

## Signs, symbols and metaphor: linking self with text in inquiry-based learning

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The focus in this article is on the role of symbol and metaphor in the development of student self-awareness and engagement in the process of learning. It draws on a case-study which explored the process of an inquiry-based learning project in an Indigenous learning centre in a school in New South Wales, Australia. The data used for this article were taken from the first stage of the inquiry project – the construction of a shared language for learning. The article argues that developing a rich and local language for learning, that links to the collective consciousness of a community through metaphors and symbols, is a crucial prerequisite for inquiry-based learning. It reveals how the naming of native Australian animals as icons for learning power, the co-construction of a learning story and the creation of a self-portrait as a learner collage provide mechanisms through which the students can performatively re-represent and recall their identities as learners. The processes enable the students to make connections between self and the meanings carried in the pictorial texts to develop self-awareness and responsibility for their own learning. It also provides the learners and their mentors with the necessary symbols and metaphors to scaffold the process of the inquiry in ways that allowed them to use the metaphors associated with the symbols to talk about change and to begin to engage with the formal requirements of the curriculum.

**Keywords:** imaging; inquiry-based learning; learning power; metaphor; symbol

### Introduction

The image-based networked information culture in which young people learn has led to a renewed focus on the role of imaging in communication. Communication in this context is extra-linguistic – drawn from the field of semiotics, the study of signs and their signification, which recognises the interconnectedness of images, imaging acts, metaphors and meaning. Visuality, the skill to use images to communicate in learning, emerges from arts-based ways of knowing in educational research (Emme 2001; Rose 2007) that acknowledge the centrality of image in sociocultural meaning making, and thus in learning. Understanding image and symbols is a part of communicative competence in the twenty-first century (Stafford 1996; Grushka 2007), partly because of how technology has changed the ways in which humans relate to the material world and the increasing work images are doing in triggering

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more complex understandings. 'Seeing comes before words' (Rose 2007, 2) and humans have evolved a complex world of representational forms, a world where words and images work to enhance the meanings of one another. In Indigenous cultures images carry symbolic meanings that are unpacked traditionally through storytelling. Metaphor is a significant tool in this process and is used both as an analytical tool, to deconstruct meanings, and as a medium for encoding or conveying meaning (Power et al. 2007). Metaphors allow more abstract concepts to be communicated in terms of a more concrete or physical concept. Metaphors refer to thought and meaning making, not simply words, and work through connecting with pre-linguistic 'image schemas' which arise from core elements of embodied human experience and perceptions, such as space, time and movement (Lakoff and Johnson 1980).

To elaborate the significance of symbols in personalised learning we draw on a project with Indigenous students in a school in New South Wales, Australia. In this article we set out to explore the role of metaphor and image in the process of learning. The project developed new symbolically encoded animals, representing the learning power dimensions, and engaged Indigenous students in making the crucial connections between their personal life stories, their identities as learners and the curriculum. Symbols were used to link culture and tradition, and the construction of knowledge, which is the purpose of an inquiry-based curriculum. The case-study provides rich data for several reasons. First, because Indigenous culture is rich with image, symbol, narrative and metaphor as core means of communication; second, because the students with whom we worked were generally disengaged from western forms of schooling, with its typical focus on the 'top down' acquisition of knowledge; and third, because part of the focus of the project was how the use of the language, metaphor and imagery of learning power could be a vehicle for supporting a personalised inquiry project. We understand engagement in this study as a multi-dimensional construct (Fredricks et al. 2004) which includes an emphasis on place and identity in learning that aims to accommodate particular, local, learner needs and a sense of belonging.

### **Symbols and metaphors in knowledge creation**

The history of knowledge is shaped by the production and negotiation of new representational forms. Symbolic knowledge carries strong purchase in life and learning. Symbols are powerful, in that they are connected implicitly to culture and cultural practices such as art, myths, stories and rituals. Symbols, as metaphor, stand for something other than their literal form and can express abstract qualities such as truth, strength, wisdom and courage. How we come to understand symbols is inter-subjectively negotiated between the self and the collective past and present experiences of others (Habermas 1976). Throughout history and across cultures significant everyday objects carry symbolic messages. Birds or outstretched arms are metaphors of flight and freedom and were a means of ascension to the gods, while fish are universally seen as positive metaphors as they are associated with life-giving water.

Within the curriculum, information is mediated through signs and their more culturally encoded form, symbols. Symbolic meaning is learned, negotiated and passed on to the next generation as discrete knowledge domains such as numerical systems, geometry, music or images. When meanings are inscribed within these

symbolic systems they give ‘seeing’ a primary sensory role in how we both experience the world and communicate understandings (Stafford 1996; Haraway 1998; Eisner 2001). These symbol systems with their codes of meaning are vehicles for communication and form powerful learning tools, with image and text increasingly recognised as essential learning technologies (Anstey and Bull 2006).

As arts-oriented encoded symbols are open to interpretation, they present educators with a different understanding from the dominant logical role of symbolic representation. The more traditional understanding has established conventions that are unambiguous, such as numerical or scientific symbols that are manipulated through specific rules. Other symbolic competencies, called presentational symbols (Gardner 1990), have identifiable parts but meaning attributed to them is constituted through the ‘whole’ or sum of the representational forms, such as in literature or fine art. The key characteristic of these symbol systems is that they are creative and open. Each symbol can be deconstructed on the basis of personal sociocultural connection through interpretation. Such systems may carry signifiers that connect directly to the real life experiences of an individual, or to the culturally shared meanings of a community. These symbols may unlock myths and rituals that carry deeply felt resonances such as love, fear or cultural identity.

Like symbols, metaphor is integral to our communication systems and is equally shaped by its context. Metaphor carries concepts and is essential to language and the communication of abstract thoughts. It has generally been used in teaching to move the student from the known to the unknown, or as a means of moving from the concrete, such as the work done by analogies, to the abstract. Power et al. (2007) argue that, given the focus on conceptual development in education, metaphor should be an integral part of educational discourse, but in the past it has carried little cognitive significance and therefore little weight, compared to clear, explicit communication. However, the role of metaphor in supporting the acquisition of knowledge is gaining increased acceptance and is presented here as developing a framework for awareness, critique and scaffolding in the processes of learning.

In this study, as in other personalised learning projects that utilise the praxis of learning power, the ubiquitous use of metaphor suggests that it forms a core element of scaffolding in an embodied way. Embodied, in this context, means that the learner has encoded the learning symbols in ways that connect directly to their unique learning power qualities (Deakin Crick 2007, 2009b; Goodson and Deakin Crick 2009), their individual experiences, memories and feelings. The metaphor thus connects to the person’s ‘lifeworld’, embodied through the collective experiences of particular places and times to form a ‘bridge’ between the learning identity of the person and the knowledge tasks (texts) of the formal curriculum. The form and abstract relationships of the formal curriculum must then be interpreted and negotiated through the resources embodied in the learners’ lifeworld, which itself is embedded in a particular community.

The seven dimensions of learning power (Deakin Crick 2006) have evolved into a rich metaphoric world. These metaphors are flexible enough for each learner to identify and connect to shared meanings; they have attributes in common sufficient to carry key concepts about the process of learning, yet they are flexible enough to accommodate individual affective responses that can generate personal stories which are revealed, experienced and elaborated through embodied learning acts attributed to the words ‘Changing and Learning’, ‘Critical Curiosity’, ‘Meaning Making’, ‘Creativity’, ‘Learning Relationships’, ‘Strategic Awareness’ and ‘Resilience’. For

example, in some English schools the ‘tortoise is resilient because although he is slow, he gets there in the end’. This metaphor is used to convey the idea of ‘resilience’ and I know what it feels like to go slowly and steadily. However, what is equally significant is that these metaphors are connected directly to another powerful semiotic system, symbolic images (Deakin Crick 2006). The tortoise has an image, and he appears in the classroom. Together metaphor and symbol are both the sign and the signified. The sign of the tortoise now has negotiated cultural meanings in the classroom and is also the symbol of resilience in learning power. More importantly, the combining of these two systems suggests that students will connect to their learning identities better (‘I am both a tortoise and a ?’), and thus make richer connections between self and text, when they work with multiple cognitive processes.



### **Sign, signifier and signified: linking self with text**

The legacy of Saussure and semiology is that meanings attributed to signs are problematic, relational, culturally contextual, and also that meanings are produced through ‘language systems based on a notion of difference, rather than identity’ (Schirato and Yell 2000, 19). While Saussure was primarily interested in linguistic signs, which he defined as signifier, signified and sign, this provides us with theoretical resources for understanding how meanings are communicated in contemporary society. With Saussure (1974), in the example of the chair, the signifier is the written or spoken word, ‘chair’. The signified is the concept of a chair evoked by the word ‘chair’ and it is an object that people use to sit on. The ‘sign’ evokes both the word and the concept, and may in the case of the chair be a very recognisable iconic symbol (see below).



It is the association between the spoken or written word, the observed physical thing or a representation of the observed (sign) and its associated concept that inscribes meaning. Both the signified and the signifier are carried within the symbol or representation of the chair. This inscription also means that a sign or symbol can evoke complex and often culturally mediated understandings which can be both presentational and discursive. In the case of the chair (above), while it satisfies all the attributes of a chair – four legs, a seat and back, and can be sat on – because of its unique shape, form, function and context it may also evoke other understandings, such as its association with age, a rocking chair used by older people, it comes from the past. Or it may evoke feelings or subjective and reflective responses, like the chair I

sat on with my grandmother and how I felt safe, then. It may also be seen as carrying particular aesthetic and design qualities that may be linked to a stylistic movement or culture. In a non-western culture, it may carry no recognisable attributes that constitute the object upon which one sits each day. The act of sitting, or being sat upon, also carries lifeworld associations beyond the simple example given above. Thus the association between the sign, the signified and the signifier generates endless ways of representing events, objects or concepts, or ways of creating meaning potential. Meaning potential as defined by Schirato and Yell (2000) is the possibility of meanings provided by a sign system such as language or images. In the case of the tortoise, for the Australian context, the associations may shift more to the turtle, which carries greater currency because of its size and links to the beach, Australian beach culture and the challenges of a life journeying from the sand to the sea and back.

It is therefore important that the signified, sign and signifiers for the concepts used to strengthen students' ability to understand learning power have significance to the learners and are negotiated locally. This must occur within the practices and discourses of particular learning communities and their unique location. This is because sign systems, such as language and image, are socially and culturally mediated, particularly in contexts of cultural deprivation or dissonance, such as in the case-study focus of this article, where much of the learning has been a product of colonisation and thus in some way 'split off' from the dominant culture. The selection and use of metaphor and image produced within a specific cultural context and with associated personal and social meanings may therefore be a way to inscribe meaning about learning how to learn, as an appropriate trigger for engagement. This practice gives weight to the idea that communication requires negotiation of shared understandings about cultural literacies as essential for cultural alignment, that is, a way of aligning the opportunities and challenges of knowledge acquisition in the formal curriculum with the 'lifeworlds' of particular, local communities.

It is a process which is intrinsically consensual and synergistic, because interpretation and the inscription of meaning move in both directions, i.e. towards the particular community and towards the 'purveyors' of the formal curriculum. Equally, if the sign systems of traditional curricula are increasingly out of alignment with the sign systems which students experience in their material, networked and traditional worlds, then the co-construction of a shared language for learning is essential as a foundation for engagement with formal learning opportunities. Metaphor, in the case of abstract concepts such as the dimensions of learning power, which signify personal qualities, may be the best way to inscribe meaning to symbolic images to be used as triggers in learning. Clark argues that:

... intelligence/thinking/learning is a single, dynamic, multi-faceted, functional capacity that is inherent in human consciousness. This capacity may be expressed in a variety of modes. (Clark 1997, 29)

If learning is such an embodied, holistic and integral part of human life, then understanding how metaphor and imagery operate within particular learning communities is part of the crucial pedagogical task of bringing the curriculum closer to the 'lifeworlds' of the learners and to the changed relationships between 'humans and things' which is a feature of the information age (Jaros 2009).

Learners connect knowledge representations through web-like structures to history, culture, beliefs and interpretations of all symbolic systems, as they have

informed their own life narratives and those around them (Deleuze and Guattari 1987). Each student will make their own links to the meaning of the tortoise or turtle, and they will draw on the curriculum and the cultural meanings carried by the images or symbols to which they have been exposed, and the personal events and beliefs they have about the significance (or not) to them of the turtle. These relationships will determine whether the learning symbols have any personal resonance to the student and will directly impact on how they come to understand learning power and its links to curriculum and to themselves as learners.

### **Project methodology**

The project was a case-study undertaken in 2008 in an Indigenous learning centre (Ka-Wul) in a high school in the Hunter Valley in New South Wales, Australia. The purpose of the research was, first, to explore the ways in which individual learning power could be culturally personalised for inquiry-based learning through the involvement of the Indigenous community in the design and implementation of an intervention (i.e. the personalised inquiry-based learning project) in the school. Second, the salient aspects of personal and social learning were assessed, with particular reference to the relationship between identity and place, and intentional learning, in this particular cohort of students. The research had a case-study design with an intervention. Structured qualitative data were collected to evaluate and explore the impact of the interventions on students' sense of identity and orientation to learning. The sample included 34 Indigenous students, of mixed gender, aged between 11 and 16, selected as a convenience sample because they chose to spend time in the Ka-Wul centre and to participate in the project. This article reports on data from the first phase of the project, which was the co-construction of a language for learning with this community, using the praxis of learning power to scaffold personalised inquiry-based learning developed in the UK (Deakin Crick 2009a).

Data were drawn from over six hours of video footage of teachers, students and cultural workers, 22 semi-structured interviews that support the video data, and the analysis of documents and other learning artefacts produced by the students. At least 75 per cent of the above data involved the use of metaphor and image as it pertained to the generation of culturally shared meanings about the learning power animals in this Australian context, and their subsequent use to facilitate engagement in a personalised learning project. We have selected data from this data-pool which best explains our developing theory, a theory that partially pre-existed the project but which has been extended significantly through our participation as researchers.

### **The interventions**

Students were invited to embark on a 'Learning Journey' through encountering the seven dimensions of learning power and the animal metaphors and stories used in UK schools (Tew et al. 2004). The processes reported in this article deal with how they reconstructed the symbols and metaphors of learning power into their own cultural context. From this foundation they engaged in mentored conversations with their teachers about their own orientation to learning, and used the diagnostic data which resulted from the ELLI profiles as a basis for the first challenging step – choosing a personally meaningful starting point for their inquiry that was grounded in their own Indigenous context of New South Wales and the Wonnarua community.

The students quickly grasped the nature of the task – to change the UK learning power animals into an Indigenous context for their community – after hearing the learning stories developed in UK schools and noticing their immediate sense of dissonance. They embarked voluntarily on their own consensual process of the cultural alignment of the seven dimensions of learning power and the co-construction of their own learning story. In this Indigenous context the students worked as a group with a Ka-Wul teacher facilitator and cultural worker to identify possible animals, study their behavioural characteristics and local cultural relevance, and select, through negotiation, the most appropriate animals to carry the learning attributes.

[The learning story] developing the animals and the story, I enjoyed that . . . [it] was a bit of a challenge. . . . Because we had British animals and they were good, but to change them into Australian . . . it's getting done here which makes it more significant to the culture . . . and interesting to do. (Indigenous student S)

To further personalise and embody their aspiration in learning through self-reflection and assessment, students constructed a collage that represented their actual and their designated identities (Sfard and Prusak 2005) through the symbolic and metaphorical use of their negotiated images. In terms of the metaphor of the stations of the learning journey (Deakin Crick 2009a), these students were working between station one (self, identity and desire) and station two (values, attitudes and dispositions for learning), as a crucial foundation for engagement with the knowledge skills and understanding of the formal curriculum.

### **The learning discourse: choosing the animals**

In this project the Indigenous students identified seven Australian animals. The older students worked to develop re-representations as symbol (sign) for each of the seven dimensions of learning power. (For examples of all seven see the Appendix.) The wedge-tailed eagle was chosen to represent strategic awareness, because it was a part of the lived experience of all the students and was already the powerful cultural Ka-Wul community totem and the totem of the Wonnarua people. This made the projection onto the eagle of qualities such as being self-aware, understanding what was going on, knowing what to do next, thinking things through and positioning oneself with a shared yet unique understanding. These qualities were eagerly negotiated using the teachers' and cultural workers' explanations, and the rationale for the rejection of the UK examples formed part of the learning conversations. Learning power dimensions were projected onto the Australian animals by identification of particular animal behaviours. So the wedge-tailed eagle is:



- (a) able to spiral high in the sky to look for prey;
- (b) patient, strategic and smart;
- (c) stealthy;
- (d) confident and self-aware;
- (e) able to use aerodynamics;
- (f) able to understand invisible things; and
- (g) able to see the big picture.

The wedge-tailed eagle therefore became a map of meaning related to the unique learning context of the students. The pedagogical task for the researchers, teachers and cultural workers was to ensure that the relationship remained strong between the sign, its pre-existing cultural meanings and the new signifier and signified – the word and concept strategic awareness.

The discrete Ka-Wul Indigenous learning centre provided an opportunity for students to share their learning about ‘learning power’ in a collaborative and situated way (Lave and Wenger 1991). The environment facilitated extensive and reflective dialogue between and among students, teachers and cultural workers, as shown in the following extract from a video teacher facilitation session on ‘Changing and Learning’:

The teachers states that after she has put all their thoughts down they will make a decision and pick ...

*Student 1:* ‘Praying Mantis.’

*Teacher:* ‘How do you spell that and why?’

*Student 1:* ‘Because it changes its appearance, to suit the environment.’

*Teacher:* ‘Anything else?’

*Student 2:* ‘Kangaroo.’

*Teacher:* ‘Why?’

*Student 2:* ‘A joey learns from its mother.’

*Student 3* [same as Student 2]: ‘As a joey gets older its body gets large.’

*Student 4:* ‘Snake ...’

*Student 5:* ‘[The snake] changes its skin.’

The teacher reminds the students that they must choose between Praying Mantis, Kangaroo, Snake, and students are to put their hands up. Then the teacher reminds them they need to have a consensus, they need to all agree to go with the Snake. (They agree to go with the Snake.)

The teacher mentions they need to write down Snake and say why. She then encourages the students to elaborate. Students around the table mention points which are then noted as the following with the teacher clarifying each point: sheds skin, dislocates jaw, constricts prey (especially the python), have venom, change shape to fit their surroundings. The teacher relates the story of when she found a snake wound around the agitator of her washing machine.

The adults supported and scaffolded activities that enabled the individual students to transcend their personal learning repertoire and – in this case – expand their knowledge of learning power and their own learning identity. This saw the learning extend and stretch the students’ ‘zones of proximal development’ (Vygotsky 1978, 1986).

The approach honoured the key role of consensus in Indigenous learning, with consensus a part of decision-making, and allowed for an extended openness between the discourses associated with learning power, the western iconic animals and native Australian animals. The original animals carried strong British symbolic references and their associated mythologies and conventions grounded in western children’s



storytelling traditions. Bereft of a deep understanding about the Indigenous messages carried in Australian animals, significant facilitation was necessary by the Indigenous teacher and cultural workers. The echidna was finally chosen for resilience, rejecting the tortoise. The learning characteristics were negotiated and storied, carrying the behaviours and physical qualities of the echidna, who:

- (a) digs into the ground when faced with danger – and will not be budged;
- (b) does slowly but gets there in the end;
- (c) is tough, smart, tricky – sticking at things; and
- (d) camouflages in the tall grass – knows how to stay safe.

Simultaneously, alongside the negotiation of the animals, the students were being reconnected with their own traditional culture through mentoring and dance. Being the animal and dancing its behaviour enabled the students to engage authentically with their chosen native animals and their own sense of identity and place. They began to reflect on the animal attributes and their own learning power:

I noticed day by day, my critical curiosity has strengthened ... yeah going through classes and that, it's just changed. ... I think resilience has picked up a lot since we started ... I think I've picked up a bit like with the ... what was it, the go slow and get there in the end, tough, smart, tricky, yeah, sticking at things. (Student S)

The teacher of Student O commented: 'I remember the first session I had with him and we were going through his profile and he didn't relate to that language, it was the animals, so it's getting there and I know the other day he was being more visual with the animals.' The importance of the symbolic trigger to learning power emerges frequently in the conversations with the teachers, with the teacher of Student S later commenting: 'I'm finding the animals help to explain it a lot more, because you've got that image to connect it to, I think.'

### **Co-constructing a new learning story: 'Taronga Zoo Break Out'**

Parallel to the negotiations for appropriate Australian animal symbols for learning power dimensions, the students imaginatively and collectively constructed a new story about the seven animals. The story, 'Taronga Zoo Break Out', began with the seven native Australian animals finding themselves locked up in Taronga Zoo – a prestigious zoo in Sydney created by white Australians. The animals longed to escape, and through combining their particular learning power dimensions they constructed a plan and found their way back into the bush near the school. After some time spent enjoying their time in the bush, they decided to come back into the urban environment, particularly their school, where the animals could help other students learn (Goodson and Deakin Crick 2009).

The process of story writing, led by the older male students, and facilitated by the Indigenous teacher/researcher, involved the archaeological investigation of western symbolic meanings, Indigenous symbolic meanings, the performative role of animals in cultural identities and the real experiences of the students:

Yeah, because it was like it's our story from the Ka-Wul Centre here and it sort of needed to be ... how do you explain that ... it was like our story so we've got to change it and make it the way we want it as well. (Student P)

The process of encoding for new Indigenous meaning was complex, involving new perceptual sensitivities, cognitive understanding, and emotional and ideological interrogation by both the students and the teachers.

### **Personal encoding of learning metaphors through art making**

The students created a collage to support the embedding of the learning metaphors at an early stage in their inquiry in response to teacher observations: '[The students] were involved in the process, they know the story, they know how their animals behave . . . but they're not putting themselves into the animal's shoes.' The collage as artefact had the capacity to offer the viewer insights into the multiplicity of representations of the student that constitute the individual learner. In this activity students were asked to re-represent themselves as if literally wearing the physical characteristics of their learning power animals and associated metaphoric meanings.

The performative nature of the arts learning activity provided the students with a unique opportunity for individual receptivity and narrative meanings as image illustrated above (see McCarthy et al. 2003; Alexander et al. 2004; Finley 2005; Warren 2007). Students took a photograph of themselves and created a collage, linked with their chosen objects and the animals representing the learning dispositions. The actions of cutting, reorganising and glueing selected physical animal attributes facilitated the storying of their own learning journey as 'self-portrait of a learner', wearing their learning power and exploring the gap between their actual identity and their designated identity in the context of learning (Sfard and Prusak 2005).



Student K selected a learning project about collectors. 'He lives way out of town without TV reception and ... [has] a very different background to everybody else' (according to a teacher), and he had a personal interest in collecting. K's collage was of himself with the head of a wedge-tailed eagle, a chest covered with echidna spikes, the wings of the eagle, a snake as a tail and the feet of a platypus. The collage represented who K wanted to become as a learner. As he said:

*Student K:* If you have a look later it would look really different to what I am [now] ... I put changing and learning in but you can't see the difference in me now. The snake like sheds its skin to grow and that like means like when I grow up I'll collect more, get more detail and that into it and the platypus is Dad [who] teaches me about pocket watches.

*Researcher:* And what would you think the differences in you are now?

*Student K:* Like enjoying myself, looking more into stuff and that.

*Researcher:* What have been the most important things that you think have helped you change a bit like that? Is it that you've found something that you're really interested in and want to explore or ... ?

*Student K:* Yeah, yes it is. Yeah, it's like looking for treasure.

## Discussion

As with other projects using the practices of learning power in this way, the 'Learning Place and Identity' project drew on the three key frames identified by Schirato and Yell (2000): first, the narrative and then the structure of meaning within a story; second, genre or the type of communicative practice associated with the social purpose and occasion, i.e. the Indigenous animals and how they are inscribed with meaning through symbolic representation and dance; third, discourse as negotiated metaphoric meaning about the animals and their learning attributes as they inform the identity of the learner. This process involved encoding and decoding for meaning (Hall 2001; Sandell 2006) where critical analysis about negotiated understandings and meanings is carried out in a discourse between, teachers, students and cultural workers.

Inscription, editing and communicative action as a new encoding requires imagination and the generation of new representational forms after critical analysis and reflection. These representations or signs then become the vehicles through which culture and meanings are transformed and communicated. What was essential in this project was that the researchers recognised that the:

... message has a privileged position in the communicative exchange ( from the viewpoint of circulation), and that the moments of 'encoding' and 'decoding', though only 'relatively autonomous' in relation to the communicative process as a whole, are determinative moments. (Hall 2001, 167)

Acknowledgement of this process was essential in developing new animal symbols that were to carry both the metaphoric meanings of learning power and connect to the Indigenous students in culturally and performatively significant ways. Before the message of learning power animals (carrying symbolic meaning) could be appropriated from the original UK animals and story there needed to be an extended and meaningful discourse. The original animals and their associated learning metaphors had to be rejected. New Australian animals were selected that could legitimately carry the appropriate animal attributes that connected with the metaphors of learning. Re-representational activity through drawing and ascribing

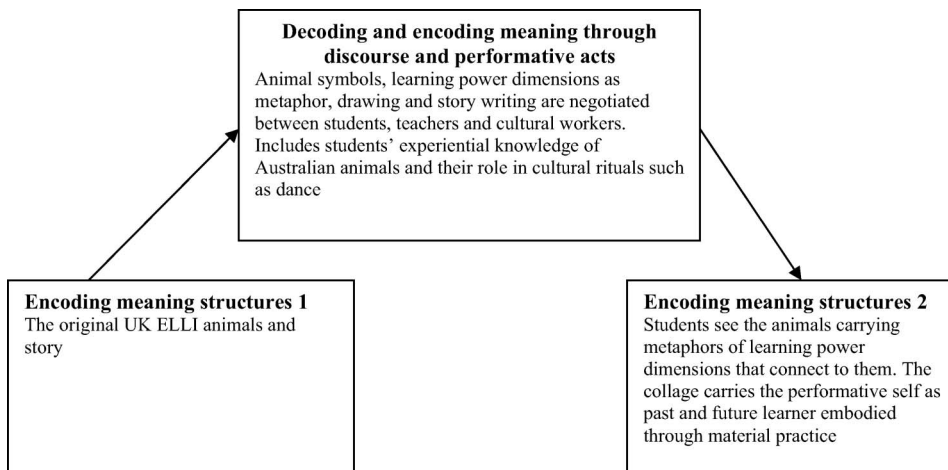


Figure 1. The negotiation of new meaning structures for learning power animal attributes.

meaning followed (Bolt 2004). Final symbolic inscription came when an Indigenous ex-student graphic designer produced Indigenous stylised representations of the animals. The movement from one meaning structure to another is illustrated in Figure 1.

Symbols are particularly vulnerable to multiple readings, as they are widely distributed and often carry complex cultural and personal signification. Associative meanings of a group or cohort depend on negotiated conventions and their usage. The learning story 'Taronga Zoo Break Out' reinforces the context in which the animal symbols (e.g. the wedge-tailed eagle) and the signifier (e.g. the word strategic awareness) signify the concept of strategic awareness as a dimension of learning power. The story and the attributed learning characteristics transformed the connotative meaning of each animal within the learning community. Therefore, the students in this study, unlike other students who use the story later, will carry meanings and associations that reveal deep semiotic codes of the Indigenous culture and link strongly to identities and sense of place.

In other Australian contexts these symbols and the metaphors and community story will not carry such a strong sense of place or connection to local traditions as they do in this particular Indigenous context. How necessary it is for such a language to be particular and local, rooted in a place with its particular stories and traditions, remains an important question about profound diversity in education, and the relationship between the global and the local, the personal and the public.

### **Re-representing self as learner**

The interdependence of intellect and affect in meaning making and the co-construction of knowledge are profoundly important pedagogical factors in the engagement of students with the formal learning opportunities presented to them. Vygotsky's notion of 'perezhivanie' provides a way of understanding the affective processes through which learning interactions are individually perceived, experienced, appropriated and re-presented by the participants. This depends on the concept of word meaning, as distinct from word sense, as well as the quality of the pedagogical relationships. Vygotsky's best-known concept – the Zone of Proximal

Development (ZDP) – is deepened and expanded through an understanding of the ways in which human beings ‘come into existence, attain consciousness and develop throughout their lives in relationship to others’ (Mahn and John-Steiner 2002, 48).

This project aimed to engage the students in more ‘formal curriculum’ through an approach to engagement that emphasised identity, place and belonging (Fredricks et al. 2004). The performative nature of re-representing themselves as carrying or wearing their learning dispositions as animal learning metaphors aimed to support the teacher to scaffold interactions using metaphor, image and story, to create new possibilities or pathways for learning. Student K, when asked what animals he was paying attention to, stated:

I actually like all the animals because they’re really good and I reckon the Willy Wagtail because when we do our Aboriginal dancing, I like the Willy Wagtail and it says like always try new things out which I like. It’s like putting your body on the line.

In this process of embodied cognition, reflective performative actions mediate between the self and the world of representations, making transcendence beyond self possible. It acknowledges the intuitive role of perception, which operates both internally and externally, and the way consciousness works with constructed interpretive possibilities (Roy 2003). Images such as the Willy Wagtail, in this instance, are attributed to the student ‘becoming’ within the social context of the exchange of meaning (Rose 2007):

The significance of this process in this context is that images when contextualised as cultural forms also have their own agency, or capacity to act as sites of resistance, as well as hegemonic sites that communicate the dominant messages of a society. (Armstrong, 1998)

In this study, the students brought a shared cultural history and language system to their formal learning in school that helped reshape some of the assumptions and expectations of the western schooling system to a more personal connection that takes cultural diversity seriously.

### **Re-representing learning identities through symbols and collage**

In the Indigenous learning project students connected powerfully to the animals and the stories or dances of their country, as well as their own personal experience of the animals. Through the cultural stories, shared by the Indigenous cultural worker and supported by teachers, the students negotiated animals that best represented country and community and that resonated with their own lives. Students then drew these animals and, through consensus, arrived at their learning animals.

When symbols are used in this context they carry heavy personal and cultural meaning. This approach to symbolic usage builds on the major criticism of traditional epistemologies which assume the activity of observation and analysis to be a rational activity that disconnects knowledge from feelings, creating a disembodied truth (Varela et al. 1991). According to Student J:

*Researcher:* What do you think is going to be the big question that you’re thinking about asking?

*Student J:* Why do [I] wear it [a Nargan (traditional dance cloth)] and why is it traditional?

*Researcher:* When working with Miss B, did you talk about . . . did you need to talk about the animals at all?

*Student J:* Yeah, because I forgot what some of them meant.

*Researcher:* So can you give me an example of how, when you were thinking about the Nargan, you went back to the animals?

*Student J:* Yeah, I did because with the emu you've got to be curious to find out things and how to do it and that's what I did.

In the praxis of learning power, learning depends on the kinds of experiences that come from having a body with various sensory capacities that are embedded in a more encompassing biological, psychological, historical and cultural context. When symbols are imaginatively envisaged, illustrated or represented, negotiated and communicated, they become embodied and have their greatest power within the learner.

### **The performative power of creating images as symbols**

In the collage activity carried out by the students in this study the teacher aimed to provide her students with a performative tool that would allow them to re-represent the symbolic and metaphorical learning power dimensions to themselves. Creating a self-portrait as learner allowed the student to engage their imagination through re-representational acts (Bolt 2004) as collage. Each individual collage was a collection of personal artefacts as image representations surrounded by the self-portrait of the learner, endowed with the physical qualities of their learning attributes. The students had imaginatively projected both their past, present and future ideas about themselves as learners into the collage. The activity of creating the artwork was a series of re-representational embodied acts that the student could reflect upon. As an object it communicated the individualised understandings of each student as learner, and the images carry the unique and deeply felt symbolic meaning. They *are* the eagle or the echidna. The creative act facilitates these embodied possibilities and probable dimensions that have powerful personal affordances. In this project the collage carried a strong personal or auto-ethnographic performative capacity of the arts (Holman Jones 2005).

From the teacher, or spectator position, the collage when viewed leaves the domain of simple representations and becomes an experience for the viewer. Teachers through their interpretive capacities now have an additional tool to access an understanding about their own professional knowledge and experience of the learner:

*Researcher to teacher:* What do you think has been the positive thing about the personalised learning?

*Teacher:* Student K is the type of kid who doesn't come across [as] very outgoing and positive . . . hidden . . . but the process of narrowing his choices down, and I think using the animals in the story, assisted him to describe why he collects his collection.

*Researcher:* He hasn't been confident in describing to me the animals, so I am relying on you to talk about the process.

*Teacher:* [Student K] uses them as a picture, so with him you'd say okay, oh this is going to be you acting like the eagle, what do eagles do. . . . So okay, and what sort of examples would you use to describe how you would be an eagle at a sale, at an auction and he would say, well, oh yeah, you would actually go around to everybody's stall first and then go back and find the . . . get the best one.

Creating a self-portrait as a collage of learning was understood by the facilitating teachers as an open-ended process, with no finality, but the experience of undergoing such a process is revealing for both teacher and student. The collage is an iterative and reflective process. Knowledge generated through making the collage as a learning self-portrait is different and more creatively powerful than any created from a second referential framing (Sullivan 2005).

## Conclusions

The focus in this article was on the role of symbol and metaphor in the development of student self-awareness and engagement in the process of learning. We drew upon a particular case-study with an Indigenous community of young people and used data collected in exploring the process of the construction of a shared language for learning. The article described how the Indigenous community constructed their own meaning systems through metaphor and image, which enabled them to identify their own learning values and dispositions, thus creating a foundation for engagement with the process of knowledge creation which is a necessary part of inquiry-based learning. We argued that developing a rich and local language for learning which includes metaphors, signs and symbols is a crucial prerequisite for inquiry-based learning because it enables students to make connections between self and text, and to develop self-awareness and responsibility for their own learning. It provides them and their mentors with the necessary scaffolding for the process of the inquiry. Through the naming of native Australian animals as icons for learning power, the co-construction of a learning story, and self-assessment through art making as self-portrait collage, students performatively re-represented their identities as learners in ways that allowed them to envisage change as an intentional act and begin to engage with the formal requirements of the curriculum. In the words of Sfard and Prusak, perhaps 'identity is the missing link between learning and its sociocultural context' (2005, 6).

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## Appendix: Native Australian symbols of learning power

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### SINGLETON HIGH SCHOOL: LEARNING PLACE and IDENTITY

#### NATIVE AUSTRALIAN ANIMAL SYMBOLS AS LEARNING METAPHORS

(Ideas of the Singleton High School Ka-Wul Indigenous Education and Cultural Resource Centre students, 2008 (facilitated by Jenny Campbell and Deidre Heitmeyer, and the research and teaching team))

#### Images © Black Butterfly Designs



#### 2. CHANGING AND LEARNING: SNAKE

- a. Sheds his skin so he can grow
- b. Dislocates his jaw to adapt to any type of food
- c. Adapts itself to meet any new challenge
- d. Focused and patient to capture its prey
- e. Changes shape to adapt to its environment



#### 3. CRITICAL CURIOSITY: EMU

- a. Always looks up to see what is around its environment
- b. Curious to look at things from different angle
- c. Explores and is adventurous in finding things out
- d. Stares inquisitively
- e. Proud and strong, confident to ask questions



#### 4. MAKING MEANING: PLATYPUS

- a. Build their very own network of burrows
- b. Make connections between the inside and the outside
- c. Its own burrow world is what really matters
- d. Uses many resources meaningfully
- e. Creates its own unique habitat

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(continued)



- 5. CREATIVITY: WILLY WAGTAIL**
- a. Confident, fun-loving and playful
  - b. Unique individual personality
  - c. Always trying new things out
  - d. Loves taking risks
  - e. Intuitive and imaginative and resourceful



- 6. RESILIENCE: ECHIDNA**
- a. Digs into the ground when faced with danger – and will not be budged
  - b. Go slowly but they get there in the end
  - c. Tough, smart, tricky – sticking at things
  - d. Camouflages in the tall grass – knows how to stay safe



- 7. STRATEGIC AWARENESS: WEDGED-TAIL EAGLE**
- a. Spirals high in the sky to look for prey
  - b. Patient, strategic and smart
  - c. Stealthy
  - d. Confident and self-aware
  - e. Uses aerodynamics – understands invisible things
  - f. Sees the big picture



- 8. LEARNING RELATIONSHIPS: ANTS**
- a. Work together strategically
  - b. Each have a different job, scout and travel
  - c. Communicate with each other all the time
  - d. They don't wait to be told what to do
  - e. Get on with their own task
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