purposefully in, and contribute to, their learning. Their ideas and diverse experiences enrich learning programs” (Queensland Studies Authority, 2006, 10).

Chen (2003) suggests another model for classifying teaching metaphors. The five categories are: Art-oriented metaphors, ones that see teaching as creative, spontaneous and sensitive to the needs of students and the process of teaching.

A painter creates stroke by stroke. Every stroke is a unique and irrevocable touch. Likewise, a teacher molds and shapes the inner landscapes of a student with each interaction, thereby leaving a permanent mark on the student’s life. Just as the artist’s life is meant to awaken an appreciation of beauty and kindness, the teacher’s goal is to entertain students while impressing their minds with the principles of science, humanities and liberal arts (Chen, 2003, 26).

Reminiscent of Fox’s Shaping Theory and Developmental Theories, Chen (2003) argues that this approach appeals to students’ emotions, and it is through emotional impact that learning occurs.

Business-oriented metaphors are Chen’s second category. Like Transfer Theory, teaching is seen as delivering a commodity (knowledge) through clever marketing, packaging and communicating with the consumers (students). “Sometimes it is what a teacher does after class that counts most toward a student’s understanding...a master teacher wins respect of students through honesty, integrity and a well-honed craft” says Chen (2003, 27). While the product, or retention of knowledge must occur through well-honed teaching techniques, for the large part the learner is the passive recipient of knowledge (Chen, 2003).
Chen’s third category is Science-oriented metaphors. This category emphasises rules and principles for effective teaching that can be replicated. Seemingly based on models, such as Borich’s “Five Key Behaviours Contributing to Effective Teaching” (2000), Science-oriented metaphors view teaching as an intricate process that is carefully planned, delivered and assessed, in much the same way as a scientific experiment is performed (Chen, 2003). With some crossovers to Shaping Theory and Behaviourism, the skill of the teacher is emphasised through this metaphor.

Chen’s fourth category, Power-oriented metaphors, seems to go beyond Fox’s (1983) theories but has possible links to Poststructural/ Critical Theories of learning. This category describes power relations between teachers and students. A dominant teacher may be pictured as a ship’s captain or team leader, while a teacher with a learner-centred approach may be positioned as an observer, an entertainer or a cheerleader (Chen, 2003). This category can possibly be used to further illuminate metaphors of teaching that fall into the three previous categories, as power relations permeate all interactions between teachers and learners.

The fifth and last category in Chen’s model is Personal Dynamics-oriented metaphors. In this category, teaching is portrayed by both positives and negatives in a stressful and fast-moving world. Teaching as a roller-coaster ride, a game, a juggling act or a tug-of-war are all examples of Personal Dynamics-oriented metaphors. This category could also cross over into other categories, such as Art-oriented metaphors, where painting mistakes cause the artist to paint over the flawed part of the work.

In Chen’s (2003) model, metaphors are fluid: “Teachers may experience role shifts during the teaching process, therefore it is common for a teacher to shift from metaphor to metaphor as warranted by the circumstances” (Chen, 2003, 30). Indeed, within a metaphor there may be qualities that fit in two or more categories. Chen advises: “The best teacher should be like a chameleon in the sense that he or she can harmonise with the environment and adopt different metaphors and roles as needed” (31).

**Methodology**

The focus of my first semester, third year Professional Studies subject is critically reflective teaching practice. As preservice teachers explore their philosophies of teaching they are asked to build a metaphor of their teaching – a way of describing their teaching through images and words from another area that will deepen their (and my) understanding of their perceptions of themselves as teachers. In 2007, their metaphor-building task was a first step in an even larger metaphor-building event. Each preservice teacher was given a brown paper shopping bag and asked to create a cumulative record of their professional growth during the semester. This could be done by filling the bag with artefacts, such as their metaphor task, reflective journal, summary of lectures, readings and tutorials, images (photos, drawings, etc.) and text (letters/emails from peers/critical friend, newspaper articles, school policy documents, etc.) and analysing their bags through a process of inquiry, in which issues are explored on technical, theoretical and ethical levels. Four months after subject completion, I
asked students if they would contribute their metaphors to my research. Twelve submitted their metaphors for this research.

I contacted a Year 1 teacher and asked if I could teach a lesson on metaphors to her class and use their drawings for this research. With permission from the principal, teacher and parents, I delivered a lesson about building metaphors to the 27 Year 1 children.

Data from preservice teachers and Year 1 students were initially analysed through emergent coding. “Through coding, we start to define and categorise our data. In grounded theory coding, we create codes as we study our data” (Charmaz, in Denzin & Lincoln, 2000, 515). Emergent categories were then examined in terms of Fox’s (1983) Theories and Chen’s (2003) Model for classifying teaching metaphors. Preservice teachers’ metaphors of teaching were compared with Year 1 children’s metaphors of learning.

**Findings**

While preservice teachers’ metaphors all described their learners as part of the image, the children in this study described themselves, mainly as autonomous beings within the learning context. Their responses were grouped according to their comments about how they learn: Fast, Slow and steady, Strong/Successful, Multi-tasking, and Other (see Table 1).

**Table 1. Children’s Metaphors for their Learning**

<table>
<thead>
<tr>
<th>Category</th>
<th>Image</th>
<th>Child’s Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast</td>
<td>Cheetah</td>
<td>I am fast</td>
</tr>
<tr>
<td></td>
<td>Brachiosaurus</td>
<td>I’m a fast learner</td>
</tr>
<tr>
<td></td>
<td>Speed Car</td>
<td>I am fast</td>
</tr>
<tr>
<td></td>
<td>Tiger and Leopard</td>
<td>They learn quickly and they have their prey</td>
</tr>
<tr>
<td></td>
<td>Soccer Player</td>
<td>I’m quick and I keep getting scores</td>
</tr>
<tr>
<td></td>
<td>Speed Car</td>
<td>I’m a fast learner</td>
</tr>
<tr>
<td></td>
<td>*Polar Bear</td>
<td>I learn fast and slow</td>
</tr>
<tr>
<td></td>
<td>Shark</td>
<td>It’s fast, like learning</td>
</tr>
<tr>
<td></td>
<td>Dog and Donkey</td>
<td>I’m fast when I’m learning</td>
</tr>
<tr>
<td></td>
<td>Dolphin</td>
<td>I’m as quick as a dolphin</td>
</tr>
<tr>
<td></td>
<td>*Racing Dolphin</td>
<td>I am a winner</td>
</tr>
<tr>
<td>Slow and Steady</td>
<td>Polar Bear</td>
<td>It walks slow like reading a book</td>
</tr>
<tr>
<td></td>
<td>*Polar Bear</td>
<td>I learn fast and slow</td>
</tr>
<tr>
<td>Strong/Successful</td>
<td>Dinosaur</td>
<td>I am strong</td>
</tr>
<tr>
<td></td>
<td>*Racing Dolphin</td>
<td>I am a winner</td>
</tr>
<tr>
<td></td>
<td>Giraffe</td>
<td>I can reach tall stuff when I’m learning</td>
</tr>
<tr>
<td>Multi-tasking</td>
<td>Hammerhead</td>
<td>I can do two things at once</td>
</tr>
<tr>
<td></td>
<td>Shark</td>
<td>I can learn everything at once</td>
</tr>
<tr>
<td></td>
<td>The World</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Bunny</td>
<td>It can bounce, like doing rotations (flexible?)</td>
</tr>
<tr>
<td></td>
<td>Bunny Rabbit</td>
<td>I jump and play when I learn (playful/flexible?)</td>
</tr>
<tr>
<td></td>
<td>Shark Teeth</td>
<td>I’m learning how to be good as a shark teeth (improving?)</td>
</tr>
<tr>
<td></td>
<td>Cat with Kittens</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Princess</td>
<td>I am a princess as a learner. I am happy. (happy)</td>
</tr>
</tbody>
</table>

*metaphors tabled twice as they seemed to fit into two categories*
Through Fox’s (1983) lens, the closest connection would be Travelling Theory, which positions children as explorers of their learning with teachers as guides. If, as suggested above, “Social Action Theory” was another of Fox’s categories, some of the children’s metaphors may have been classified under this definition.

More appropriate here is Chen’s (2003) model, specifically “Power-oriented” and “Personal Dynamics-oriented” metaphors. The relative absence of the teacher and choice of metaphors suggests that the teacher is not the main player in the learning process. That power is given to the children in the class.

Almost every child positioned themselves as agentic. For example, in J’s picture a towering dinosaur who dominates the rectangular paper breathes something fire-like on a much smaller animal. The only thing above the large animal is a sun and a blue-line sky. The description is “I am a dinosaur. I am strong.” Even descriptions of learning slowly had an intonation of slow and steady, rather than behind other learners. For example, K’s polar bear, smiling in amongst a number of other bear or fish-like creatures is “slow like reading a book.”

Personal Dynamics-oriented metaphors could be those that describe the learner as multi-tasking. C’s orange, hammerhead shark is a third of the page in width and surrounded by a plethora of underwater creatures, a fishing line from a boat on the surface and what appears to be a snorkeller, blowing bubbles as s/he descends into the water. C wrote: “I am a hammer head shark. I can do two things at once.” N’s drawing also alludes to Personal Dynamics-oriented metaphor. It is sparse – a thin tree to the left, a sun, a butterfly, what appears to be two small blue clouds, and a brown triangle situated at the bottom of the page. It reads: “I’m like the world. I can learn everything at once.

Preservice Teachers’ metaphors fit more comfortably into Fox’s (1983) and Chen’s (2003) categories. Table 2 (below) lists Fox’s four categories and includes my suggested “Social Action Theory” as a fifth category, with preservice teachers’ metaphors grouped accordingly.
<table>
<thead>
<tr>
<th>Category</th>
<th>Metaphor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Theory</td>
<td>Coffee Addict</td>
<td>Teachers, parents, colleagues, approaches, support staff and admin staff are part of this metaphor. Children are not mentioned.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Like cooking, teaching will not always bring success...You may change and try the recipe again or decide to wipe it altogether.</td>
</tr>
<tr>
<td>Shaping Theory</td>
<td>Cook/ Chef</td>
<td>While a patchwork may take many years to create, it is constantly changing and comes together to be a bright and beautiful piece of art.</td>
</tr>
<tr>
<td></td>
<td>Patchwork Quilt</td>
<td>The new leaves are dependent upon the tree trunk for security and nourishment, just as young children are dependent upon their teacher/s for guidance and reassurance during their learning, growth and development.</td>
</tr>
<tr>
<td>Growing Theory</td>
<td>Leaves fluttering and being tossed about in the breeze</td>
<td>The new leaves are dependent upon the tree trunk for security and nourishment, just as young children are dependent upon their teacher/s for guidance and reassurance during their learning, growth and development.</td>
</tr>
<tr>
<td></td>
<td>Tree</td>
<td>All must be given the opportunity to learn and gain knowledge that they might use with confidence in their future positions.</td>
</tr>
<tr>
<td></td>
<td>River Gardener/ Magic Garden</td>
<td>Gardens are best when they contain diversity, allow everything to grow (without heavy pruning), create themselves from day to day depending upon water, sun, soil and the gardener.</td>
</tr>
<tr>
<td>Travelling Theory</td>
<td>Expert Guide</td>
<td>The teacher...can identify paths and patterns that are not yet obvious to the learner.</td>
</tr>
<tr>
<td></td>
<td>Travel Agent</td>
<td>I will show students a map of the world and give them the choice of where they would like to travel.</td>
</tr>
<tr>
<td></td>
<td>Builder</td>
<td>Building together for the future.</td>
</tr>
<tr>
<td></td>
<td>A long group trek through the jungle</td>
<td>You will watch things emerge and grow. You will guide and provide support for others. You will need assistance and support from others.</td>
</tr>
<tr>
<td></td>
<td>Never-ending jigsaw</td>
<td>The role of the teacher is to assist individuals in their learning journey, helping them make sense of new information and experiences whilst using other pieces of the individual’s jigsaw as points of reference.</td>
</tr>
<tr>
<td>Social Action Theory</td>
<td>Song: “Bittersweet Symphony” by The Verve</td>
<td>This song is about social justice and changing peoples’ lives by questioning the status quo and stopping to question taken-for-granted values and assumptions; so people can break out of their molds and start to change their thinking, thus change their lives.</td>
</tr>
</tbody>
</table>
Utilising (2003) ’s Model, preservice teachers’ metaphors are presented in Table 3 (below).

**Table 3. Preservice Teachers Metaphors using Chen’s (2003) Model**

<table>
<thead>
<tr>
<th>Category</th>
<th>Metaphor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art-oriented Metaphors</td>
<td>Patchwork Quilt</td>
<td><em>Very intricate and change as you add things to it – just like teaching...vibrant and colourful, it creates twinkling minds if students are in an environment of learning through play.</em></td>
</tr>
<tr>
<td>Cook/Chef</td>
<td></td>
<td><em>Some teachers choose to follow the recipe word for word, other times they might add something new or leave an ingredient out. This comes with experience, reflection and feedback. Teachers need to remember to get in there and taste what they are cooking!</em></td>
</tr>
<tr>
<td><em>Leaves fluttering and being tossed about in the breeze</em></td>
<td></td>
<td><em>The new leaves are dependent upon the tree trunk for security and nourishment, just as young children are dependent upon their teacher/s for guidance and reassurance during their learning, growth and development.</em></td>
</tr>
<tr>
<td>River Gardener/Magic Garden</td>
<td></td>
<td><em>Sometimes I stand in front of [the garden], holding my thumb up like a regular artist – assessing it as a work of art.</em></td>
</tr>
<tr>
<td>Business-oriented Metaphors</td>
<td><em>Travel Agent</em></td>
<td><em>I will show students a map of the world and give them the choice...I will view the students as strong and capable...I will suggest areas to travel to...I will provide scaffolding...I will always be available for assistance...I will intervene if requested.</em></td>
</tr>
<tr>
<td><em>Never-ending Jigsaw</em></td>
<td></td>
<td><em>The jigsaw is without a definitive end by necessity, as experience, knowledge and teaching are inextricably linked. Therefore my metaphor of teaching can not be confined to the formal classroom environment and continues to extend beyond the realm of formal education.</em></td>
</tr>
<tr>
<td>Science-oriented Metaphors</td>
<td>Builder</td>
<td><em>Teacher and students build together; teacher implements plans, provides tools and resources, support and scaffolding, ensuring important aspects of structure are present in a safe and secure environment, critically reflecting and continually updating skills and knowledge. Students will build own structures on foundations, view plans and designs critically, all build something different, build as part of a community for a purpose and to suit their needs, talents and desires.</em></td>
</tr>
<tr>
<td></td>
<td>Expert Guide</td>
<td><em>We are all born with symbolic wings (imagination, innate abilities, curiosity and the desire to make sense of our world) but do not know how to best make use of them. The image of wings also imagines a learner flying above or outside a landscape. This reflects meta knowledge – the ability to know a body of knowledge and its specific vocabulary as well as be aware of its underlying structure.</em></td>
</tr>
<tr>
<td></td>
<td><em>Coffee Addict</em></td>
<td><em>People drift in and out (other professionals...parents...colleagues. There are different types of coffee, tea, hot chocolates, milkshakes, iced tea, iced</em></td>
</tr>
<tr>
<td>Category</td>
<td>Metaphor</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>coffee and iced chocolates (blends of different flavors and strengths and cultures – representing curriculum policies, strategies, learning styles, diversity, learning environment)... Coffee shop manager – principal, Staff – support managerial staff.</td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td>Share my knowledge and listen to my students’ questions, give them challenging tasks that allow successful demonstration, encourage their progress, suggest alternatives and praise their attempts when they find tasks difficult...mutual trust, honesty, joy in what I and my students have achieved.</td>
<td></td>
</tr>
<tr>
<td>Power-oriented Metaphors</td>
<td>*Leaves fluttering in the wind</td>
<td>The tree trunk helps the leaves to grow and reach their full potential, just as teaches scaffold and watch the children grow and develop to their full potential. When the leaves are fully grown and no longer dependent upon the tree, they fall and are free to flutter around and travel to wherever the breeze may take them.</td>
</tr>
<tr>
<td></td>
<td>*Travel Agent</td>
<td>I will view the students as strong and capable and therefore able to choose where they will go and whether they will travel on their own or with a companion.</td>
</tr>
<tr>
<td>Song:</td>
<td>“Bittersweet Symphony” by the Verve</td>
<td>Giving children agency in their lives and teaching them to respect themselves and others is the way to bring about changes in their lives.</td>
</tr>
<tr>
<td>Personal Dynamics –</td>
<td>A long group trek through the jungle</td>
<td>May be a scary challenge, yet may also go through it feeling rewarded and never want it to end. May be terrifying and difficult at times. You may at times wonder, ‘why am I doing this’ and feel like not going any further. You will feel a sense of fulfilment and self-achievement.</td>
</tr>
<tr>
<td>oriented metaphors</td>
<td>*Coffee Addict</td>
<td>Metaphor describes a variety of elements, some good, some not so good, that come together to create a learning environment.</td>
</tr>
<tr>
<td></td>
<td>*Never-ending Jigsaw</td>
<td>As in any jigsaw, it is possible to gain a sense of the wider picture even though pieces may be absent, however the structure of the jigsaw may be weakened or vital information missing in order to make decisions about the next part of the puzzle.</td>
</tr>
</tbody>
</table>

*denotes metaphors that have been put into two categories

Using Fox's (1983) categories, Growing Theory and Travelling Theory were the most commonly sited. K notes that “my patchwork is only a small sample as I am growing as a teacher and I will constantly add different ‘patches’ throughout my career.” The image is colourful; a collage of words, both handwritten and cut from other text. Rectangles are lined up symmetrically, with a sewing stitch drawn to connect them. This metaphor focuses on the teacher: roles, views, beliefs and values. Learners are only mentioned in passing, as a kind of target for the many skills: “teaching is new ideas, providing support, being a role model, being there for the kids.” Other metaphors in the Growing Theory category also seem to view the learners as the targets of teachers’ skills rather than playing an active role in
the learning process. The leaves that flutter in the breeze are dependent on nurturing from the tree until they are ready to flutter away; likewise the tree and the river gardener seem to take most or all of the responsibility for the learning of the weaker seedlings.

Travelling Theory, exemplified in this research by guides, travel agents, builders and jigsaw debunkers acknowledge the role of the learner. Learners are given choices of travel destinations, where and how to trek, as the teacher, who has gone before, shares experience and guides the process. The learner is a traveller, on an individual journey and also within a community of learners that includes the teacher. M’s building metaphor shows teacher and students “building together for the future.” The “Bittersweet Symphony” metaphor takes this further, where the teacher works hard to develop learners who are not only active in their own learning, but become empowered to challenge accepted truths and social values.

Preservice Teachers’ metaphors that were categorised as Transfer Theory or Shaping Theory were the Coffee Addict and the Cook/Chef. In both of these images, the teacher and/or teaching community dominate the metaphor. Learners are not even mentioned; concentration is around creating the learning environment or shaping the unnamed, character-less “product”.

Chen’s first category, Art-oriented metaphors, included teaching as a patchwork quilt, a Cook/Chef, Leaves fluttering in the breeze and River Gardener. The product is sometimes named – M’s leaves depart from the tree and flutter in the breeze on their own; A’s seedlings turn into a garden that is a work of art. Learners, whether named or not named, are acted upon, through skilful work by the teacher: “Teachers need to remember to get in there and taste what they are cooking!”

Preservice teachers’ metaphors that I categorised as Business-oriented metaphors deliver the commodity of knowledge, but through interacting with the learners. The Travel Agent acts, but at every stage of the learners’ journeys; s/he is not predetermining the journey, but viewing “the students as strong and capable.” The Never-ending Jigsaw metaphor acknowledges “teachers and students build together” and extends learning “beyond the realm of formal learning.”

In this research, Science-oriented metaphors included Builder, Expert Guide, Coffee Addict and Tree. These metaphors list numerous formulae/approaches/skills that, when carefully implemented, make an effective teacher. For example, a teacher “implements plans, provides tools and resources, support and scaffolding” so that a learner flies “above or outside a landscape. This reflects meta knowledge and its specific vocabulary as well as ...its underlying structure.” Other metaphors in this category include support from the learning community – other staff, parents, principal, admin staff.

Personal Dynamics-oriented metaphors in this research describe the highs and lows of teaching. Metaphors from other categories in Fox’s (1983) Theory cross over into this category. The Coffee Addict, the Never-ending Jigsaw and the group trek through the jungle all recognise positives and negatives: “May be a scary challenge, yet may also go through it feeling rewarded and never want it to end”. Learners presence is more assumed than acknowledged.

But it is in Chen’s Power-oriented metaphors category that learners are best recognised in terms of the teacher-student power relationship. M’s leaves fluttering in the wind describe learners as helpless and dependent at first; then growing toward independence. The travel agent states: “I will view the students as
strong and capable and therefore able to choose where they will go and whether they will travel on their own or with a companion.” Bittersweet Symphony sees teachers as powerful, but their power is used in “giving children agency in their lives and teaching them to respect themselves and others.” Ultimately, the learner is present; weak at first but growing strong and powerful with help from the teacher/expert other.

Conclusion

Metaphor is a strong tool, allowing for deeper understanding of oneself as a teacher and/or learner. In this research, metaphors of learning created by Year 1 students and metaphors of teaching by third year preservice teachers were collected, coded and analysed using Fox’s (1983) Theories of Teaching and Chen’s (2003) model for classifying teaching metaphors. In this research, Year 1 students’ metaphors most closely fitted with Chen’s categories, largely “Power-oriented metaphors.” Students saw themselves as agentic: strong, fast, powerful. Their learning was mainly described as successful by their own efforts, rather than as a result of teacher efforts. Teachers were not mentioned at all, other than a reference to “rotations” (moving to different classes for different subjects). The notion of teacher as nurturer or shaper of learning experiences did not come into their descriptions.

Preservice teachers’ metaphors fit into both Fox’s (1983) and Chen’s (2003) models. Fox’s “Growing Theory” and “Travelling Theory” prevailed. While metaphors classified as “Growing Theory” alluded to or named learners, it was in terms of weak and dependent beings, nurtured by the all-knowing teacher. Metaphors classified as “Travelling Theory” recognised an active role of the learners, but still focused on the teacher as guide “to assist individuals in their learning journey.”

The first three categories in Chen’s (2003) model are teacher-focused; the teacher acts sensitively to students’ needs, delivers a neatly-packaged commodity (knowledge) or follows prescriptive principles to achieve effective pedagogy. Most of the Preservice teachers’ metaphors fit into the Art-oriented, Business-oriented or Science-oriented metaphors. Some also contained elements of Personal Dynamic-oriented metaphors, noting the negatives as well as the positives of teaching.

But in this model, it is the Power-oriented metaphors where learners are most acknowledged, and not necessarily as the agentic learners that they see themselves. In the Leaves fluttering in the breeze metaphor, learners do not start off agentic – they are dependent on the teacher to “scaffold and watch the children grow and develop to their full potential.” The Travel Agent metaphor states that learners are “strong and capable” but describes the teaching process mainly through actions of the teacher: “I will suggest areas to travel... I will provide scaffolding by organising the flights, accommodation and itinerary.” The third image categorised in Power-oriented metaphors is that of Bittersweet Symphony. Like the leaves only fluttering away from the tree after they have grown and developed, even this metaphor describes student agency as something gifted to the learners by the teacher.

From this research, it seems that learners focus their metaphors of learning on themselves, with little or no mention of teachers or teaching. Preservice teachers
in this research mainly focused on themselves and their pedagogy, but a number
of the metaphors acknowledged the learners as well. Sadly, learners were
positioned as dependent on teachers and teaching before they became agentic. Yet
the Year 1s in this research, at the beginning of their formal learning experience,
unanimously described themselves as agentic: strong, powerful, independent
learners. This mismatch in perception could manifest itself in teaching practice
that limits rather than extends student learning. If this is the case, then preservice
and practicing teachers need to reimagine their metaphors, to recognise the
construct of the agentic child (Sorin & Galloway, 2006) of the 21st century and
their changing role in the teaching and learning process.

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This paper reports on the effectiveness of a language teaching approach called the Somatically-Enhanced Approach (SEA) (Author, 2006) in the teaching of the Thai language to a group of Vietnamese learners in Vietnam. Teaching innovations include: the use of relaxation techniques to relax students; the use of humming, clapping and physical gestures to emphasize the rhythm of the Thai language; the use of a Speech comparison tool (Sptool) for self-study; and the provision of all learning materials on CDs. An experimental study involving the teaching of Thai to Vietnamese students in Vietnam was carried out using SEA. The results of this study are encouraging. After twelve face-to-face contact hours, ten Vietnamese students who undertook a course in SEA spoke Thai, in the limited contexts covered in the course, as fluently as fourteen of their fellow students who had been studying Thai for more than one year using the traditional approach. In this paper, the results of the study, both quantitative and qualitative, will be reported. An evaluation of the Speech comparison tool will also be included.

Introduction

Somatically-Enhanced Approach (SEA) is an active approach to teach and learn a foreign language. The description of SEA outlined in this paper considers the learning process to be a non-linear and rhizomatic one in that relaxation, movement, gestures, use of technological tools and so on are 'machines' (Deleuze & Guattari, 1987) with which L2 students can connect to the language they need to learn. Central to the conceptualization of this environment is the idea of selection. As human beings invariably need to select in order to survive, what we select to use (tools), to retain (knowledge or linguistic input) depends on the learners' histories and personalities. At the beginning level of learning a L2, it is unwise to hand over power to the learners completely without some form of pedagogical scaffolding because learners from a first language background which is distant (e.g. English speakers learning Mandarin or Thai) from the target language will inevitably select what they are familiar with. In the case of English learners of a tonal language, they would choose to concentrate on consonants and
vowels rather than tones. Consequently, from the teaching point of view, at this stage, it is important to choose the learning material carefully so that the salient features of the language are made more prominent for L2 learners to select. This way, L2 learners will select what is deemed relevant by native speakers in the target language communities.

In a class taught using SEA, students form a community of practice, in the sense defined by Wenger (1999), due to their shared goals, routines, and procedures they engaged in as well as the mix of their personalities and interactional relationships. SEA calls for process-oriented participation. This process requires a change in the physical environment as well as changes in the mindset of the students. In SEA, students no longer sit in rows or chairs facing the front, concentrating on the pronouncements of the teacher. The chairs or tables are moved to the side of the room and both teacher(s) and the students lie on the floor and then relax by listening to a relaxation sound file in step one.

In a SEA classroom, L2 learners still need to master all the elements of phonology, syntax, lexis and pragmatics that traditional linguistics describes. However, how the mastery of these elements is attained has changed. Firstly, instead of sitting in front of books trying to remember the instructional materials through reading, students physically experience, first hand, measures that they can use in future to engender confidence. Secondly, instead of trying to ‘learn’ the materials by themselves alone, students carry out their learning in a learning community which is bound together through practices of SEA.

The next part of this paper consists of the following sections: (1) a discussion of the theoretical underpinning that informs Somatically-Enhanced Approach (SEA); (2) a description of the speech tool; and (3) results of a study using SEA involving two groups of beginning Thai students at the Faculty of Oriental Studies, University of Social Sciences and Humanities, Ho Chi Minh City, Vietnam.

Theoretical underpinning of SEA

Acoustic phonetics is the branch of phonetics, also known as acoustics, which studies the physical properties of speech sound, as transmitted between mouth and ear (Crystal, 1997). According to acoustic phonetics, a sound in any language carries all frequencies from about 50 Hz to about 16,000 Hz (albeit at various intensities) (Lian, 1980). Theoretically, the same sound can be heard in many different ways. The ear seems to make a ‘choice’ as to what to hear in practice depending on the way the ear has been trained. L2 students tend to make such choices in the target language using what Trubetzkoy (1939) refers to as the ‘mother tongue sieve’: those sounds they are familiar with in their mother tongue. In other words, it is claimed, each sound has a particular ‘optimal’ frequency which is the frequency band, or combination of frequency bands, at which a native-speaker best recognizes and perceives the sound. Students who experience difficulty with a particular foreign language sound are considered as not being able to recognize its optimum frequency bands and, consequently, they are unable to reproduce the sound correctly (Lian, 1980).

Building upon this understanding of the nature of sound and its part in spoken language, the late Petar Guberina (1913-2005), a Croatian psycholinguistic and post-modern scholar, conducted research in the 1950s into speech perception.
From his research, Dr. Guberina created the Verbo-tonal method (VTM) (Renard, 1975) of rehabilitation for people who had severe communication difficulties. Underlying the method is the conviction that all language use has evolved from spoken language, and that speech is a social event. We speak when we want to express something or when we react to an event. Furthermore, the ‘meaning’ of speech is transmitted not only by linguistic elements, but also by the auditory and visual information present in the rhythm, intonation, loudness, tempo, pauses, the tension, and gestures of the speaker. Most importantly, the auditory and visual information in his/her production is a reflection of how he/she perceives speech. In other words, changing a speaker’s perception of speech will also change his/her production of speech. If we correct his/her production of speech, we will also have corrected his/her perception of speech.

In addition, the design of the SEA method has also benefited from research findings on (i) how very young infants use prosodic packaging of clausal units to facilitate their memory for speech information (Mandel, Jusczyk, & Nelson, 1994). Hirsh-Pasek et al (Hirsh-Pasek, Nelson, P. W. Jusczyk, Cassidy, And, & Kennedy, 1987) found that infants as young as 7 months old respond to prosodic markers in the input; (ii) a speaker's natural synchronization of speech and movements (Condon, 1985); (iii) therapeutic uses of movements for speech and hearing impaired children (Brüll, 2003; Dijohnson & Craig, 1971); (iv) Learning through multi-modalities is more effective for pronunciation training than a single modality (Derwing, Munro, & Wiebe, 1998).

In SEA, the selection of teaching/learning materials and the pedagogical measures are informed by the research findings cited above. For instance, the learning materials used in SEA are based on sentences with all the aspects of intonation preserved. If we take heed from the evidence obtained through L1 research that infants use prosodic packaging of clausal units to facilitate their memory for speech information and to learn the syntactical organization of the language, then it is possible that adult L2 students of Thai would also use clausal information to segment language stream in L2 which may also result in their acquisition of Thai grammar. Similarly, adult L2 students would probably also find that such sentences are easier to remember.

Furthermore, L1 acquisition research in babbling and acquisition of the language during the first year of life suggest that production and perception may be intrinsically coordinated and more integrated in development than is usually considered. Gathercole and Baddeley (Gathercole & Baddeley, 1993) proposed the concept of phonological loop in the working memory to describe this relationship. In their view, the phonological loop is a system that is specialized for the storage of verbal material. It has two subcomponents: (1) the phonological store that represents material in a phonological code that decays over time; and (2) an articulatory rehearsal process which refreshes and maintains the decaying items in the phonological store. Spoken information gains direct access to the phonological store without articulatory rehearsal but the articulatory rehearsal process maintains the spoken information in the memory. Gathercole and Baddeley (1993) indicated that although the phonological loop is present and functioning from the preschool years onwards, there is little evidence that the articulatory rehearsal process is fully operative at this stage.

In adults who are learning Thai as an L2, both the phonological store and the articulatory rehearsal are already fully functioning in their L1. Therefore perception and production are likely to be integrated and developed in L1. Since
L1 transfer is likely to occur in the acquisition of L2 pronunciation, culture and the way learners organize the world, it is reasonable to assume that the functioning and coordinated system between perception and production is also likely to be used by L2 learners in their learning.

The findings of Gathercole and Baddeley (1993) speak directly to the effectiveness of many teaching practices within SEA, going some way to explain why these practices are more effective than teacherly behaviours such as explaining and modelling. Whether or not the ‘phonological store’ has any ‘concrete existence’, the model presented by Gathercole and Baddeley (1993) serves us heuristically.

SEA is also an approach that uses multi-modalities; it recognizes the importance of movement and gesture in learning; in addition, given the complexity of the various processes involved in perception and phonation, it recognizes that learning processes must therefore operate at the unconscious level. Therefore, an intellectualization of these processes, such as comparing the phonetic systems of Thai and Vietnamese, is likely to be highly detrimental as it activates the ‘mother-tongue sieve’ in the task of learning Thai and thus interferes with learners’ perception of Thai sounds and prosody. In SEA, the traditional cognitive load lightening measure such as translating Thai into Vietnamese or English, or writing down Thai pronunciation using the Royal Thai General system of Transcription were deliberately and intentionally not used at all in teaching Thai in the study.

Brain research shows that an almond-shaped groups of neurons located deep within the medial temporal lobes of the brain in complex vertebrates, including humans, called the amygdalae have been shown in research to perform a primary role in the processing and memory of emotional reactions. Evidence from work with humans indicates that amygdala activity at the time of encoding information correlates with retention for that information. However, this correlation depends on the relative ‘emotionalness’ of the information. More emotionally-arousing information increases amygdalar activity, and that activity correlates with retention (http://en.wikipedia.org/wiki/Amygdala). The learning sequence with SEA in teaching Thai contains steps which allow students to learn kinesthetically, visually, physically, and in an auditory manner, and thus encompasses a variety of learning modalities. Learning through these modalities is likely to stimulate amygdale activity at the time of encoding language information thus enabling what is learned becomes deeply embedded.

A new method of teaching Thai pronunciation to beginners

There are 5 distinctive tones (pitches) in Standard Thai. They are: (1) a mid level tone (in Figure 1 indicated as 1st tone), for example: khaa1 (to be lodged in); (2) a low level tone (in Figure 1 indicated as 2nd tone), for example: khaa2 (Galanga, an aromatic root); (3) a falling tone (in Figure 1 indicated as 3rd tone), for example: khaa3 (I, slave, servant); (4) a high level tone (in Figure 1 indicated as 4th tone), for example: khaa4 (to sell); (5) a rising tone (in Figure 1 indicated as 5th tone), for example: khaa5 (leg). The following chart shows the contour pattern of the 5 tones.
The activities in the in class, face to face (FTF) sequence were concerned with focusing on the rhythm and intonation of the language not on consonants or vowels or lexical tones. The smallest unit of the language being presented is a sentence rather than individual words or compound words as previous work in first language acquisition reviewed previously suggests that children found prosodic segments of a language such as phrases or sentences are better retained by children and formulaic expressions in an L2 are useful for achieving communicative goals at the very first stage of language acquisition. All linguistic items were presented in their situational contexts (such as ‘talking about my family’, ‘shopping’ and so on) so that students were engaged in meaningful and useful language practice.

The face to face sequence

Step 1: The first step in the learning process is a relaxation procedure adapted from the success of relaxation techniques used in language learning in the 1980s. In the early seventies, Lozanov method of language-learning (Suggestopedia) first became known in the Western countries. It was originally developed by a Bulgarian physician and psychotherapist, Georgi Lozanov. It has been used successfully in the U.S.A., Canada, France and other European countries. It was claimed that it could speed up learning by some fifty times. In America, however, it was reported that the rate of learning was only 2.5 times better than under ordinary teaching conditions (Bancroft, 1978). As the classroom is also a social site of learning, lowering the learner’s level of inhibition can also make the learners’ egos more permeable (Guiora, Beit-Hallahmi, B. Brannon, & Dull, 1972). This relaxation step also is designed to reduce the language shock experienced by many learners especially when they are required to speak in the target language.
The first step in the sensitization session is to ask students to lie on their backs on the floor and if possible, with the classroom darkened, then carry out mind-calming exercises for some five to ten minutes. This allows them to be more relaxed and therefore more receptive to the language input. During this period, the following audio file is played:

Imagine that you are lying on your back on the grass on a warm summer day and that you are watching the clear blue sky without a single cloud in it (pause). You are lying very comfortably, you are very relaxed and happy (pause). You are simply enjoying the experience of watching the clear, beautiful blue sky (pause). As you are lying there, completely relaxed, enjoying yourself (pause), far off on the horizon you notice a tiny white cloud (pause). You are fascinated by the simple beauty of the small white cloud against the clear blue sky (pause). The little white cloud starts to move slowly toward you (pause). You are lying there, completely relaxed, very much at peace with yourself, watching the little white cloud drift slowly toward you (pause). The little white cloud drifts slowly toward you (pause). You are enjoying the beauty of the clear blue sky and the little white cloud (pause). Finally the little white cloud comes to a stop overhead (pause). Completely relaxed, you are enjoying this beautiful scene (pause). You are very relaxed, very much at peace with yourself, and simply enjoying the beauty of the little white cloud in the blue sky (pause). Now become the little white cloud. Project yourself into it (pause). You are the little white cloud, completely diffused, puffy, relaxed, very much at peace with yourself (pause). Now you are completely relaxed, your mind is completely calm (pause), you are pleasantly relaxed, ready to proceed with the lesson (pause) (Bancroft, 1978, p. 174).

This constitutes the relaxation phase of the classroom procedure. As Lian noted (Lian, 1980)

Relaxation of the body will bring about a lowering of conscious and unconscious resistance to the learning of a FL. Speech and the production of sounds appear to be the result of the muscular behaviour of the body as a whole which, with appropriate reinforcement, has given rise to a number of set patterns of muscular contractions. If these still operate when one attempts to learn the articulatory patterns of a FL, then the resulting articulatory sequences will be deformed, sometimes beyond recognition (p. 16).

Relaxation techniques appear to be an effective way of reducing, if not eliminating, such conditioning so that it can be replaced with another set of muscular tensions and movements: those of Thai. For this reason, the relaxation phase of the method is extremely important.

Step 2: Students and the teacher walk around in circles and hum along to the rhythm of the sentences without vowels and consonants (5 times). This is used to highlight the intonation and rhythm of Thai. The idea behind this step is to focus on the melody of the sentence without the interference of consonants and vowels. It is imperative that in this step, the teacher does not start by modeling or reciting the target sentence as any such modeling inevitably causes students to repeat after the teacher. It is also to encourage the creation of mystery so that students’ curiosity is aroused. This delayed exposure to consonants and vowels shifts
steps’ attention to other often neglected aspects of the language such as rhythm and intonation.

Step 3: The teacher claps to the rhythm and the beat of the language and then asks students to follow. This allows students to experience the rhythm of the sentence and observe different groupings of the words in a sentence. This also enables them to observe the key words in a sentence and realize that not all words are of equal value and that in making oneself understood, one only needs to get the key words right to be understood.

Step 4: The teacher walks about with feet coming down on every syllable. This is to get the body used to producing a tone such as the downward tone that is also loud (the falling tone, 3rd tone in Thai).

The teacher also raises or stretches his/her arms upwards as though attempting to touch the ceiling. This allows students to experience the tenseness of the body (upwards) when producing the rising tone (such as the 5th tone in Thai). Students are then instructed to follow the teacher to perform the same gestures. Students are also instructed to adopt a forward lumping of the shoulders for 1st and 2nd tones in Thai as the production of these tones need a relaxed posture.

Gestures are particularly important when the teacher detects that after the humming and clapping students still fail to perceive the rhythm and melody of the sentences correctly. Gesturing provides students further ways of manipulating the body tension to achieve certain rhythmic structures.

Step 5: Mouthing the words: In this step, the teacher instructs students by saying “Continuing with the movements, now mouth the sentences while I say them out loud.” (Step 5). For the first time in the learning sequence, so far, students are hearing an intelligible sentence. They are asked not to say anything but merely to mouth the words. Mouthing the words gives students the opportunity to practice the articulation of the sounds of the words without, in fact, placing them on an intonational background actually produced themselves. This technique should lead to a reduction in the number of articulation errors.

Step 6-7: Adding words to the intonation patterns: The teacher then says “Now repeat after me, and then add words to the intonation.” This again is done for five times (Step 6). The teacher then instructs each individual to repeat the sentence by themselves in chorus; checking that each student is reproducing the sentence correctly (Step 7).

Steps 2-5 isolate each element of articulation e.g. humming, clapping and mouthing before restoring them to a normal context (steps 6-7). Consequently, by the time students are actually asked to repeat a full sentence, they will have practiced each of its constituent elements many times. They will look forward to achieving success in the next step of the process which will follow naturally and which should present little additional difficulty.

The rest of the FTF sequence involves activities that further highlighted the melody of the sentences involved. Throughout the learning sequence, translation and writing down the sentences are not needed until the last moment. By the time students come to write down the meaning, they will have already internalized and
memorized the melody of the sentences. The activities in The FTF sequence offer students a range of physical ways for remembering the Thai sentences learned beyond the set contact hours each week. These measures set up a series of learning steps that can be used for self-access learning at home.

Course materials

The course materials used in this Thai course using SEA consisted of a printed textbook, a course data CD-ROM, an Audio CD-ROM and a speech processing tool (Sptool). Each new vocabulary item, new sentence or phrase in the teaching materials is linked to a sound file. An audio CD-ROM of the sound files is also provided with the course materials.

The role of the speech processing tool

In the process of language learning, especially in a formal foreign language environment such as a university Thai class in Vietnam, usually the only feedback a student gets is from their language teachers whom he/she sees for only a few hours a week.

The advantages of feedback offered by a computer are that the feedback is constant and can be repeated over and over again. Using an audiovisual feedback tool also allows students to control the speed of their learning. Many of the new technologies for Computer Assisted Pronunciation Technology (CAPT) such as the Tell-me-more Chinese (Auralog, 2004), a comprehensive CALL system that provides an overall Mandarin learning system utilizes Automatic Speech Recognition (ASR) system for feedback provision. However, when this system was evaluated, many problems were reported. The most pressing concern has to do with the software’s inability to accurately evaluate learners’ production of speech by providing an accurate scoring system, error detection, diagnosis and finally feedback presentation.

Ideally, feedback provided should be positively motivating, accurate, easily interpreted by learners and capable of being easily incorporated by learners. Unfortunately, the ASR system incorporated in programs such as the Tell-Me-More Chinese CAPT system fails on these accounts. Commenting on the previous version of Tell-Me-More Chinese, Zheng (Zheng, 2002) claims that it is very difficult for students to modify their pronunciation so that it matches the model waveform when using such programs. This is not surprising as the simultaneous display of the two waveforms in this system may very well be taken as an invitation to produce utterances whose waveform closely corresponds to that of the models. This is, however, not the real purpose of pronunciation training. Indeed, two utterances with the same content may both be very well pronounced and still have waveforms that are very different from each other. Many researchers have expressed doubts on the pedagogical value of these types of displays for this reason. Besides, even a trained phonetician would find it difficult to extract information to correct one’s pronunciation from these displays.

Speech technologists are still trying to find the best measures with which to provide a meaningful score of student performance. The best measures are defined as those specific pronunciation aspects on which the student can work and, at the same time, they should result in a score that is similar to that provided by human listeners. Temporal measures such as speaking rate, phonation/time ratio, mean length of run and average length of pause are established objective measurements of the output of the productions which are aligned with language
processing and in second language acquisition (Towell, 2002). These measurements show what developments in fluency have taken place. Such temporal measurements, for instance, are also strongly correlated with human ratings of pronunciation and fluency. This means that they are able to provide reliable scores for both native and non-native pronunciation assessment but not necessarily for pronunciation training.

In a tonal language such as Thai, good pronunciation, apart from temporal measures, depends on strong correlates of loudness and intensity with tones. So to create a good and accurate scoring system for Thai, the system must base its scoring system on more than just the temporal measures. In Thai, error detection is rather problematic. In alphabetic languages such as English segmental features are more important than suprasegmental features. Segmental errors can be detected with reasonable accuracy by using the right combination of scores. In contrast, an error detection system for Thai must be able to detect suprasegmental errors as these errors are the first and primary indicator of a learner's non-nativeness in Thai. However, studies in the field of speech technology indicate that the detection of tonal or intonation errors in any language is underdeveloped at the moment.

Another condition that should be met in order to provide meaningful, human-like or better feedback concerns error diagnosis: ideally, a system should be able to provide a detailed diagnosis of a pronunciation problem and suggest the appropriate remedial steps just like a human tutor. However, recent research on ASR-based CAPT has nevertheless shown that this technology is not yet mature to provide reliable detailed diagnosis of pronunciation errors.

In SEA, an audiovisual feedback tool (Sptool) (Zhang & Newman, 2003) allows the incorporation of a visual representation of student's production that can be compared to the speech of a native speaker. It was designed to give learners the opportunity to listen and perceive differently, thus increasing the probability of changing the ways they both hear and produce. The speech analysis tool Sptool (Zhang & Newman, 2003) is designed to offer feedback that is non-judgmental, i.e. without a scoring system, and allows students to explore and reflect during the process of learning, and not just at the end of the learning process. Even without a scoring system, students should be motivated to use this tool as they can listen to the language and reflect on it by observing visually the differences between their production and the NS model.

In addition, Sptool is capable of showing the pitch curves as well as length and loudness (correlates of Thai) of utterances in Thai speech through the display of the height and the length of the words within utterances. The height and length of the curves also correspond to the articulatory gestures needed to produce rhythmic structure of sentences used in the FTF sequence. In this way, students can act upon their perception and change the process of production in their private study.

All the written teaching materials on the data CD-ROM were linked to sound files and passed through the Sptool. Once passed through the Sptool, the learner can listen to the teacher's model pronunciation by clicking on the 'teacher' icon. With one click, he/she can hear the model sentence and see the pitch curve of the model sentence displayed on the screen. If the learner wants to hear a smaller chunk of the sentence, then he/she can select the portion of the curve by dragging the cursor over the portion he/she wants to hear. After listening to the sentence
imaginative practice, imaginative inquiry
	numerous times, the learner can decide whether he/she want to record his/her own production.

Some of the activities in The FTF sequence can be duplicated in different forms through the use of the Sptool. While the classroom sequence is more or less teacher driven and physical, the Sptool allows The FTF sequence to be experienced differently.

In the following sample sentence, ‘di1 chan4 chUU3...’ (I am .....)

Figure 2. Picture of the Sptool showing the sample sentence:

I am .... (di1 chan4 chuu3...?).

“di1 chan4 chuu3...?” is a key string of words and the curve clearly shows that the ‘chUU3’ is clearly longer than the rest. This information is extremely important when training students to accept that the ultimate aim of producing an utterance which is acceptable by native speakers is NOT to produce an utterance whose acoustic representation is an exact match or even closely corresponds to that of the model. It is vital to impress upon the students that the importance in producing a comprehensible sentence in Thai is to be able to produce the key parts of the utterance correctly. The use of the Sptool encourages students to reflect on and explore in the process of learning. Furthermore, being able to experience each sentence repeatedly through the Sptool creates an environment in which students can totally immerse themselves consciously and unconsciously in the language by choosing to listen to either a particular portion of the utterance or by listening to the whole utterance repeatedly in order to get the feel of the language.
The study

Subjects

Fourteen Students from 2005 who studied in the mainstream year long Thai course at the Faculty of Oriental Studies, University of Social Sciences and Humanities, Ho Chi Minh City, Vietnam, constituted the Control Group (CG). Students in CG were students in the Second year course at the same university. When they were tested with the students in EG, there was no interruption or gap in their Thai language study. Fourteen students from the same institution, who were recruited for an intensive Thai course conducted in September, 2006 over a three-week period for twelve face-to-face contact hours, constituted the Experimental Group (EG). There were thirteen female students and one male student. Only ten students from EG sat for the end of course speaking test. The other four students did not sit for the speaking test due to workload issues. Students from both groups speak a reasonable amount of English and all are native speakers of Vietnamese. Both groups were evaluated with respect to their performance in producing intelligible spoken Thai in October 2006. All of the students speak Vietnamese as their first language and were total beginners of the Thai language.

Procedure

Students in the CG were not taught with SEA and did not have the computer support but they had been studying Thai for 1 year in the mainstream course which covered the four macro-skills of speaking, listening, reading and writing. Students in the EG, on the other hand, was taught by SEA covering only speaking and listening skills. They were also provided with data and audio CD-ROMs which include a speech processing tool which they could use at their own leisure to listen to course materials spoken by native speakers of Thai. The materials taught to the CG and EG can be found in the five most commonly used textbooks for teaching Thai to foreigners. (Deepadung, Burusphat, & Khamhiran, 1992; Hirunpradith, 2002; Juntanamalaka & Diller, 1993; Smyth, 1995; Wiittayasakpan, 2002)

By the end of the experiment, students in EG had completed 12 face to face contact hours over three weeks. The data from EG was compared with data from CG using the subject materials covering the same conversational topics through the same oral testing mechanisms. In the speaking test, students formed pairs and completed a number of conversations covering the same topics (see Appendix 1). The instructions were provided in English. A set up using Sony microphone plugged into a Dell laptop computer using Cooledit 2000 (Syntrillium, 2002) to make the recording. In the next section, the results of the project will be reported.

Results

In this section, the results of a perceptual test and an open-ended questionnaire are reported. The perceptual test involved native 11 Thai native speaker markers (4 are language teachers) from the Faculty of Humanities and Social Sciences, KhonKaen University, Thailand. The researcher was not one of the native speaking markers. All markers participated in the perceptual test on a voluntary basis. Materials to be marked were spoken conversations in Thai from both the CG and EG of Vietnamese speaking students. The markers did not know which
group each student belonged to at the time of marking. The number of samples marked was 24.

Markers were given the following instructions:

1. Please listen to the recordings and then assess each of the speaker’s performance on a scale from 1 to 9.
   1: being totally non-understandable; 9 being completely understandable and resembling a near NS level. If a speaker sounds somewhere between highly natural and highly unnatural, circle the appropriate number on the scale. Do not hesitate to use the ends of the scale (1 or 9) when appropriate.

   Make sure your rating is based on how close to NS level and how natural the language is to you.

2. Each utterance or conversation can be listened to as many times as required to reach an accurate assessment.

The statistical analyses of Thai native speaker markers’ ratings of students’ conversations were performed using the Analysis Toolpak in the Excel package and SPSS statistical package. The critical significance level was set at p<0.05 throughout the study. All oral production data from the 24 subjects (both CG and EG) were analyzed. A 2 tail T-Test for two samples of equal variance were used to analyze the various characteristics of the conversations spoken by all the subjects involved in this study.

Results of the perceptual test marked by native speakers of Thai

Subjective perceptual results of this perceptual test by native speakers confirm that the students taught by SEA from the EG performed equally well as the students in CG who were not taught by SEA. Students in the EG achieved an average rating of 10.01 out of 15 with a standard deviation of 0.76 compared to the CG’s average rating of 9.76 out of 15 with a standard deviation of 0.76. The two-sample equal variance T-test was used to determine the difference in the means of the perceptual rating scores given by the markers. The result was not statistically significant at p<0.05 level (t=-1.33, df (22), p<0.05 with p=0.184). This means EG students performed equally well as the students in CG despite learning the language in a period of twelve face-to-face contact hours over 3 weeks.

Table 1.
T-test analysis of mean perceptual rating scores rated by Thai native speaker judges.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Means</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG (n=14)</td>
<td>14</td>
<td>9.76</td>
<td>0.76</td>
</tr>
<tr>
<td>EG (n=10)</td>
<td>10</td>
<td>10.014</td>
<td>0.76</td>
</tr>
</tbody>
</table>

In order to ascertain the reliability of independent Thai native speakers’ ratings, an inter-rater reliability was calculated. The level of agreement in the ratings reached by the 11 native speakers was reasonably high as indicated by an inter-rater reliability score of 0.782.
Results of questionnaire data from students in the EG

At the end of the intensive course using SEA, fourteen students in EG completed an end of course questionnaire. The questionnaire consisted of ten open-ended questions on specific aspects of the course (see Appendix 2). The questionnaire data claimed that SEA makes it:

- easy to understand and remember and it is embedded in my head; and;
- that humming is good for getting acquainted with new vocabulary;
- easy to remember new vocabulary;
- that with this method of teaching I can remember the language easily and I can remember all the vocabularies for a long time.

Learners in EG further described how they have used Sptool to complement their learning:

- I installed the program in my computer and practice speaking Thai by listen to the native speaker’s voice in all conversations.
- I chose some words and listened to the native speaker’s voices then pronounce all the words by my self. I paid attention to each word which is difficult to pronounce.
- Learning Thai language by this way is the way to learn pronunciation efficiently, and with this way we can learn faster.
- First of all I installed the Sptool in my computer then clicking on each word and listen to it. Although I do not understand written Thai language when I click and listen to each written word [in Thai] I can understand what these characters mean.
- It is very good material because I can practice Thai language in the way native speakers speak.

Discussions and conclusion

The findings of the study are very encouraging. First of all, despite learning covering a large number of topics in twelve hours over three weeks, students taught by SEA performed equally well in speaking tests, covering the limited contexts covered in the course, as students in CG as rated by native speakers of Thai. Secondly, students in EG seem to be very positive about the use of SEA for language learning as demonstrated by their questionnaire responses on the face to face sequence in SEA and on the use of Sptool.

The results flowing from this project should be treated with some caution. First of all, students in EG were not randomly chosen; they were self-selected based on their interest in learning Thai. Secondly, students in CG did not represent a true control group as their length of study, thus exposure to Thai, is much longer than students in the EG. Thirdly, students in CG were taught the four macro-skills whereas students in EG only covered the speaking and listening skills in Thai. Fourthly, since this was not the comparison type of empirical study, it was difficult to attribute the achievement made by students in EG to either SEA or Sptool or the CD-ROMs. It is possible that a combination of all three contributed to the achievement of the students in EG. The conditions under which the students were recruited to the project were not under our control as the researchers were only in Vietnam for 5 weeks in total. A larger-scale study, ideally
using random assignment to conditions would be the only way to evaluate the

efficacy of SEA.

Implications beyond this study

The results flowing from this project should be treated with some caution. First of
all, students in EG were not randomly chosen; they were self-selected based on
their interest in learning Thai. Secondly, students in CG did not represent a true
control group as their length of study, thus exposure to Thai, is much longer than
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students were recruited to the project were not under our control as the
researchers were only in Vietnam for 5 weeks in total. A larger-scale study, ideally
using random assignment to conditions would be the only way to evaluate the
efficacy of SEA.

So far, SEA has only been applied to the teaching of Mandarin Chinese and
Thai. Theoretically, it can be applied to the learning of any languages. It follows
that in the teaching of other languages, the principle of making what the students
select coincide with needs of the target language communities still holds. SEA can
also be applied to alphabetic languages such as English. For example, one of the
most noticeable disfluencies in L2 learners of English is the lack of stress in L2
learners’ spoken speech (Benrabah, 1997; Hahn, 2004). In a recent small scale
application of SEA to L2 English learners, in some students’ speech there was
sufficient proof to show improved word stress, better phrasing and pauses. Their
spoken form was perceived by IELTS’ examiners to be clearer and more fluent
(Johnson, 2006).

In terms of sustainability of the method, of course, it would be ideal if the
teacher possesses a wide understanding of a range of fields such as acoustics
phonetics, psycholinguistics, applied linguistics and cognitive psychology when
applying SEA. However, an enthusiastic, open minded teacher can achieve
similar results if the procedure in SEA is followed closely. This research is the
result of such collaboration. In this project, a native speaker Thai language
teacher worked and taught alongside an experience foreign language teacher
(who also applied SEA to the teaching of Mandarin Chinese). It was only through
thorough preparation and discussion of principles of SEA before the experiment,
was the native Thai language teacher able to correctly implement the procedures
in SEA in the classroom. It is foreseeable that a group of language teachers can be
trained in implementing SEA in intensive workshop mode over a period of one to
three weeks. Because SEA is based on sound theoretical principles of learning,
teachers trained in this method will not only be able to teach pronunciation
competently, they would also improve in other areas of language teaching in
general.

The intention of this paper is to describe how an optimal and motivating L2
learning environment using SEA can be operationalised in the real world. The
face to face sequence in SEA was perceived as very enjoyable by L2 learners. The
value of enjoyment in learning is well documented. Green’s (Green, 1993)
research makes a direct correlation between the enjoyment of an activity and its
effectiveness in learning. Furthermore, students are given plenty of opportunities to speak the target language both individually and as part of a group. By encouraging choral responses and offering participants the chance to mouth the phrase or sentence before saying it out loud, there is plenty of opportunity for students to practise. With the SEA, the teacher can still incorporate an element of individual checks to confirm understanding of meanings and correct pronunciation.

Finally, learning is most effective when students can use a set of tools to help themselves when they need in the real world. A common distinction in pronunciation exists between the ability to hear a pattern (perception) and the ability to produce it (production) (Jones, 2001). The SEA has the potential to teach both effectively by demonstrating the patterns to develop an appreciation for how they sound and how to produce them.

References


Appendix 1

Speaking items:

Talk to your pair about these 5 topics. The conversation will take around 12-15 minutes.
1. Greeting and introducing yourself

2. Giving and asking personal information:
   Where are you from?
   Age
   Nationality
   Occupation
   Address
   Telephone number
   Language speak

3. Talking about your family:
   How many people in your family?
   Who are they?
   How old are they?
   What is their marital status?
   What is their occupation?

4. Buying things and bargaining:
   Asking about price of things
   Bargaining

5. Asking and answering about directions, for example:
   Explain how to go from the guest house to the University of Social Sciences and Humanities
   Explain how to go from the guest house to Diamond plaza
Appendix 2

Gender  □ Female  □ Male  Age ........................................
Major ........................................................................................
University .................................................................................

Research project:
“Somatically - enhanced Approach in the Teaching of Thai to Speakers of Vietnamese”
Open-ended questionnaire

Instructions:
The questionnaire consists of ten items
Please write your answer (in English or Vietnamese) in the space provided for each item
Please do not write your name and surname on the questionnaire
Information in this questionnaire will be analyzed only in this study and it will be kept in the strictest confidence
Please return this questionnaire to the researcher by October 9, 2006

1. Which part of the procedure is the most useful part for your learning of listening and speaking Thai? Why?

2. How does this way of teaching differ from other teaching approach?

3. What is the most important feature in this teaching approach?

4. How much do you think the CD on “Beginning Thai” is useful for your learning of listening and speaking Thai?

5. During the time you are studying Thai with this approach; do you practice speaking Thai at home or in your private study? If yes, please give more details on how do you practice. If not, please explain why.

6. Do you like to learn listening and speaking of other language by this way? Why?

7. What do you think you have learnt most from this class?

8. Do you think all activities in the class are appropriate? Which activity do you think should be modified or changed? Why?

9. Do you think this way of teaching will help you to learn how to speak and listen in Thai? Why?

10. What do you think you have learnt most from this class?

Thank you for your cooperation
Abstracts
**Teachers’ Moral Imagination: A Multifaceted Concept**

Sabry Abd-El-Fattah, Lee Soong

*University of South Australia*

The present study describes the Teachers Moral Imagination Scale (TMIS). An exploratory factor analysis of the data collected from 182 Egyptian teachers identified 5 correlated factors: (a) reflection (4 items), (b) perception (5 items), (c) rationality (4 items), (d) emotion (4 items), and (e) caring for self (4 items). The reliability of the TMIS subscales ranged from .76 to .80. There were gender differences in moral imagination. High and low experienced teachers diverged significantly on reflection, perception, and rationality. Age correlated positively with rationality. The TMIS correlated positively with a measure of reflective thinking. Implications of these findings for measuring teachers’ moral imagination are discussed.

**Webquests And Evaluation: A Key To The Maze?**

Mirat al Fatima Ahsan

*Aga Khan University, Pakistan*

Evaluation, be it assessment and in that sense summative, or feedback from students and in formative (Rea-Dickinson, 1994), is looked askance at by both learners and teachers. For the learning cycle to be come fruition there has to be some product and the quality of the product must be measured thus evaluation is a necessary evil. The operative word here being 'evil'. In the developing world, where paucity of resources automatically brings in the law of the jungle, with only the fittest surviving, this particular association of evaluation exacts a heavy toll. Evaluation is linked exclusively with assessment and that in turn with an entirely a fail-pass orientation. The students, best able to withstand the pressures of summative assessment tools, skate through and the less resilient fall through. There is little more room left for learning and even less for creativity and none for actually exploring the students’ learning. Evaluation in that wreaks punitive damage. This paper/presentation focuses on sharing data from a project, involving developing a webquest for adult learners hailing from the under-developed areas of Pakistan, which indicates that the webquest may possibly be used as an effective evaluation tool- both to assess what students learnt as well as allowing students to reflect on and evaluate the entire course in a constructive way.

**To Be Imaginative Or Not To Be: How Imaginative Practitioners Can Be True To Their Hearts And Woo Skeptics**

Miranda Armstrong

*Melbourne Girls Grammar School, Australia*

To be imaginative, or not to be - for practitioners that is often the question. Skeptics do not equate Imagination Education (IE) with academic rigour; critics
say it is much ado about nothing. After thirty years of Imaginative Practice I take comfort in having found ways of creating learning environments spawned from scientific-technologic roots but fostering the 'five-minded animals' who populate my classrooms. In this paper I explore the power of metaphor, the impact of IE on girls' learning and the place of Imaginative Classrooms in co-educational schools. I know the relevance for teachers of being able to justify that an Imaginative Classroom meets mandated educational standards, can be assessed and produces competitive learning outcomes for participating students. Being open to the magic these classrooms creates for all learners comes only when you have dared to dabble and opened your minds to all possibilities.

Piloting Mytoons As A Digital Learning Community For Imaginative Practice In New Media

Stephen Barrass

University of Canberra, Australia

This paper describes a pilot project that used the MyToons.com social site to teach New Media at the University of Canberra in 2007. MyToons is an online animation community where "people who love animation - from seasoned industry professionals through to rabid fans, can upload and share their creations and favourites with the entire world for free". The project builds on a blog-based Drupal site that enabled in-class discussions and the sharing of media assets within the class in previous years. However, MyToons, modeled on MySpace and other popular social software sites, has additional characteristics that focus on the construction of social identity and peer-networking through personal portfolios, special-interest groups, friend lists, comments, flags, tags, and thumbs-up feedback. The location of MyToons in the public space beyond the classroom embeds the students in an authentic community of practice, with exemplars, technical support, and opportunities to network and showcase. In this study we will be particularly interested in effects of this creative social community on imaginative practise as evidenced by creative and technical quality of works produced by the students. The paper begins with a survey of social software that has been previously used in teaching and learning, followed by a rationale for the selection of MyToons based on the capabilities it provides. The next section describes the design of the unit objectives, outcomes and assessment around the social and technical capabilities provided by MyToons. This is followed by a blog of the social and technical issues that arose during the study, and the student evaluation of the unit. The final section is a reflection on the pedagogical outcomes, with suggestions for further developments.

Imagination At The Margins: Creating Bridges To Re-Engagement

Derek Bland

Queensland University of Technology, Australia

For marginalised secondary school students, mainstream education may no longer be an inviting place. While proposed solutions to the problem appear to
concentrate on transforming the students and finding ways to coerce them back to mainstream education, this paper suggests that solutions may be found by engaging with the students in the margins that they occupy. It is suggested that, through the scaffolded application of active imagination via a 'students-as-researchers' model, it is possible for the students to identify their own connections to the mainstream where appropriate for them.

**Six Components Of An Ecological Imaginative Education**

Sean Blenkinsop

*Simon Fraser University, Canada*

Teachers in Canada, and I am guessing Australia, are beginning to feel the pressure of the environmental situation. For many it is an internal pressure to do more in their classrooms to prepare their students to be "stewards", "recyclers", or "champions of the environment". For others it is an external pressure being applied, to the same end, by state and regional leaders and other stakeholders in the education system. Trying to teach to a massive global crisis on top of everything else today's teacher must achieve can be an overwhelming prospect. The purpose of this talk is to offer some initial thoughts on mitigating the magnitude of that project. The goal is to discuss six important components that should be considered as part of an ecological imaginative education and to share some examples of current practice related to each component.

**Statistics: Art or Science? The challenge of teaching students how to entice data to reveal its secrets**

Margi Bohm

*University of Canberra, Australia*

Students often have negative experiences in statistics classes with poor skills and knowledge retention (Utts and Heckard, 2006). I will provide a practical approach towards teaching complex mathematical concepts to science students of non-mathematical backgrounds to inspire them to go beyond statistical analyses of data towards extracting meaningful knowledge from their research experiences in such a way that students are able to apply these skills throughout their degree and in the workplace. This research is based on a large service unit taught at the University of Canberra to a diverse group. Revitalisation of the unit emphasized gleaning understanding from data as modelled on real-world scientific practice rather than on details of statistical tests. The learning environment fosters holistic thinking about research and data analysis through student driven projects supported by lectures. Life-long learning is encouraged through inquiry-based teaching and technology enhanced flexible learning. Assessment emphasizes abilities of students to reveal secrets hidden within data through their own research, online assessment, and a practical exam. The unit now enjoys a student body that is interested and remains engaged. Students who in the past dropped out, are now staying and passing at the end of semester. Feedback from 2nd and 3rd year lecturers suggest that there is improved long-term knowledge and application in other units across the degree program.
Labyrinth As Learning Curve: Reflections On Research Through Creative Practice

Jennifer Brown

University of Tasmania, Australia

Any form of research inquiry may sometimes appear to be a labyrinthine undertaking, but the conduct of research through creative arts practice in higher degree projects may be particularly prone to transgressing the boundaries of inside/outside, navigating unexpected twists and turns, and experiencing startling shifts of perspective around an elusive centre. In this paper, I would like to share my reflections on the particular challenges I faced in undertaking creative arts research for a doctorate and talk about how the twin figures of the labyrinth and the maze came to play a central role in dealing with complexities and maintaining momentum. My research was directed to capturing the Zeitgeist of early 21st century Australia as evidenced in public discourse on national security and 'the war on terror' and representing this through a soundscape installation. The figure of the labyrinth came to be deployed in multiple ways in the final work. Firstly, it signals the richness of the auditory realm of experience - literally, the name of the structure of the inner ear - and the importance of alert and active listening. Secondly, drawn out in bright reflective lines around the floor of a large darkened studio, the labyrinth serves as a choreographic device that invites the transient bodies of visitors to take a sound walk back and forth around the space, carrying small torches to light the way. Thirdly, it alludes to the tortuous discursive fields that beam at us daily, a blitz of competing voices, from the array of media machines that populate our cultural terrain.

How do we help pre-service student teachers to reclaim their imaginations?

David Buley, Jan Buley

Laurentian University, Canada

Through our experiences with the Lincoln Center Institute and the work of Brian Cambourne, this presentation will explore the significance of teacher demonstration and the underlying implications of invitations, immersion and inquiry with pre-service teachers. Our education students are invited to show their learning in creative ways through two projects: an art/mixed-media literacy profile; and a soundscape using acoustic, electronic, and/or recorded sounds. The process of creating and sharing these projects ultimately builds communities of vulnerable practice, and leads to a greater understanding of self and the lived sense of who we all are as creative beings. Through the sharing of student interviews, project archives, and conversation, we are exploring understandings about imaginative inquiry and practice in teaching and learning.
Abstracts

Creative, Three-Dimensional, Physical Modeling As A Tool For Learning Mathematics

Mike Butler

USA

With this paper, I will present a new approach to mathematics education drawing on learning strengths not typically appealed to in traditional mathematics classes - strengths such as imagination, creativity, kinesthetic and spatial awareness. To this end, I propose the use of simple, physical, interactive, three-dimensional models derived from the identification and translation of key mathematical concepts and dynamics into personally meaningful physical representations. To demonstrate the feasibility of such an endeavor, I developed an example model that offers the viewer a rough, yet functional picture of the evolution of fundamental mathematic concepts from their beginnings in nascent geometry and conceptions of numbers through arithmetic, algebra, geometry and basic calculus. Since this tool is intended to serve as a germinal point for further exploration, it's important to note this product remains most effective when used in conjunction with an instructor, a text resource or, ideally, both. For this type of model to be widely effective and have any hope of propagation, the construction techniques and materials need to be as simple as possible. For this reason, I used only basic tools like pliers and sandpaper as well as readily available materials such as Styrofoam and wooden skewers; colored thread, ink pens and spray paint provided the necessary color. While I see this particular technique to be a valuable learning tool that I hope I can pursue further, this project is also intended to demonstrate a concept - effectively translating elements of a system into a more accessible format using three-dimensional space.

Air Gondwana And The Teaching Of Negotiation Skills: Imagination In Design And Imagination In Learning

Des Butler

Queensland University of Technology, Australia

The skill of negotiation is a skill that is crucial for lawyers to master. It is a skill which is now taught explicitly alongside the substantive law and a number of Australian law schools including that at the Queensland University of Technology. Methods of teaching the skill may vary but a traditional approach involves some form of instruction followed by a role play. This paper examines the author's imaginative use of technology to create an engaging and challenging learning environment in which students will themselves be required to exercise and imagination in development of their skills.
Immersive Learning 101: A Virtual Learning Communities Primer

Jonathan Cabiria

Pennsylvania Institute of Technology, USA

Jerri Lynn Hogg

Bay Path College, USA

Virtual worlds are vast, multi-faceted online communities. Originally used for game-play, their purpose has expanded to include medical training, architectural modeling, psychological therapy, and a wide array of learning projects. The interest in the utilization of virtual space to conduct learning initiatives is increasing exponentially. Two years ago, very few educators were actively engaged in researching and conducting learning programs in virtual space. Today, in one virtual world alone, there are scores of educator and research groups. One educators group has over 3500 very active members. For those with little or no exposure to virtual learning communities, you may now be asking yourself what, exactly, is a virtual world, and how does one become a member and find various educators’ affinity groups. This presentation will provide all of the information an educator or education researcher will need to get started. Together, we will watch as a fictional educator goes through the process of becoming “virtual” and looks for the right group that matches his or her teaching and research interests. Appropriate links and contact information will be provided, as well as a basic step-by-step guide that you can use after the seminar. This presentation is appropriate for educators who are new to online learning communities in general, or who have yet to explore the potential of virtual worlds as a learning tool. Disclaimer: I have no connection with the virtual world to be used as an example other than as a regular member. Use of the virtual world is free.

Using Persona Dolls And Hero Books As Intervention Tools In Small Group Discourse

Kathleen Collins

University of the Western Cape, South Africa

Thompson (1993: 19) contends that traditional social work approaches, particularly in response to persons with disabilities to some degree permit or legitimate the discrimination or oppression as normal. At the individual level, traditional casework, 'explained' the disabled client's difficulties in ways which suggest individual pathology rather than implicating oppressive structures affirmed by social policies aimed at maintaining the status quo. In an attempt to teach and learn a movement away from the individual towards a structural focus, fourth year students of Social Work promote ant-oppressive practice by applying two tools of intervention, now being used worldwide, in their group work practicum. One is the Persona Doll (http://www.persona-doll-training.org/pd/difference.php2007) and the other the hero book (Morgan 2007). The Persona Doll (realistic, cloth, 75cm tall) represents a marginalised person, for example with physical disabilities, with whom the group members
empathise, express opinions, solve problems and refer to wider social issues surrounding the marginalisation. Discourse surrounding the Doll's social situation is facilitated by the one holding the Doll who asks questions or makes statements on his or her behalf. The hero book involves leading groups of children through a series of autobiographical storytelling and art exercises which are softbound into a book. The exercises include elements of history taking, history making and community mobilisation. Hero books incorporate art, narrative and solution focused therapies. Case examples describe how students have adapted these tools in newly imagined ways to create moving difference in the lives of their clients who are not all young children.

A Creative Experiment Imprinted with Imagination as Experienced in a Learning Environment at the Faculty of Education Sciences

Jeanne d'Arc Gaudet

Université de Moncton, Canada

In this talk, the researcher presents a few preliminary results of an experiment carried out among a group of part-time students in a graduate level course called "New Trends in Pedagogy" (Tendances nouvelles en p'edagogie) at the Faculty of Education Sciences. A study by Desfosses (2003) shows that 5 year old children have a very high level of creativity, but that this level tends to decrease considerably as they get older. For his part, Sir Ken Robinson (online) asks the question, "Does school kill creativity?" The author thinks that school, with its traditional approaches, helps to make university professors. In the context of this course, the students first had to invent a teaching activity that they judged as being creative and called on the imagination. Following this, they had to participate in a course in which the elements of a creative pedagogical production were presented, commented, and analysed. These same students were then invited to elaborate a second teaching activity that had to take into consideration a number of elements, of which was creating an activity where both divergent and convergent thinking were present. Text analysis has allowed us to reveal some elements of creativity that did not come up in the first version.

Crafting A Portfolio Of Fictional Tales In Dialogue With My Selected Publications On Occupational Therapy With Young People: An Auto-Ethnographic Design

Sally Denshire

University of Technology, Australia

The debate about evidence-based practice and narrow definitions of science makes it increasingly challenging to evoke the complex realities of practice in the little known profession of occupational therapy. My doctoral research concerns the evolution of practice in this feminised profession over the last thirty years. Scholarly traditions have evolved at the expense of rich oral and practice traditions through processes of academicisation and disciplinarisation. The paper offers a step by step design for my auto-ethnographic inquiry. Critically re-
reading my body of work as an occupational therapy academic I have selected those publications demonstrating my unfolding understandings of practice in the 1980s, 1990s and 2000s. My earlier publications tended to observe formalised conventions for scholarly writing with little use of aspects of fiction such as characterisation, dialogue, particular description or points of view. Crafting a portfolio of fictional tales, in dialogue with these existing articles, I am writing in their gaps and silences to assemble an auto-ethnographic account of practice. Each tale contains an "eloquent episode" based on my work with young people in hospital framed with exegetical material. I intend that these tales be recognisable and resonate with colleagues. This fictionalising of practice (and practitioner) may allow the recovery of subjugated knowledges from lost or repressed places. Writing the ordinary may have significant implications for expanding the ways occupational therapy can be written.

The Body’s Role In Our Intellectual Education

Kieran Egan

Simon Fraser University, Canada

Most educational theorizing, and practice, seems to go on as though humans were disembodied brains. While it is indeed the strange distinctiveness of our brains that is of great importance in education, it is also crucial to recognize that these brains are parts of our bodies, and that the distinctive human body remains central to all forms of education. In this paper, I argue that only by attending much more closely to the kind of body we have and how it, in part, constitutes and interacts with our minds will we be able to construct adequate notions of how to educate. I will focus particularly on the body's emotional responses and attachments, musicality, and humor, along with bodily senses, gesture and communication, referencing, and intentionality. I will explore how these features of our bodies, learned most intensively during our earliest years—though also educable throughout our lives—remain crucial in all future intellectual education.

Creative Assessment And Evaluation Strategies In Tertiary Contexts

Robyn Ewing, Robyn Gibson, John Hughes

University of Sydney, Australia

By reconnecting our preservice primary teacher education students with their own creative potential through two final year elective creative arts units, our aim was to enhance their understanding of how the creative arts can be used to promote imaginative ways of teaching and learning in their future primary classrooms. In an earlier paper (Gibson and Ewing, 2005) we documented how, in developing the units of study, Integrating the Creative Arts A and B, over several years, we endeavoured as tertiary teachers to move beyond the traditional academic boundaries to allow our student teachers spaces to research and reflect on their own teaching practices. This presentation examines the importance of developing imaginative evaluation and assessment strategies for these units of study. Once again, our hope was that these future teachers would be able to
transcend the technical and often reductive assessment measures currently dominant in the testing regime of neo-liberal Australian education when planning for their students. A range of innovative evaluation strategies used in these units is discussed in this section of the paper. Finally, data from interviews with a number of our former students was analysed. It demonstrates that from the perspective of these early career teachers, the imaginative use of the arts has provided spaces for them to explore what it means to teach and assess creatively in primary contexts.

Cultivating Imagination in a Fractured World

Mark Fettes

Simon Fraser University, Canada

In an odd twist of fate, modernity, which set out to comprehensively grasp the world and bring it under human control, has bequeathed to us a world in which a unified understanding seems ever more elusive. In some ways, imagination has been central to the modern project, from the elaboration of national "imagined communities" the shaping of individual self-awareness, and these functions of the imagination are deeply integrated within modern educational systems. Yet this is a very selective form of cultivation that has as much to do with channeling and restricting the imagination as it does with developing it - with far-reaching consequences for the distribution and exercise of power in modern societies. By the same token, education that sets out to expand the imagination’s repertoire and reach may make a vital contribution to all kinds of efforts to make our societies more convivial and sustainable.

Narrative Experiments And Imaginative Inquiry

Noel Gough

LaTrobe University, Australia

The narrator of Ursula Le Guin's critically-acclaimed science fiction novel, The Left Hand of Darkness, begins by stating: 'I'll make my report as if I told a story, for I was taught as a child that Truth is a matter of the imagination. The soundest fact may fail or prevail in the style of its telling...' The academic curricula of most education systems and institutions in modern, Western, industrial nations (and in systems and institutions modelled on them) tend not to teach learners that 'truth' (and especially 'Truth') 'is a matter of the imagination', despite the crucial roles that imagination (literally the ability to produce images in one's mind) has played in the development of many disciplines. For example, thought experiments (even in the relatively narrow sense of conceptual experiments performed in circumstances which preclude physical testing procedures) have been particularly significant in the history of physics. However, science education textbooks and curricula rarely foreground the significance of thought experiments and, where they do, tend to diminish their imaginative dimensions. For example, recent studies in the UK suggest that school and university physics textbooks tend to conflate thought experiments (as the term was used by Schrödinger and other physicists) with thought simulations. In these
simulations, the behaviour of a physical phenomenon is illustrated rather than tested, theory is assumed and embedded rather than being tentative and emergent, and the outcome is assumed rather than anticipated. In this paper, I explore the connections between thought experiments in the sciences and other disciplines and their representation and performance in educational inquiry. I will share some experiences of writing as an inquiry process, with particular reference to narrative experiments inspired by Gilles Deleuze and Félix Guattari's figuration of the rhizome - a process that I characterise as rhizosemiotic play - and to the generativity of intertextual readings of selected fictions in catalysing them.

**Imaginative Pedagogies: 'Art-Full' Reading And Writing**

Audrey Grant, Sarah Brooke, David Hornsby, Kirsten Hutchison

*La Trobe University, Australia*

This paper discusses the findings of a pilot action-research project in a primary school in Melbourne, designed to support primary teachers in becoming confident users of the arts in literacy teaching. The study began by mapping the ways teachers use the arts, especially to assist children's writing development. Through professional development workshops, the project team introduced teachers to a range of innovative classroom practices, involving the arts (visual arts, performance arts, literature, music, crafts) and promoting aesthetic engagement with reading/writing. The research team and teacher participants collaboratively developed case studies of selected students, documenting children's responses to arts-based classroom practices, reading of literature and writing over the course of the project. The teachers also documented changes in their repertoires of practice for integrating the arts, and evaluated their own teaching as reflective/practitioners. The research is informed by our conviction that literature and the arts provide vital, imaginative means for engaging teachers and students in transformative learning. This paper explores three related questions: What do children take from their engagement in arts-based activities into their reading of literary texts? What evidence is there of this engagement influencing their writing, imaginatively? What kinds of arts-based exploration are particularly supportive of children's aesthetic engagement with literary texts and writing? In addressing these questions, the paper outlines a model for professional learning which utilises the arts to enhance literacy teaching. Overall, the research contributes to the literature on student engagement and achievement in literacy, especially for students from linguistically and culturally diverse backgrounds.
A Re-Evaluation Of The “Big Three”: The Good, The True And The Beautiful As Significant Signposts On The Journey Away From Flatland And Towards Imaginative Education

Bronwen Haralambous

University of Canberra, Australia

The integral philosophies of both Rudolf Steiner (1861 - 1925) and Ken Wilber (b. 1949) are detailed against the backdrop of the expansive canvas of the evolution of consciousness. There is much resonance between their visions, however Ken Wilber's integral education theory "is as yet in its infancy" (Gidley, Aug 2007), whereas Rudolf Steiner's "anthroposophy" provides comprehensive pedagogical indications. Schools in the Steiner system have over 80 years of experience and experimentation with the cultivation of imagination in education that is worth reappraising. What Wilber cites as the "Big Three" of the perennial philosophy: the Good, the True and the Beautiful (Wilber, 2000) are used in the Steiner stream as motifs for the three main phases of schooling. This paper explores these qualities in the contemporary context to inform the relationship between imagination and issues as divergent as the current climate crisis and aesthetic and moral education. There is a strong correspondence between the "Big Three" as guiding motifs for the stages of childhood and the three "Big I's" of Inspiration, Imagination and Intuition as leading milestones in the development of the self (or "I") in the adult. Rudolf Steiner differentiates between these capacities, describing inspiration in relation to "higher order thinking", imagination as "heart intelligence" and intuition as "ethical individualism". The paper investigates the "Big I's" as key components in the structuring of teacher education courses so that they include: inspirational theoretical content; imaginative, artistic and aesthetic workshops; and self-development units that foster the development of intuition as a form of ethical individuation.

Welcome To The Creativity Cafe: Developing A Network Of Shared Creative Teaching Practice Amongst Academic Staff

Josie Harvey

University of Huddersfield, UK

This paper presents the findings and developments to date of a TQEF project on Creativity and Innovation in Teaching in Higher Education. The purpose of this project is to establish a development unit to encourage, support and promote creative and innovative teaching across the university and among its partners. (Gibson, 2005; Grainger, Barnes, and Scoffham, 2004). One of the outcomes of the project is realising that academic staff want to share their creative and innovative teaching with colleagues across the university. It has been found that although good practice is occurring, little is known by staff about these practices across the different disciplines. Therefore, a Creativity Cafe was organised to give academic staff across the university an opportunity to work together informally, and to collaborate and share best practice in the future, germinating 'Communities of Practice' (Wenger, 1998). The Creativity Cafe was organised as a 'bistro' with a number of informal but structured, creative workshops taking place allowing staff from different schools to network. Each table had its own
'waiter' as a facilitator for the activities. The positive feedback from the event was overwhelming. Since the cafe, staff have started their own informal networks across the university and other similar events have been requested. The networking methods used at the cafe have been incorporated in other large university events, and sharing good practice has engaged staff with different perspectives of creativity across the curriculum.

A Paradigm Shift: From Critical To Constructive Thinking

Kim Hewlett

Pembina Trails School Division, Canada

Without devaluing critical thinking, this research explored other ways of thinking. This exploratory study investigated the theory of constructive thinking and its practical application within the context of an undergraduate writing course and other selected disciplines (Agriculture, Architecture, Dental Hygiene, Engineering, History, Management, Nursing, Philosophy, and Theology). Constructive thinking is defined as a reflective and active process that values experience, integrates different ways of knowing (reason, imagination, intuition, and emotion), builds caring relationships, and creates new ideas that benefit society. The purpose was to define constructive thinking operationally, compare constructive thinking to critical thinking quantitatively and qualitatively, explore constructive thinking in relation to language (English speakers versus non-English speakers), student success, and implementation in post-secondary classrooms. Findings revealed language affected thinking stance. Those students whose first language was not English scored higher in constructive thinking. Instructors and professors were able to relate the strands of constructive thinking to their instructional practices and explain how those strands differed from critical thinking.

Modest Beginnings Of A Radical Revision Of The Concept Of Imagination

Chris Higgins

University of Illinois, Urbana-Champaign, USA

In this essay, I make a case for, and begin to lay out, a realist conception of imagination. In the first section, I show that the legacy of contrasting imagination and reality persists, even if it now takes more subtle forms. In the second section, I outline the contours of an alternative model of imagination as a set of related dispositions which enable us to make greater contact with the world in its complexity.
Out Of This World: Creative Uses Of The Virtual Classroom

Jerri Lynn Hogg  
*Bay Path College, USA*

Jonathan Cabiria  
*Pennsylvania Institute of Technology, USA*

In the past year, there has been a great deal of publicity regarding online virtual communities as viable venues for educational initiatives. Among the growing list of virtual world pioneers, educational institutions are leading the way in many respects. We will be discussing the latest advances in virtual world education, drawn from our own studies and from the field, providing noteworthy information to ICIE conference attendees about virtual education. We will present some of the more fascinating findings, as well as spotlight up-and-coming educational initiatives. Our topics include: o Virtual worlds created specifically for the younger child that explore a multitude of practical and social topics, preparing them for the next level of education and for social interaction. o Virtual worlds created to support and/or augment real world classrooms and provide non-classroom, real world problem solving activities. o Virtual worlds that are being utilized to enhance classroom learning. Of special interest are history, art and language initiatives. o Virtual worlds are being used not only as adjunct learning instruments, but in some cases are the primary learning tool. Educational excellence means that educators will want to think beyond technology as merely a computer-assisted instructional model and, instead, engage in holistic processes which offer unprecedented integration of immersion and social interaction. Education and training in virtual worlds allow a new approach to learning - that of students as knowledge makers with valuable experiences to contribute to the interactive learning experience through collaborative projects, thereby fostering motivation, engagement and enhanced learning experiences.

An Application Of CAT For Assessing Students' Technological Creativity

Hsin-Te Hsu, Hsiu-Ling Chen, Yu-Ming Fei  
*Yu-Chang Vocation School, Taiwan*

*National Taiwan University of Science and Technology, Taiwan*

The purpose of this study mainly aimed at implementing heterogeneous group in cooperative learning and adopting the method of CAT (Consensual assessment technique) to assess the performances of technological creativity among students. The study adopted the purposive sampling method, selecting seventy-six students from a vocational high school. Thirty-eight students were in an experimental group and the other students were in a controlled group. They were all seniors in the vocational high school. First, they took the WTCT (Jing-Jyi Wu's Test of Creative Thinking) and the result showed that there is no difference between two groups. Then, in the experimental group, the WTCT was adopted to determine nine heterogeneous teams. Based on their academic performance, students were divided into nine heterogeneous teams in the controlled group. After a
cooperative learning, they presented the project works with creativity. Finally, ten
judges used CAT to evaluate the technological creativity of students in the two
groups. The study used Kendall Coefficient of Concordance to acquire every
judge's score in technological creativity among students' project works. Further,
Linear Mixed Model Equation of Nested Design in ANOVA was used to evaluate
the performance of technological creativity accurately. This research presented
suggestions of teaching method, project evaluation, and future research in
technological creativity of heterogeneous team-learning.

Seeing The World Through Rose Coloured Glasses: Northrup Frye And The Educated Imagination

Emery Hyslop-Margison

University of New Brunswick, Canada

In 1964, famed Canadian literary critic Northrop Frye published a book entitled
The Educated Imagination. Frye argues that humans are situated in a broader
natural world that appears much like Roquentin's vision in J. P. Sartre's Nausea:
"The roots, the park railings, the bench, the sparse grass on the lawn, had all
disappeared; the diversity, the individuality of things was a mere illusion, a
veneer. The veneer had splintered, leaving monstrous flabby, disorganized
masses; terrifyingly and obscenely naked" (p. 171). Similar to Sartre's
existentialist message, Frye contends that humans, in the absence of perceptual
distortion, confront an extremely troubling natural world that remains entirely
oblivious to our values, predilections and desires. Indeed, it is a morally
disconcerting world, inhuman in shape, and offering no discernible forces of
greater intelligence or morality. In Sartre's words, we are thrust into a potentially
purposeless and meaningless existence. According to Fyre, humans respond to
this terrifying realization by transforming nature into a far more comfortable and
"human world". This transformation occurs in a number of possible ways,
including physically reconstructing nature through human designed
infrastructure and, of course, through the literary and educated imagination.
Although the imagination is often portrayed as a necessary good in educational
discourse, the distortion of authentic experience and perception, with and in the
world, may generate various deleterious outcomes. In response to this concern,
this paper examines the potentially negative impact of the educated imagination
on both our collective human experience and on our relationship with nature.

The Imagination: A Critical Muscle To Develop In Educating For
A Sustainable Future

Sally Jensen

CERES Environmental Park, Australia

Environmental educators in the East and West report, it is not just our practices,
but our world view that has become unsustainable. This paper knits Eisner's
'Education Imaginatinion' (1979) with Buell's, 'Environmental Imaginatinion'
(1995) to argue a new realm of Sustainability Education. Buell asserts "...with the
environmental crisis comes a crisis of the imagination, the amelioration of which
depends on finding better ways of imagining nature and humanity's relationship to it”. Buell's 'Environmental Imagination' is a way of seeing the world, as expressed through American literature. In Australia, Noel Gough reports on nature-culture relationship through Science Fiction and validates creative texts as they are not as 'colonised' as other social artefacts. This paper uses story, myth, metaphor and visual art as evidence of imagined perspectives and indicators of Australia's cultural Environmental Imagination. In working the pedagogical space between environmental imagination and educational imagination, I engage questions: What is the influence on our pedagogy if we are to consider the environment as an equal, powerful and influential party in the co-construction of learning? How can we encourage the development of our environmental imagination to transform unseen and unsustainable metaphors into beneficial ones? I position this theoretical engagement with data from Sustainability Education classrooms in urban schools in Victoria. Workshops are pedagogically framed by the muscles of environmental imagination that map out the terrain of sustainability explicitly as a real and imagined environment.

**Drawing On Imagination: The 'Big Draw' As An Example Of Poststructural Pedagogy**

Linda Knight

*University of Canberra, Australia*

The 'Big Draw', an international annual event that emerges out of the UK Campaign for Drawing organisation, promotes diverse and imaginative drawing practices. In Australia and the UK particularly Big Draw events encourage participants of all ages to re-engage with drawing in a variety of contexts and forms. This presentation focuses on two Australian Big Draw events that were held in 2006 and 2007 in Australia, and suggests how they can be considered as examples of poststructural pedagogy in action. Videoed and digital recordings that capture the engagement of individual participants in the Big Draw events suggests that attendees' reasons for drawing are diverse and sometimes fraught with tension. The video and digital recordings, and the drawings that were produced during these two Big Draw events demonstrate that these Big Draw activities and their delivery are situated within poststructuralist pedagogical practices, and that this holds some potency as a potential teaching pedagogy in the classroom context. This presentation suggests how reflexive, visual ethnographic analysis of these Big Draw events are useful in helping to shape ideas about delivering imaginative drawing ideas to Australian school students.

**Developmental Patterns Of Artworks In Primary School Children**

Godwin Kodituwakku, Nirosa Dissanayake, Sunila Ratnayake

*National Institute of Education, Sri Lanka*

For a longitudinal study, artworks of 1141 primary school children (Grade 1, n = 1141; Grade 2, n = 1071; Grade 3, n =1019; Grade 4, n =983; Grade 5, n= 973) from 43 classrooms were collected between 2002 and 2006. Objective was to
identify competency development patterns in artwork based on three criteria i.e. shape, concept and colour. Activities based on competencies of school curriculum were used to collect data. Artworks were quantified using a nine-point scale to identify developmental patterns in shape, concept and colour. To highlight the specific developmental areas, representative artworks were quoted as qualitative examples focusing content and contextual patterns of artwork and, children’s intents and ideas flavoured with creativity and imagination in each grade. Child specific free expressions and external delimiting factors related to developmental patterns of age and school specific cultures were identified. Single large shapes drawn in Grade 1 turned to geographical shapes in grade 2, and in grade 3- appropriate shapes were drawn. In grade 4 themes were considered in developing shapes and in grade 5, 'scales - perspectives' combination emerged. Concepts not identified in grade 1 were developed in grade 2 without a scale. Organized concepts and concepts with experiences were drawn freely in grade 1 and grade 4 respectively. In grade 5 different techniques were used. 'Free available colours', in grade 1 changed to 'flat and gorgeous colours' in grade 2. In grade 3, mixed colours were used within a frame. In grade 4 and 5 relevant colour selections emerged.

Situational Understanding Will Expand The Horizon Of Curriculum Implementation: Teacher Creativity Depicted As Action Research

Godwin Kodituwakku, Dilhanie Hettige

National Institute of Education, Sri Lanka

The objective of the National Institute of Education (NIE) of Sri Lanka is to advise the Minister of Education regarding plans, programmes and activities for the development of education in Sri Lanka. To facilitate this process, the Department of Research and Development (DRD) of NIE conducts policy research. The practitioner research conducted by teachers as action researchers has been encouraged from 1989, as an inductive way of making policies at grass root level of the education hierarchy. In 2007, 25 teachers, selected from different types of schools and geographical areas of the island, conducted practitioner research. They sensed problems and reconnaissance related data at classroom level and reflected upon them to develop action plans to suit their perspectives and school environments. The impact of implemented action plans were assessed against qualitative criteria. Later they inductively identified theoretical underpinnings on five themes (Peace and value education, Risk and disaster management, Second language learning, Psycho-social care and Remedial teaching) based on which GTZ, the funding agency, planned educational activities. During the research process teachers displayed different levels of imaginative powers based on classroom practices and empirical data collected for action research. Multifaceted initiatives of interventions based on data as well as teachers’ thought processes independent of the existing curriculum framework were identified. A culture friendly classroom practices, curriculum innovations and modifications were suggested to the national level centralized curriculum as policy options. Teachers confirmed the importance of action research cum
reflection in self-development and in implementing centralized curriculum creatively at grassroots level.

**Understanding Myself And My Clients In Implementing Curriculum: Master Teacher Role Revisited**

Godwin Kodituwakku, Dilhanie Hettige

*National Institute of Education, Sri Lanka*

Sri Lanka has experiences of conducting action research by teachers and principals from 1967. Research conducted by Master Teachers (MT), the link between Ministry of Education at the center and the teacher at school, was started in 2007. 25 MTs, selected from different subject areas, conducted practitioner research and they had sensed reconnaissance problems at Zonal or Divisional education level, within a geographical area of their purview and reflected in and on them, to develop action plans that suited their perspectives and environments. The impact of implemented action plans was assessed using qualitative criteria. The mental capacity in identifying problems was depicted by interventions ranging from - 'zonal level general intervention plans' - to 'teacher focused specific remedial measures'. Necessity of a zonal and school specific diversified and creative role, free from existing monotonous legal role was felt by MTs. They were able to explore hidden patterns and unblocked areas of their roles. New connections between self of individual MTs and ideas of individual teachers were identified. Rather than acting as a link to transmit centralized curriculum from center to periphery, MTs have to be innovative practitioners to identify new techniques and strategies in implementing curriculum at zonal/school level. S/he has to be a researcher and reflective practitioner to identify specific problems generic to schools based on data and also on intuition for decision-making on teachers' roles and to guide them to implement centralized curriculum with suitable modifications, to achieve the national goals and objectives of the curriculum successfully.

**Evoking Visual Imagination In Teaching Writing To ESL Students**

Izabella Kovarzina

*University of New Mexico, New Mexico*

This presentation focuses on alternative methods of teaching ESL (English as a Second Language) writing. Its aim is to explore visual thinking before and during the process of writing in a second language. While most ESL writing instruction is focused on correct grammar and sentence structure (the mechanics of writing), the author suggests an increased emphasis on visual imagination and engaging students in visualization of writing topics. This shift in literacy instruction will encourage ESL students in the creative exploration of different topics and will help to free them from the fear of writing. The presentation will start with a brief overview of the first forms of writing in Pre-Columbian cultures (Aztecs and Mixtecs) whose narratives are based on pictorial elements. It will then proceed to some modern second-language writers who use visual imagination as a major tool.
in their written works (for example, Nabokov, Okara, and others). The presenter will argue that despite these authors’ struggle with grammatical differences of writing in a second language, it is a unity of visual imagination and verbal expression that helped to make the authors famous. The presenter will discuss some teaching strategies which evoke the use of visual imagination in ESL writing classroom, both with and without the use of visuals (several examples are incorporated in the discussion). The author will conclude that a strategy of encouraging visual imagination into the process of writing shifts writing from a mechanical activity to a creative exercise which requires a student to abstract from reality.

The Promise Of Enquiry Based Learning For The Humanities In Australia

Judy Lattas

Macquarie University, Australia

In this paper I contemplate the potential of ‘enquiry’ as an idea of imaginative and effective learning to lead the teaching of Humanities in Australian universities. To what extent have forms of Enquiry Based Learning been taken up in the tertiary sector in Australia? Is it limited to formal applications of the Problem Based Learning method in vocational courses? Are there internal constraints on its happy unfolding for a future of the Humanities, true to both its intellectual and political projects and its Australian conditions? These are the questions to which I respond on a philosophical and practical level in this paper. The context is an incorporation of the practice of Enquiry Based Learning in a rewriting of the interdisciplinary Women’s Studies curriculum, ahead of a collaboration with the Department of Sociology on a new sociology of gender stream.

Hong Kong University Students' Perceptions Of Verbal And Visual Humor

Ben Leung

The Hong Kong Polytechnic University, Hong Kong

Humour, in general, has been found useful in facilitating learning because it can make tasks less threatening and laborious, hence decreasing the anxiety level of students (Dixon, 1973; Regan-Baker, 1990; & Maceri, 1995). However, study from the perspective of second language student in their joke preferences has been scant. This researcher attempted to explore the preference of students from one Hong Kong university towards two types of humour: verbal and visual. At the end of an English course, students, upon request, completed a research questionnaire on their perceptions about themselves in two aspects of personality, overall sense of humour and well-being. Students also volunteered to rate two categories of jokes (Total=20 jokes) on a 5-point Likert-scale according to their degree of funniness. As a result, 99 students’ responses were collected in Stage 1 (December 2006) and a further 45 responses in Stage 2 (May 2007). This presentation will summarize the 144 responses to the questionnaire and discuss some possible
preliminary hypotheses of the types of jokes these Hong Kong university students appear to favour. Towards the end of the presentation, participants will be invited to share their ideas about using jokes in the classroom.

**Imagination In ESL Education: Classroom Interpsychological Environments From A Vygotskyan Semiotic Perspective**

Charlotte Hua Liu  
*University of Adelaide, Australia*

This paper discusses understandings of a Vygotskyan educational psychological semiotics and analyzes an Australian English-as-a-Second-Language (ESL) classroom with the tool of Vygotsky's historical dialectics. In all semiotic environments, meaning is constructed at both explicit and implicit message levels, in both external (interpersonal) and internal (intrapersonal) domains; such is a basic tenet in Vygotsky's psycho-semiotics. Explicit / external and implicit / internal levels of communication are never identical (such being a key characteristic of human symbolic systems); but exist in various forms of tension. The tension creates necessity as well as possibility for psychological constructions beyond what is explicitly said. In the space of the psycho-semiotic tension, we find the possibility of reconciling the paradoxes between subjective and objective structures, between scientific learning and the development of imagination and personality. The fact that semiotics operates through both explicit and implicit messages, in both external and internal domains underlines the significance of learning through apperceptive, and not just conscious, perceptive channels. It also accentuates the importance of educators' inner integration and conscious awareness as preconditions of successful classroom practice. Specifically, successful teaching brings about the infusion of subject and object, teacher and learner by relying on the complementary partnership between the two semiotic levels, rather than on explicit speeches only. Also, in both social external and intrapersonal speeches the communication nurtures learners' self-integrative psychology, rather than polarizations. Many splits and polarizations in students' experiences and behaviour can be traced back to polarizations in teaching. In alignment with Vygotsky's historical dialectics, the relationship between teacher and student psychologies is comprehended not as a causal one, but one of projective resonance. In this light, the case study attempts to show the unity, and not separation, of causes and effects. What the teacher has within her inner reflexive system later becomes materialized in the student's behaviour. In the same mechanism, both successes and failures are projected and constructed in students.
Pictograms And Ideographs In Chinese Characters: Psychic Tools In Promoting Higher Level Psychological And Imaginative Processing

Vivian Lo

Simon Fraser University, Canada

Vygotsky considered works of art, diagrams and drawings are psychic tools that determine humans' relations with their environment and with themselves through social activities (Moll, 1998). Psychic tools may be very complex systems. According to Hoosain (1991), the meanings of certain Chinese characters can be conveyed in form of pictographic and ideographic representations. Hoosain suggested that the former type of representations are more direct and may not promote psychological reality in the users, whereas the second type of representations are presented by graphic symbols that convey meanings to people directly. I argue that pictographic representations are not direct and can stimulate users to establish higher level psychological and imaginative processing through three dimensional changes (Forman, Minick & Stone, 1993). I also argue that ideographic representations may also convey meanings indirectly so that they can help users develop higher level psychological and imaginative processing through symbolic images. Likewise, I propose that the formation of both representations is a kind of socially shared cognition and a reflection of people's cultural development (Berk & Winsler, 1995). Chinese people collaboratively created their Chinese characters as people's mental processes are adaptive to the environment (Berk & Winsler, 1995) although the sociocultural perspective of human development celebrates cultural variations and individual differences. Chinese people have actually been using a single system of Chinese characters that were collectively produced in the presence of universal cognition (Berk & Winsler, 1995); however, this system has been continuously modified due to sociocultural variations throughout the vast continent of China.

Eco-Adaptive Education: Towards A New Paradigm Of Creative Thinking In International Education

Jennifer Mannall

Australia

Creative endeavour must be bold. Inevitable change initiates the further pursuit of this creativity, which must be courageous, and moulded against all odds. Future generations will need creativity in abundance with the impending planetary changes. They will need to be "ecoadaptive homo noeticus". For nearly a decade, a new form of creative thinking and problem solving evolved in an educational setting, that arrived at a pedagogical model for paradigm change, with international implications and applications. The SIA(c) Program was a curriculum experiment in living, educational creativity. The course presented to mid high school cohorts was futuristically orientated, with impending earth change having been signaled in various scientific models, to gear student thinking maturely toward analysis of the needs of the future, possible built environments and visualizing these designs via much problem solving up to a video presentation level (based on the then technological memos used in international
Mentored by several world experts, cutting edge information helped the enthusiasm of these participating cohorts to gain international educational outcomes. Students understood and prepared for a future of change scenarios... indeed they became "ecoadaptive". This presentation will introduce this forum to the multilayered world of SIA(c) and its living creativity, pre-emptive of many current trends in today's education, over a decade ago.

**Teacher Development As Determinant To Promotion Or Blocking Of The Creative Life In The Classroom**

Robert Matthews

*University of Adelaide, Australia*

This paper uses a viewpoint drawn from a synthesis of the cultural-historical approach of Vygotsky with the psychodynamic developments of Carl Jung, to explore how the creative imagination of the learner can be fostered or stultified depending on the how developed the teacher's personality is. The creative imagination is of great importance to the learning process. For Vygotsky, consciousness moves to an ever greater unity and height, not by neglecting the initial fantasy and play life of the child, but by functionally integrating it with one's capacity for reality adapted reasoning. It is suggested that one determinant of a teacher's ability and inclination to foster the creative imagination of their students, is consequently the extent to which their own personality has attained such functional integration. For Jung, the healthy development of the child's personality required contact with the deeper elements of the psyche as communicated largely through images. With growth to adult hood, it was imperative to keep alive the dynamic relationship between the conscious and unconscious self. He believed that our society had become increasingly one-sided in its emphasis on outer adaptation over inner. As a consequence the natural myth-making faculty of the imaginal, inner world has been historically supplanted by a type of thought, consciously directed to explain the causal machinations of an outer, scientific world. This view gives an historical explanation to difficulties faced in the classroom of the teacher who seeks to incorporate the imaginal into the classroom arena. For Jung, the development of the personality, i.e. the extent of one's individuation in Jungian terms, is perhaps the most important factor limiting a person's engagement with another. To our point of interest, the extent of a teacher's individuation will speak to their own inner connection and this in turn will influence how effectively they can inspire or spark the imaginal life of their students. The paper will conclude with some vignettes taken from case studies to illustrate the major elements of the discussion.
Imaginative practice, Imaginative inquiry

Stories Of Transformation: An Imaginative Approach To Secondary Curriculum And The Work Of The Secondary Teacher

Paul McGee, Kate Burrett

*Corpus Christi Catholic High School, Australia*

Corpus Christi Catholic High School is a developing school in the Wollongong Diocese in New South Wales, with a current intake of approximately 260 students in Years 7 and 8. This presentation will demonstrate the imaginative approach to curriculum development and implementation undertaken at the school, whose overarching vision for learning is: to develop in all learners a Eucharistic imagination with which to transform their world. The school’s Learning and Teaching Principles include the commitment to develop and implement "innovative pedagogical practices" that provide "tasks of significance and relevance" to students. The presentation will also highlight the imaginative approach to the work of the teacher that is in operation at the school, as teachers work in trans-disciplinary collaborative teams to design integrated units of work, called Connected Learning Experiences, using a backwards design framework and authentic assessment. The enduring understandings and fertile questions that form the basis of unit planning are the toolkit for learning for each unit. This curriculum model also provides stimulus and challenge to teachers as they work collaboratively to engage students with the big questions of human reality that underpin deep learning, and so begin to understand the world and connections through thematic storytelling across disciplines. The author has found that song is a powerful medium for learning in this way. A discrete, ongoing program of study called "Learning to Learn" complements this work by linking theoretic thinking to the Connected Learning Experience.

Imagination Gone Wild: Online Social Networks Inspire Teaching And Learning In The First-Year University Subject 'Plants And Animals'

Katarina Mikac, Nancy Fitzsimmons

*University of Canberra, Australia*

Traditional teaching practises through oral lectures and discussion lead tutorials in Australian Universities is less favoured by the majority of current students who belong to Generations X and Y. These teaching practises are often in conflict with learning strategies adopted by generation X and Y students who learn through structured hands-on and experimental activities and through the use of technology involving e-learning strategies. This pedagogy has been used to redesign the way in which first year students from the School of Resource, Environmental and Heritage Sciences at the University of Canberra are taught core subjects. The core subject 'Plants and Animals' was redesigned to incorporate the use of an online e-community (social network) in which the learning of fundamental concepts of this subject was self- and peer motivated. This presentation provides an outline of the subject’s imaginative redesign process and the impact this has had on student learning experiences.
Creative Exploration: Doing science in a primary school context
Ian Milne

University of Auckland, New Zealand

This paper identifies the rationale for developing Creative Explorations, a co-constructivist teaching and learning approach for primary science that addresses issues associated with the decline in primary students’ attitudes towards science, and the need for all students to develop a level of scientific literacy. Theoretical positions associated with the interrelationships between aesthetic experiences, the exploration and the explanation of natural phenomena when developing and communicating science understanding, children's science and the nature of science are identified and discussed. Tentative connections between some aspects of the rationale and recent literature on the role of imagination in education have been identified. A narrative of a school based case study centred on the material world/ rates of change and the investigative aspect of the nature of science, identifying and testing variables is used to exemplify elements of Creative Exploration in action.

Student's Personality Traits And Imaginative Pedagogy
Abdullah Bin Mohd Noor

Universiti Brunei Darussalam, Brunei

The aim of the paper is to look at creative solving strategies in teaching. Upon entering university Brunei Darussalam a group of undergraduate students from various teacher education programs were tested on their personality. The group was in the 19-23 age-group. A total of 123 undergraduates (27 males & 96 females) responded to the NEO-PIR personality questionnaire. The responses were analyzed to identify: dominant teacher's personality traits, dominant facet/s in each trait and differences in personality traits between male and female students. The findings indicated that the dominant personality traits among the groups are neuroticism, extraversion, openness, agreeableness and conscientiousness. Dominant facets in the traits are in the domains of neuroticism and agreeableness. There are differences in personality traits among male and female groups of trainee teachers. Female scored higher than male group on neuroticism (females=mean 105.1 Std. Dev = 10.3 as compared to males with mean=103.9 Std. Dev.10.5). Males scored higher on facets in agreeableness (males=mean 112.5 & Std. Dev = 10.6 as compared to females with mean=110.8 Std. Dev.10.3). Implications to pedagogy are further highlighted. Finally the author touches on the theme "Imaginative practice, imaginative inquiry" and argues on the contributions that challenge the freedom of imagination from the boundaries of the normal teaching world.
Imaginative Inquiry About Cognitive Tools In Physics Teaching And Learning

Patricia Monzón, María Vinuela

*Universidad de Belgrano, Argentina*

In this work, we analyze a practical assignment about Physics in an Argentine high-school, considering a theoretical framework related to cognitive tools acquisition. In particular, we think that high school and university students should acquire the cognitive tools necessary for developing what Egan calls "philosophic understanding" (Egan, 1997) as they learn Science. In our inquiry, we considered the following cognitive tools: "the sense of abstract reality" and "the grasp of general ideas and their anomalies". We asked 16-year-old students to analyze a new system, a physical pendulum, after studying the theory about simple harmonic motion (SHM). The laboratory class was designed to promote the students' imaginative activities regarding the specific topic. Most students found it difficult to apply the concept of simple harmonic motion to a new system. Some students stated that the physical pendulum does not have simple harmonic motion because its mass is not punctual. Besides, some of them thought that the existence of non-conservative forces influenced whether the motion could be harmonic or not. They had problems identifying the hypothesis of SHM. They could not give sense to the relevant phenomena in terms of abstract ideas and so understand the limitations of the physical model. We believe that, in spite of the difficulties encountered in the acquisition of these cognitive tools, it was possible to start thinking about the importance of considering the differences in the formulated hypotheses when teaching these topics.

Educating Imaginative Teachers: Educating Teachers Imaginatively

Bernie Neville

*La Trobe University, Australia*

In 1977 I came to the conclusion that the way I was teaching in our pre-service teacher education program did not adequately match the vision of education that got me into teacher education in the first place. I had adopted the conventional notion of university teaching and had only gradually become aware of my discomfort with the way it applied to teacher education. The La Trobe Dip Ed program at the time was structured so that the students could choose from a number of different courses, each with a different emphasis – political, psychological, anthropological, philosophical – depending on the staff interests and obsessions. I was able to initiate a course with an emphasis on experiential learning and dramatic/ sociodramatic approaches to teaching about teaching. Play, both serious play and light-hearted play, was at the centre of our activities. I am no longer involved to the same extent in pre-service teacher education, but the very agreeable memory lingers on. This kind of diversity no longer seems to be valued. The industrial-era thinking which dominated educational decision-making during the Howard era seems to be replicated in the 'education revolution' promised by the incoming government. It seems likely that we can look forward to increasing standardisation of content and provision in teacher
education. In my own university we have suffered the rhetoric of efficiency, accountability, instrumentalism and the horrors of “over-servicing” for many years. We have simultaneously suffered the experience of diminished imagination, diminished resources and declining standards. I suggest that any real 'education revolution' will bring creativity, spontaneity, imagination and play to the University curriculum in the places where they have been lost or neglected. It is not generally regarded as problematic for teachers of little children to talk of the significance of play as a mode of learning. However, if teachers at the ‘serious’ end of high school talk that way they will be looked on with suspicion. University teachers who share the same conviction are inclined to be careful who they talk to. Nevertheless, many of us have imaginative and playful approaches to the content of teacher education. I wish to share some of mine. I trust that some of you, whether or not you are involved in teacher education, will have ideas and routines of your own to share with me.

**Multiple Intelligences In The Second Language Classroom**

Josiane Parrouy

*Capella University, USA*

MI theory is a definition and conceptualization of human intelligence. The suggestions of MI theory offer all educators a guide to enhance their teaching methods. In MI classrooms learners gain more confidence and take control over their own learning and teachers allow that to happen. Having a grasp of students' general metacognitive abilities and their understanding of learning-to-learn skills can help teachers design MI Reflections experiences that are appropriate for their students and avoid or overcome student resistance. Students' theories of what it means to be intelligent can affect their performance. Research shows that students who think that intelligence is a fixed entity are more likely to be performance-oriented than learning-oriented. Teachers need to understand that the MI theory is not a technique but a framework that validates and extends many good teaching practices. Planning a curriculum that offers students multiple pathways to learning a particular skill, concept, or subject is a skill in its own right. To implement such a curriculum may require risk-taking beyond a teacher's comfort zone. Both teachers and students need to understand how and why MI theory is relevant to their particular learning context.


Christopher Picone

*Australian College of Kuwait, Kuwait*

As educators, we help learners to find or create, expand, colour and shape the various dimensions or pieces of their lives that collectively become their identity. But is there the same number of pieces for each person and, if learners can continually alter the shape and size of their pieces, is there only one correct way to assemble the puzzle? To what extent can we or should we influence the number, size and shape of the pieces in someone else's puzzle? The challenge for
educators is to foster an engaging learning environment that stimulates and assists students to develop an emerging vision as to how they would like their puzzle to look in the future and then to adopt a proactive approach in the ongoing shaping and joining of the parts, as well as consider whether to add and/or replace pieces. The vision regarding the best assembled puzzle for each person remains dynamic and unfolds throughout their lifetime. It is continually influenced and/or altered not only by internal but also external factors. The puzzle pieces for each person are, in turn, part of a much larger picture within evolving community frameworks. Accordingly, should each person focus on building the biggest and brightest puzzle for themselves if that is at the expense of other puzzles in the same master frame remaining inferior or incomplete? My SCORE Our MATCH growth partnerships offer a simple but structured means for educators to help young learners consider and work towards the ongoing refinement of their vision for their own personal puzzle and how it can best take shape within their expanding local community frame, for shared enrichment.

Students As Practitioners-In-Training: Developing Student Awareness Of Self-In-Context
Andrea Quinn, Bob Dick, Gerry Tehan, Yong Wah Goh, Majella Albion, Natalie Doyle

University of Southern Queensland, Australia
Southern Cross University, Australia

Standard university teaching and assessment methods are criticised for failing to prepare students for the practice setting. Underpinning the problem are assumptions that standard approaches automatically support transfer of knowledge to skills implementation, a position for which the evidence is limited. However, alternative approaches can elicit students’ mental models, enabling self-directed developmental progression and have been described as ‘transformative and emancipatory’. The present study evaluates an alternative design approach. An experimental group completed assessment based on experiential learning and reflective practice, while a control group completed conventional assessment. Measures of reflective learning included mindfulness, emotional regulation/intelligence, judgement, locus of control and learning style. Significant group differences were found on measures of reflective learning, while analysis of assessment data is pending.

Tonal Textures Bordering Learning, Teaching And Researching: Approaching Imaginative Surrender And Exchange Of Embodied Voice
Lorna Ramsay

Simon Fraser University, Canada

My narrative inquiry is theory-in-action evoking challenging imaginative engagement in teaching, learning and researching, cyclical dialogue of surrender and exchange in performance and reflection of embodied voice always in flux. My surrender is performance vacillating around and through borders of tonal
textures of silence, music, photography, and poetic writing. I perform voicing of my identities that vacillates and transforms, descriptions of what I feel and corporeally live in arts-as-an-educator and in education-as-an artist. I surrender my emergent voice to collaborative, reflective exchange of pedagogical awareness in living arts as teaching. As an artist/educator, I recognize tonal tensions in 'vocal portals', modes of expression that elicit imaginative layers of collaborative discourse interweaving educator and learner. In seeking space and place of comfort, I provoke tensions of sensory and sentient expression. My narrative inquiry is autobiography/fictional biography of an educator/learner surrender and exchange. Through integrated arts experiences, a special needs student demonstrates imaginative expressions of embodied knowing, rhythmic pulse and cultural history of corporeal self-expression revealed through tonal layers of aesthetic voicing. As an arts-based researcher, my narrative inquiry is tuned to aesthetic syntax meant to "lift the veil of conventionality" in music education research. (Tom Barone, Professor, Educational Leadership & Policy Studies, Curriculum and Instruction, Arizona State University, is quoted from a Keynote address, Narratives in Music Education (NIME) Convention, Tempe, Arizona, April 5, 2006).

**Embodied Signatures To Literacy Of Self**

Kathryn Ricketts

*Simon Fraser University, Canada*

How does embodied storytelling approach literacy? If literacy is about 'reading the world', how can disenfranchised youth 'open the book'? Self agency as a foundation to inspired learning begins with telling the stories of our past. These stories live in our body and are nudge to the surface by an invigorating and 'user-friendly' process of movement exploration based on a personal unarguable emblem of self; our signature. From simple movement exploration based on our signatures interwoven with free writes and discussion, the participants of this workshop will engage in a process which explores personal agency within a sense of cultural displacement. Through this process we will investigate ethnographic embodied storytelling and its relationship to literacy. In a world where cultural diversity is both a gift and a thief, we cannot overlook the relationships of cultural identity with sense of self and how this challenges the learner. We will be addressing this relationship through imaginative play, creative reflection and provoking discussion. Identities are formed at the unstable point where the 'unspeakable' stories of subjectivity meet the narratives of a history, a culture. And since the colonized subject is positioned in relation to cultural narratives which have been profoundly expropriated, he/she is always 'somewhere else”; doubly marginalized, displaced, always other than where the subject is or is able to speak from. (Hall, 2001, p. 34) I am proposing that performance as research (verb) is a journey of "knowing, doing, being, creating" and that it is through performative inquiry that we may come to an "interstanding" of our journey/landscape that is imagining of our universe (Fels, p.28). Similar to what Pineau (2002) calls the 'ideological body', in using drama to engage in literary interpretation, the participants bring the whole person-language, mind, body and culture-to the creation of the drama world (Carmen Medina, 2004, p. 146).
Creating And Imagining In The Learning And Teaching Of Tertiary Science

Pauline Ross

University of Western Sydney, Australia

Imagine that socks are chromosomes, jelly and play dough are three dimensional cells, balloons inside balloons re-create the first life on earth, car sponges are flexible floppy 3 dimensional proteins, electrons can sit in the palm of your hand, movement is used to role play complicated biological cycles such as cellular metabolism, osmosis and photosynthesis, plant life-cycles, growth and division of cells and animation is used to learn linguistically difficult terminology. This is my tertiary Biology learning and teaching space, where students are engaged in a way which facilitates cognition. This has been done to shift away from a “boring, didactic approach” (Tobias 2005) to a place where imagination is used to increase cognition and develop critical thinking skills (Sternberg and Williams 1996). This presentation will outline a case study at the University of Western Sydney in the teaching of Biology in which imagination and creativity have been used in conjunction with more traditional teaching strategies to create a dynamic learning environment. Assessment has been aligned with these activities to ensure creativity and imagination is valued. Feedback from students’ evaluations has shown that the students realise that their affective responses have increased their motivation and improved their cognitive performance. Modelling the creative process has been a powerful tool to help re-define the way in which we teach tertiary Science and engage the students’ emotions in a way that facilitates learning.

Hephaestus’ Gift: Weaving A Story Of Technology Through The Thinking Of John Dewey, Martin Heidegger And Marshal McLuhan

Stuart Rushton

Macquarie University, Australia

Hephaestus, the lame son of Hera, was the first craftsman. He was the master of techn’e, from which our word technology is derived. His gifts could be beneficial or malevolent - as expressed in the intention behind a surgeon’s scalpel or a dagger. This amoral dimension to technology is no more apparent than in its twenty-first Century incarnation - Information and Communications Technology (ICT). Through the wonders of the new technologies, educators are presented with a vast array of possible futures. This is even more the case as computer technology converges with media technologies such as television and where every person with a computer and something to say can become a media content provider. This paper reflects on the writings of John Dewey, Martin Heidegger and Marshall McLuhan in relationship to questions about technology and imagination in school education and enquires to the health of the critique of technology in education generally. In particular it looks at the often quoted definition of a computer as just a tool and posits a contrary view, that all technology can be seen as an ontological-epistemological engine of change.
Letter-Writing As A Mode Of Creative Communication And Thought Development In 5th Graders
Ashley Rybowiak
Bernard Zell Anshe Emet Day School, USA

In my 5th grade curriculum, letter-writing fosters a tight communication bond between teacher/student and student/student that verbal communication cannot simulate. They have been able to interact both verbally and non-verbally in more in-depth ways. My presentation discusses the integration of this addition to the curriculum; letter-writing has been implemented in both literature and social studies. Inquiry and discussion through pen and paper has become not only a skill applied during writer's workshop but as a way to further dialogue in a tactile manner during other times. Students write weekly literature letters to other students and the teacher. They also engage in inquisitive writing to an archaeologist in Greece, students developed stronger non-verbal communication skills and were able to follow a train of thought to a logical conclusion. Students are able to be question not only their learning processes but those of their teacher, other students and field experts as well. Letter-writing has created an ingenious way for students to keep track of their thoughts, while interacting and stimulating new processes. It has also allowed them to carefully craft their questions, to arrive at more far-reaching answers. Most importantly, letter-writing has allowed students an extra outlet and a way to think without searching for one correct answer. Students can find their individual voice, passions and mysteries. At the beginning of their adult development, they found a way to discover parts of who they are in a non-traditional way.

Patchwork Quilts And Speed Cars - Metaphors For Teaching And Learning
Reesa Sorin
James Cook University, Australia

Metaphor is a common, everyday technique for talking about objects or events in terms appropriate to other objects or events. Rather than confusing the issue, presenting facts of one sort as if they belong to another group can develop richer and deeper understandings of the world and our place in it. Metaphors of teaching have been used for many years as a route for teachers and preservice teachers to explore their philosophies and approaches to pedagogy, where the impersonal becomes personal through image and rich description. But while it is used extensively to develop images of teaching, it has not been used as much to explore images of learning. This research examined preservice teachers metaphors of teaching and Year 1 children's metaphors of learning for matches and mismatches. This presentation explores educators' metaphors of teaching through the visual arts.
Negotiating Pedagogical Strategies For Taking Cultural Diversity To The Classroom: An Indian Perspective

Prem Srivastava

University of Delhi, India

The notion of Cultural Diversity is up for scrutiny again, precisely because of a lack of scrutiny at the relevant moment of time in the historical consciousness of India. It also arises out of a post colonial confidence at the helm of a resurgent India of today. Subversion and the attempt at homogenization subsuming the pluralistic discourse of the Indian subcontinent, legitimizes it further. The realization that the cultural diversity and linguistic plurality of the Indian subcontinent should have been a significant presence in our literary consciousness, academic curriculum and the classroom, is vital enough to engage with its dynamics. In this paper, I investigate the strategies for taking Cultural Diversity to the University Classroom. It permeates every class at three levels: Primary, secondary and tertiary. These three levels may not be construed as primary with school and tertiary with college levels, but understood in terms of hierarchical significance.

Creating Culturally Relevant Media Education Programming: Research From A Pilot Project In A Canadian First Nations Community

Kym Stewart

Simon Fraser University, Canada

A number of researchers have found that heavy media consumption correlates with risks of bullying and anti-social behaviours, decreased school achievement, and increased rates of obesity. Little research, however, has been conducted on the impact that media use has on First Nations (Aboriginal) children. A 2002 cross-Canada survey on youth health indicates that schools can be crucial instruments in contributing to good health and wellbeing, particularly for First Nations students. Media education, therefore, offers a promising approach to youth health; yet current media-education programs typically lack extensive teacher training or administrative support and are often loosely defined and under resourced. Unless media education is posited differently, in a format which supports teachers in their endeavors and creates a connection with the children, its potential benefits to youth health is quite limited. This paper outlines a pilot project in a public elementary school in a primarily First Nations community in British Columbia, Canada. The central question addressed the efficacy of media education which incorporates First Nations' content to examine teachers' and students' patterns of media use, their cultural identity, and their social and emotional wellbeing within their community. The research entailed creating and implementing lessons using Imaginative Education (Egan, 1997) and culturally relevant materials. This project thus contributed to research on: the role of imagination in teaching and learning in different cultural contexts; media education and engagement; media education in First Nations communities; and non-First-Nations teachers' abilities to incorporate local culturally relevant material into their classroom practice.
Images As A Fertile Ground For Evolution Or Involution: The Role Of Mass Media Images On The Damaging And Nourishing Of The Imagination

Kym Stewart

Simon Fraser University, Canada

Thomas W. Nielsen

University of Canberra, Australia

The power of narrative has long been a strategy to invoke imagery in the minds of an audience. This strategy, however, seems often more successfully employed by the mass media industry than by the education system. As Egan (1997, p.85) claims, "It is a little odd that the eight- to fifteen-year-old’s enjoyment of books, TV shows, and films that deal with the exotic and the extreme has had so little impact on learning theories and curriculum planning". Educators began to notice a shift in the way children played, dialogued with peers and interacted with adults as soon as television became an integral part of family life (Himmelweit, Oppenheim, & Vince1958; Winn, 1977). With the influx of new media technologies within homes and children's bedrooms, educators and parents continue to worry about the impact these images are having on children's imaginative play and adoption of heroes (Singer & Singer, 1985, 2005; Valkenburg & van Der Voort, 1994) and on their level of fear (Cantor, 1996). Educational philosopher Rudolf Steiner, long before the pervasive presence of mass media, suggested that images created by a child will never exceed his or her emotional faculties, whereas ready-made images may exceed and even create a negative impact on the child’s emotional status. The paper will not only discuss these theories of children’s imagery and the new media environment, but will discuss ways in which teachers can facilitate a holistic nurturing of the imagination in their classrooms.

Toy Design - Engaging The High Ability Learner Holistically

Hui Leng Tan

Raffles Girls School, Singapore

The Design and Technology (D&T) curriculum in Raffles Girls' School had to be tailored to a student population that consists of high ability adolescent girls. Hence, the creation of an integrated module for secondary one students that makes use of an authentic Design Situation, which provides a trigger for meaningful learning and application of knowledge in Art, Science and D&T. Each student designs and makes a toy that is driven by an electric motor, which is in turn activated by an electronic sensor. The process of designing and making the toy requires the student to actively manipulate the material world, while engaging her intellect, affect and sense of aesthetics. A website about Automata (www.automata.co.uk) - mechanical toys that are operated manually with a crank - gave rise to the idea for the integrated module. The D&T curriculum required the incorporation electronics and this was achieved by attaching an electric motor to drive the mechanical toy, which was controlled by an electronic sensor (the sound sensor, the photosensor and the ultrasonic sensor). Scientific concepts
such as the electric circuit and friction were reinforced and above level concepts such as the electromagnetic effect were introduced to help students understand how their toy works. Knowledge from the Art syllabus -Colour theory and 3D sculpture using clay and papier-mache - were utilized to design and make the aesthetic form of the toy. Students were also lead to consider the needs and desires of the early teens that they were designing the toys for.

**America's Ubiquitous Problem Child: The Divergent Learner - An Artifact Of U.S. Culture Or Is This Challenging Student Surfacing In Other Societies?**

Stephen Taylor  
*Francis Marion University South Carolina, USA*

Since the 1950's, a learner type has progressively altered the American educational landscape and now comprises a critical mass of difficult students. Although not disabled, these learners display strong preferences that thwart academic success in traditional schools. Though intelligent, they encounter significant problems with school and home life, bewildering parents and teachers with disorganization and clutter, forgetfulness, failure at task completion, emotional sensitivity towards criticism or even suggestions for improvement, and focusing only upon the current moment. They are non-sequential, holistic learners who seek supportive relationships rather than information, and can only learn through the conduit of a relationship. Elemental changes in American values and families over the period resulted in unhealthy proportions of unsupervised time during development, over-indulgence in electronic media, and dependence on intense, rapidly changing stimuli. Once parents and teachers understand the concept, they regard half or more of the children of today as divergent. These capable learners are in danger of being lost to the nation because, despite their presence in increasing numbers, our schools are operating as if American students were all traditional-sequential learners with minds neatly formatted for unhindered academic achievement. Two elements have been found to transform these students into some of the most creative and effective citizens - a genuine relationship with a teacher or other mentor, and highly imaginative approaches with features salient to the divergent learner. With such supports in place, these students can match or exceed their traditional peers and can attain distinction as the imaginative problem-solvers of the future.

**Storythread - Attentiveness And Sustainable Connections To Self, Others And Place**

Ron Tooth  
*Pullenvale Environmental Education Centre, Australia*

This paper describes Storythread as a powerful pedagogical form of the 'environmental narrative' genre that emerged in the early 1980s at Pullenvale Environmental Education Centre and within a few years generated interest nationally and internationally. It presents Storythread as a transformative approach to teaching and learning that uses the vehicle of the 'story journey' as a
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way of exploring complex social and ecological content, ideas and values in real settings and places. The paper also highlights how Storythread has been used most recently to support pedagogical innovation across a cluster of eight schools. Storythread allows students and teachers to focus on the personal stories of people, fictional and real, who because of the deep impact of the world on their lives, have been persuaded that nature must be respected and protected at all costs. Storythread programs are, quite simply, stories about people and place and how each has shaped the other. They are about our individual and joint responsibility to the land, and the ethic of care that underpins and shapes our obligations to the world and to each other. There is growing evidence that a Storythread experience, when it works well, allows students and teachers to experiment with a kind of 'embodied knowing' that enables them to reflect deeply the notions of 'sustainability' and 'sustainable living' in their own lives. Storythread does this by inviting students and teachers to step into a transitional space between imagination and reality where they use insights gained from the narrative, and from exploring 'deep listening' in real contexts and places, to inform and shape personal meaning and action in the world.

Talking The Talk By Dancing The Dance In Preservice Teacher Arts Education

Miriam Torzillo

*James Cook University, Australia*

Preservice teachers at James Cook University currently participate in one Arts Education subject, which includes dance, visual arts, drama, media and music, as part of their generalist teacher education. This comprises one hour of lecture and three hours of workshops per week for one semester; making dance education a two-week block over four years. Preservice teachers come into the subject with a range of experiences, both positive and negative, in the Arts. While they may enjoy dancing socially and or watching dance events on the small screen, they generally don't see themselves as competent to teach dance in schools. This means that in the short period of time when their studies focus on dance education, we must equip them not only with theory of dance and dance education, syllabus requirements for planning, delivering and assessing dance, and tried and trusted strategies for engaging their learners, but we must also guide them to discover their "dancer within"; the free-spirited, joyful and imaginative being who can confidently dance and teach dance in ways that engage their students. This presentation follows the previous workshop on metaphor, and will explore making metaphors through dance and movement.

Is Imaginative Teacher Education Viable In The Face Of Reform In North America? Views From The United States And Canada

Walter Ullrich

*CalStateTEACH, CSU Fresno, USA*

Consistent with the developmentalist tradition in teacher education (Zeichner & Liston, 1991), the most distinguishing characteristic of imaginative teacher
Imaginative practice, Imaginative inquiry

education (Egan, 1997, 2005) is the assumption that the natural order of the development of the learner provides the basis for determining what should be taught, both to students in the public schools and to their teachers. More specifically, imaginative education's central constructs, recognition of the whole child, creativity in curriculum design that uses Vygotskian "tools," evaluation methods that go beyond standardized tests, freedom of autonomous teachers to adapt their curriculum and pedagogy to their students, the community context, and the events of the day resonate deeply the three central metaphors in this progressive tradition: teacher-as-naturalist; teacher-as-artist; and teacher-as-researcher (Perrone, 1989). In this session, we will maintain that recent trends in teacher education reform in the may make progressive, developmentalist traditions like imaginative education less viable for its public school students and their teachers in North America. Building on the work of Ken Zeichner (2003) and Marilyn Cochran-Smith (2001), we will first outline the research base on recruiting, preparing and retaining exemplary teachers for all children in terms of four reform agendas currently being implemented in the US: the professionalization agenda; the deregulation agenda; the strongly-regulated agenda; and the less visible but widespread social justice agenda being implemented by individual teacher education practitioners. All four of these approaches to teacher education reform acknowledge the gap between the rhetoric about providing all children with fully qualified teachers and the reality of too few students actually having access to them. Advocates of these four reform agendas agree that certain things such as the critical importance of teachers' subject matter knowledge and about the importance of providing a high quality education to all students in societies that profess to be democratic. However, they propose very different solutions for narrowing the educational quality and achievement gaps in US and Canadian schools. Like other teacher educators, we will argue that none of the reform agendas is adequate by itself for achieving the goal of providing every child with a high quality education (Cochran-Smith & Zeichner, 2005; Darling-Hammond, 2007), particularly one consistent with progressive approaches like imaginative education. Finally, after discussing each of these reform agendas, we will point to the need to find some common ground across these often warring camps to more effectively educate teachers to provide a high quality for everyone's children in public schools and to establish the social preconditions needed for this quality of education to be realized in North America (Cochran-Smith & Zeichner, 2005; Darling-Hammond, 2006). For us, this common ground lies in the developmental tradition, elements of the professionalization and social justice reform agenda, and imaginative teacher education principles.

Capture Imagination In Learning And Teaching In A Technological Environment

Anna van der Linde

Central University of Technology, South Africa

What is technological learning and teaching? Since ancient times, human beings wanted to learn, this resulted in the development of a variety of learning theories. Therefore as a lecturer in a technological classroom environment, one has to look
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at the different learning theories available. Important to remember with the learning theories, is the characteristics of learning, that learners learning will take place through an experience, either good or bad and another important fact for the lecturer is that learning and teaching must take place in a structural environment in the classroom. Technological education in South Africa is still in their early stages in the classroom environment, because many learners will learn the technological environment for the first time when they enter a higher education institution, and therefore is the behaviorism learning theory a good starting option. Because behaviorism focuses on a new behavioral pattern that is being repeated until it becomes automatic for the learner. Another good learning theory to use in the classroom is the trial and error learning process. The main reason for the use of this learning theory is that learners will learn through discovering different tasks in the classroom and with the discovering process will it lead to the option of finding solutions for problems that might occur which helps again to develop their reasoning skills. The above-mentioned stressed the complexity and difficulty for a lecturer to teach different learners in a changing technological classroom. Therefore this paper reports on a learning process into the current learning and teaching in the technological classroom environment.

School Based Reading Programme Evaluation: A Case Study Of A Hong Kong Primary School

Sally Wan

Shatin Tsung Tsin School, Hong Kong

The purpose of this study was to evaluate the effectiveness of a school based reading programme on the development of reading skills of primary 1 to 4 students at a local primary school. All primary 1 to 4 students received instruction from a government sponsored reading programme, Primary Literacy Programme - Reading. The study is based on a longitudinal design to primary 1 to 4 students. The results indicated general improvement in word recognition and oral reading fluency performance across participating students. It was also showed that student had great enjoyment in the programme. A discussion investigating case study data demonstrates the significance of the use of diversified teaching strategies in the classroom teaching.

Invitations to Literacy: Author-Mentorship

David Ward

University of British Columbia, Canada

Dear Author: I have read your story and liked it very much. Now, would you read mine? As a children's author I receive many letters and emails from children. In fact, every year millions of electronic and regular mail exchanges take place between students and authors. While researchers have brought considerable attention to young readers and texts (Corden, 2007; Galda, Ash & Cullinan, 2000) little academic research has been conducted on the interactions between living authors and children. Shifting into unexplored territory this qualitative study describes the findings of a survey given to Canadian children's authors in
2007. With over seventy authors participating, this research reveals the profound, hidden dialogue between writers and readers, an exchange that finds authors infusing imagination into Language Arts programs across the country. The research questions were designed to explore authors' interactions with children at a time when discussions surrounding children's literacy, literature-based classrooms and the arts in education are leading areas of interest in schools, governments and academia. Mentorship by an expert (Vygotsky, 1978; Rogoff, 1990) is a central component of research that explores the relationship between writers and readers. This research builds on the work of Australian children's author, Margaret Clark (2003), researchers Jefferey Wilhelm (2004), Kuhlman & Moutray (2002), as well as theories of reading developed by literary critic Margaret Meek Spencer and author Aidan Chambers (Meek, 2005; Chambers 2001).

**Imagining Professional Community: Identity And Pedagogy Informed By A Holistic Educational Approach**

Julie White, Patricia McCann, Peta Heywood

*LaTrobe University, Australia*

In this paper the potential of collaborative learning for pre-service teachers is explored through narrative and performance. Drawing on theoretical perspectives from pedagogy, creativity, consciousness and holistic education, the authors illustrate the development of professional identity within a university pre-service education program. In order to create an environment, or community of practice, in which those 'becoming' teachers are supported to learn from and with each other, we suggest that an essential element in this process is relationship. Further, that nourishment of relationship with others affords a powerful way of articulating pedagogy. We present vignettes of student narratives that arose from our invitation to reveal identity, involve creativity and narrate personal biography. The resulting development of community is described and theorised in terms of 'engagement,' 'professionalism' and 'consciousness.'

**Imagination, Risk-Taking And Daring: Teacher, Artist And Researcher Narratives Of Pedagogy And Practice**

Julie White, Christine Sinclair, Lynda Smerdon, Mary Burston

*La Trobe University, Australia*

*Swinburne University, Australia*

This paper explores four disparate approaches to the development of imaginative pedagogies with the arts at their core. Four different narratives are told of practice in a diverse range of learning contexts including the teaching artists who work in schools for young people with challenging behaviours; teacher professional learning programs focused on enhancing creativity and the artist working in community.
Imagination Through African Children's Literature
Kenyetta Williams
Capella University, USA

This presentation will demonstrate how imagination can be used to foster tolerance of other cultures. A lesson will be demonstrated using various African Children's Literature works. The objective is to allow students to become a part of a culture other than their own through learning activities, therefore creating understanding and tolerance. The presentation will demonstrate how African Children's literature chosen will allow students to be emotionally engaged in the literature by focusing on images and metaphors that are meaningful. Various stages of the presentation will show how the Mythic, Romantic, and Philosophical Frameworks are evident.

If Imagination Is The Answer, Then What Is The Question?
Peter Wright, Robyn Pascoe
Murdoch University, Australia

Students entering Teacher Education, in the main have under-developed or disconnected knowledge, understandings, values and skills in the Arts. However, they are required through contemporary curriculum expectations to teach the Arts to their own students. This challenge is exacerbated on two counts. First, pre-service Teacher Education programs broadly speaking do not articulate purpose, positioning, and the pedagogy of aesthetic curriculum. Second, the potential of the imagination to make art as experience possible, and contribute to an everyday poetics of living, remains dimly lit. This paper reports on a contemporary approach in Teacher Education where a model is developed that uses theory to elaborate practice, is coherent, and links processual arts practice through imagination to aesthetic understanding. It is this approach that animates learning environments to make art as experience possible, through both knowing and not-knowing, inquiry and applied aesthetic understanding.

Putting The Body Back Into Foreign Language Learning Through A Somatically-Enhanced Approach
Felicia Zhang
University of Canberra, Australia
Maliwan Buranapatana
Khon Kaen University

This paper reports on the effectiveness of a language teaching approach called the Somatically-Enhanced Approach (Zhang, 2006) in the teaching pronunciation of Thai language for a group of Vietnamese learners in Vietnam. The teaching methodology deals with training students' perceptual mechanisms through extensive use their body to learn Thai. Teaching innovations include: the use of relaxation techniques to relax students; the use of humming, clapping and physical gestures to emphasize the rhythm of the Thai language; the use of a
Speech comparison tool (Sptool) for self-study; and the provision of learning materials on CDs. An experimental study involving these learners was carried out using SEA. The both quantitative and qualitative results of this study will be reported.
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