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Children's wonder-initiated phenomenological research: A rural primary school case study

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Abstract

This article presents research into an award winning case study of pedagogical school renewal. The case is set in a small, rural primary school in Queensland, Australia. The ordinary approach of a staff member and student from the local university spending time at the school as Visiting Teachers became extraordinary when the adults listened to the wonder of the children about their own history, culture and context, and then trusted the children to plan, carry-out and creatively present phenomenological research. The thirty-two children worked in four groups of eight; each group had children from Prep or Year 1 working alongside children from Year 6 or 7, as well as the Years between. As well as case study description, this article lists the project outcomes and evidence, and poses principles of transformative schooling.

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Introduction

From January through June 2008 every student of Flagstone Creek State School (FCSS) worked together in an innovative, student-directed learning process. FCSS is a small, rural school in the Lockyer Valley of Queensland, Australia. We (first author in the role of a Visiting Academic to the Faculty of Education at the University of Southern Queensland and second author in the role of Faculty of Education University Student) spent one day per week for 19 weeks at the school as Visiting Teachers to work alongside the FCSS teachers. The 32 children from Prep to Year 7 chose research topics inspired by curiosity about their own context. Sample topics were drought and local history. The children invited community members to guide their research excursions, thus strengthening the rural school-community partnership. The children generated new knowledge and shared it through the mediums of: musical theatre; brochures and posters; plaster models; Web pages; digital movies; pod casts; and digital slideshows. The pivotal component of this educational initiative was the children's wonder.

Literature Review

There is a long history of educational philosophers writing about children's wonder as the essence of education. In 1909 John Dewey wrote about the innate curiosity observed in children. He described children as actively exploring through multiple senses and questioning the world around them. He wrote, "such curiosity is the only sure guarantee of the acquisition of the primary facts upon which inference must base itself" (p. 31). Dewey wrote, "wonder is the mother of all science" elaborating that the task of educators is to build upon this wonder, training children to rigorously inquire, analyse and think (p. 31). In his 1926 treatise titled, *On Education* Bertrand Russell described children's innate desire to learn as the basis for schooling. "The spontaneous wish to learn, which every normal child possesses, as shown in its efforts to walk and talk, should be the driving-force in education" (p. 25). Dewey and Russell's educational philosophies continue to be recognised as the seminal foundation for contemporary theory.

Following these treatises published in the early twentieth century, the literature was relatively quiet on the topic of teaching philosophy through to the end of the 1960s. Popham's (2001) explanation for this gap in the literature was informed through his context in the United States of America, but as Gardner (1991) wrote, the same educational history and issues that were well documented in American literature were happening throughout western nations. Popham wrote, "although there were surely some so-so teachers out there, it was generally believed that America's teachers were doing what they were being paid to do – and doing it pretty well" (p. 3). Popham wrote that discontent with schooling began to surface in the late 1960s. Policies, reform, and the literature of this period focussed on standards, competency and achievement testing. Popham and others such as Postman (1995) have been highly critical of this focus, leading Popham to write about the "sorry state of affairs" of schooling (p. 13) and Postman to write about the crisis of schooling.

Beginning in the 1990s, there was renewed interest in a model of schooling built upon children's wonder, as evidenced by a proliferation of critical theoretical books on the topic of reconceptualising schooling. In 1991 Gardner wrote about how schools were not successfully teaching for understanding. Brooks and Brooks (1993) wrote about constructivism as "a process of making personal meaning" (viii). They critiqued school systems as attempting to transform schooling through political pressure, threat and punishment instituted through standardised testing and resultant actions. They called for renewed attention to what it means to learn. In 2003 and 2006, Jardine, Clifford, and Friesen (year) wrote about the lessons they had learnt in the process of working alongside teachers and students who were transforming schooling through a model of inquiry-based teaching and learning. They wrote about how taking schools and children "back to the basics" should not mean increased rote delivery and testing of literacy and numeracy skills, but encouraging of innate curiosity, wonder and questioning, and supporting sensory exploration, investigation, research and conceptualisation. In 2005 Egan wrote that administrators, schools, and teachers have overlooked the importance of imagination in learning. He wrote, "... imagination is at the center [sic] of education; it is seen as crucial to any subject, mathematics and science no less than history and literature" (xii).

The ideas of the education texts described above have informed and reflect our shared stance as teachers and as researchers (see Usher, 1996, on *intertextuality*). As teachers, this means that we believe children are inspired and motivated by

wonder, and our imaginations are our primary tools of supporting children to ask questions and rigorously inquire so that the children can propose their own responses to those questions. As researchers, we are partners of children and teachers and one another. There is a double hermeneutic in researching wonder through schools (as described by Gadamer, 1999, Mueller-Vollmer, 1985, and van Manen, 1997). The term *hermeneutics* comes from Greek mythology. Hermes translated or interpreted the gods' messages in words and concepts that mortals could comprehend. A double hermeneutic is equivalent to meta-cognition (thinking about thinking). Through this research project, the researchers at all levels (children, families, teachers and visitors) wondered about the wonder experienced within our project.

Methods

Our aim in presenting this article is to contribute to the body of literature on school renewal. We will describe the details of a wonder-initiated project within a rural Australian primary school. We will comment on approaches, strategies and tools that worked for us. We will present the educational outcomes of this project for the children, the school staff, the families and the local and broader community, as well as evidence of these outcomes. We hope to capture the wonder ignited in us through this collaboration and thus to inspire you to free your own imaginations to welcome and foster children's school-based experiences of curiosity.

We designed our research using the methodological frameworks of case study, field work and action research. Brady (2003) defined pedagogical case as "a real account of a problematic experience in a school or classroom that is written or recorded to facilitate teaching/learning" (p. 2). Brady's use of the term "problematic" is not to infer that there is conflict or strife, but instead, that there is substance and depth.

Our site was the dynamic evolving social environment of a small, rural primary school thereby classifying our inquiry as field research (Burgess, 1982) or naturalistic inquiry (Norris & Walker, 2005). Any influence we had was that of Visiting Teachers. We did not have control of the research environment. This allowed us to observe and reflect on the actual day-to-day occurrences and relationships within the school.

Our research was action oriented as described by Carson and Sumara (1997) and Smith, Willms, and Johnson (1997). We observed and learnt from the teachers, students and families, and in turn, we contributed new knowledge, skills and ideas. Our project was inspired by social justice motives. We wanted to contribute beyond the boundaries of the single case, in that we knew from the outset that we intended our project as a showcase to inspire other schools.

We used six means of gathering research data. (a) We wrote field notes. (b) We collected artefacts. We read and/or looked at the children's artwork, essays and tests, and the teachers' lesson plans and assessment tasks. (c) We interviewed the children and their teachers. We conducted one-on-one and small group interviews at the beginning, midway and at the end of the project. (d) We filmed and observed the professional filming of the project conducted by University of Southern Queensland Media Services. The video footage gave us the opportunity to review and in some senses relive the image and sounds of the day-to-day school experiences. (e) We invited the children to document their own journey, and they shared their data with us. The children took photographs of their spaces and tools

of learning. They audio and video recorded themselves and one another. We therefore had the opportunity to partially see the school through the children's eyes. (f) We collected media documentation about the project, enabling us to take a perspective outside of the experience and peer back inside. For example, we clipped newspaper articles and printed hard copies of Web site media releases.

Analysis of naturalistic, eclectic data as described above cannot be conducted in a linear, positivist manner. We re-read our notes and re-viewed the artefacts multiple times and at multiple points throughout the research. As described by Alvesson and Sköldböck (2000), we turned the metaphorical lenses of our inquiry and considered the data through multiple perspectives and frameworks. We used the data to ponder the phenomenology (van Manen, 1997) of the children's day-to-day life within the school. Alvesson and Sköldböck defined phenomenology as a "German philosophical movement that emerged at the beginning of the twentieth century" (p. 36). Phenomenology is not concerned with abstractions, norms, generalisations, statistical probabilities nor theory. Phenomenology is concerned with the literal and figurative "substance and colour" of what individuals and groups experience in their real, tangible, minute-to-minute existence (Alvesson & Sköldböck, p. 36). Guided by the tradition of hermeneutics (Mueller-Vollmer, 1985), we asked of the data what it is like to be a student and a teacher in this small rural primary school. We sketched and modelled the ethnography (Fetterman, 1998; Spradley, 1979) of the school as a bounded culture. While our approach was multi-faceted, it resulted in the presentation of a synthesised case presentation.

The binding element of our analysis was narrative (Etherington, 2004). Within our research, analysis meant grasping, unravelling and laying-out the various multi-coloured twirled strands of our artefacts, reflections and experiences at the school. The result is a story with a beginning, middle, and end. Our story has a plot and action and heroes. Our story also has lessons and learnings and more than one moral. With no further preamble, we will move to telling this story.

Case Study (The Story)

The school renewal work at Flagstone Creek State School (FCSS) began as an idea generated in the school staffroom when Michelle Hoffman, University of Southern Queensland (USQ) Education Student and FCSS parent introduced Dr. Shelley Kinash, a Visiting Academic to USQ from Canada, to the school principal and teachers. Because my (Shelley's) disciplinary affiliation in Canada was Educational Technology, the principal invited me to facilitate computer and multimedia workshops as a Visiting Teacher for two hours per day each Friday. The initial plan was for me to spend one hour with the Prep to Year 4 class, and another hour with the Year 5 to 7 class. I (Michelle) was invited to assist with the process.

From the first Friday visit, the curiosity, engagement, and energy of the children ignited the mundane curricular enhancement idea into a blaze of learning. As Postman (1995) wrote, "generally, young people have too much curiosity about the world and far too much vitality to be attracted to an idea that reduces them to a single dimension" (p. 30). We quickly realised that working with the two classes of children (Prep – Year 4 and Year 5–7) separately and apart for a single hour each day would not facilitate the richness possible through a more inclusive, flexible and time-intensive approach.

We organised the children into four groups of eight. Each group had children in Prep or Year 1, as well as Year 6 or 7, and a range of levels between. The essential element of the project was *wonder*; the project triggered the children's realisation that they did not know much about their local community and they discovered that they wanted to know. The project took place in six steps.

1. Naming the group.
2. Framing a research question.
3. Making a plan.
4. Collecting data.
5. Representing the results through multi-media learning objects.
6. Sharing the research with the community

The first and second steps built upon each other. Each group chose a catchy name, and framed a research question. The names of two of the groups were inspired by their fascination with the word and concept of *phenomenology*. The introduction of phenomenology to the children was not a pre-determined learning objective; it was a spontaneous idea in the spirit of responsive pedagogy. To say that the children were receptive would be an understatement. They were honoured and engaged. An implicit trust contract was conceived through the high-level philosophy of phenomenology. The children were affirmed in that they were given a symbolic key to an *adult* domain. The circle of trust between the adults and children catalysed self-fulfilling prophecy. It was through the introduction of phenomenology, grounded in what is sensed, present and real, that this research project became authentic. The children's process and accomplishments throughout the project served as evidence that they comprehended phenomenology and proved them worthy of the phenomenological journey, thereby supporting the propositions of authors such as Kennedy (1999) that children are capable of philosophising. Perhaps children are ideal phenomenologists. They live an embodied existence. They forget themselves and learn in the moment without filtering their ontology through theory and often without manipulating their responses with motive. Children are often fresh, curious and effervescent. Most children are not bored by their everyday existence. The phenomenologist seeks to come to a fresh understanding of a reality that only the person enmeshed in that experience can know intimately. Children have the innocence, curiosity and unencumbered ontology to meet this challenge. Our role within this project was to recognise the children as phenomenologists and then trust them to *be*.

We believe that it was the children's intuitive understanding of their significance as phenomenologists that led two of the groups to playfully name themselves for the introduced philosophy. The *Phenomenologists* were interested in learning about the stories of the people in the community, particularly those who graduated from their school. The *Funky Phenos* wanted to know about the first crossing of Gorman's Gap and how this historic road less than 5 kilometres from their school got its name. The *Wildlife Water Warriors* asked - what is the impact of drought and flood on local wild and domestic animals. The *Slippery Sliders* named their group for their chosen technology of a digital slideshow. Of all of the groups, the Slippery Sliders struggled the most in coming to terms with a research question. Just like higher degree graduate students settling upon a question for a thesis, this group proposed, began and discarded several questions. Approximately a third of the way through the project, the children realised that they had captured an impressive collection of digital photos that told the story of the FCSS project process and outcomes. This group assumed the responsibility of preparing a slideshow that presented the entire project.

In the third step, the children brainstormed how they might discover the answers to these questions. The fourth step was to follow through on these plans. The *Phenomenologists* organised what we decided to call a *Tea and Talk*. Although this event was a single group's inspiration and they took the planning lead, all of the children participated. We helped the children design invitations, which they distributed to their parents, grandparents and other community members. We distributed the invitations at USQ. I (Michelle) placed an advertisement in the local community newspaper inviting people who know about the Flagstone Creek community to contact us. Our advertising resulted in interviews with 25 people. Our guests included USQ students, the Science and Education Coordinator of South-East Queensland Catchments, parents, grandparents and community members at large. One of the community members graduated from the school over sixty years previously.

The guests consented to four interviews (with each of the child research groups). Each group had a distinct means of capturing the research data. The *Phenomenologists* took traditional paper and pencil notes and later used these notes as research data to write narratives. The *Funky Phenos* videotaped the sessions. In addition, this group invited USQ Media Services to professionally videotape the day, who, from then on, participated in all of the FCSS excursions and other events, recording digital video throughout. We maximised this pedagogical opportunity by engaging the professionals beyond recording. They served as consultants to the students about storyboarding, filming and directing. They consented to turning the cameras around, allowing the students to interview them about cinematography and film making. The *Wildlife Water Warriors* recorded the interviews using MP3 players, and later produced podcasts. Finally, the *Slippery Sliders* took digital photographs.

The *Funky Phenos* planned a whole school excursion to walk various stages of Gorman's Gap. The children recruited a local member of regional council to lead the excursion because his portfolio included revitalisation of this historic road. He shared with the children that this was one of the first gazetted roads in Australia. Prior to the actual excursion, the children read about the road, wrote a script, planned costumes and rehearsed so that they could re-enact the first crossing along the actual trail. Seven members of the group were actors and one child was the director and part of the team of camera crew. The day was spectacular and gave the children a memorable multi-sensory experience that could not have been replicated through linear textbooks. The children experienced being out-of-breath as they walked single file up steep narrow trails, wherein they marvelled that bullocks and carts managed to transport supplies up the range. They admired the bird life and a koala along the trail and they reflected on the relationship between humans and nature. This heightened their discussion about land ownership and the right to claim and name. Some students later wrote profound essays about their perception of injustice in that the road was named for a penal colony commandant, whereas they learned that the road was originally an Aboriginal Walking Trail and that it was revealed by a prisoner. All of the children experienced some aspect of heightened awareness about their community, history and place in the world.

The Science and Education Coordinator of South-East Queensland Catchments spent one day with all of the FCSS students. She taught the children to cup their hands behind their ears and use them to amplify and muffle sound from various directions, a skill that scientists have learnt from kangaroos. The children worked with aerial maps of their actual community, and they identified and marked their own family land through using the waterways as guide-marks. The fortunate group

of eight children from the *Wildlife Water Warriors* group benefited from a second full day with the Education Coordinator. She led them on a full-day excursion down to and along the drought-impacted creek bed for which the school was named. In the natural environment of the creek, the children used all of the skills they had learnt at the school to collect scientific evidence, thereby informing their response to their research question.

The other research group, the *Slippery Sliders*, planned a whole-school excursion to the local and Co. Museum (Queensland Museum, 2009). In preparation for the excursion, the staff of the museum asked us lots of questions about the children's research and prepared a hands-on experience to enhance the children's knowledge of history. For example, the children knew that bullock carts were used to transport goods up Gorman's Gap, but did not know what bullock carts looked like. At the museum, they saw and touched actual carts and models of bullocks. Because the children were interested in Aboriginal history as an important part of the discovery and development of their community, we invited an Aboriginal artist to paint totems on each of the children's faces and answer their questions.

The fifth step in the project was supporting the children to create multi-media learning objects from their research results. The *Phenomenologists* built a Web site using Blackcat Spider software (Tag, n.d.). The *Funky Phenos* produced a digital movie re-enacting the first crossing of Gorman's Gap. They used Pinnacle Studio digital video editing software (Pinnacle, 2009). The *Wildlife Water Warriors* produced a pod cast primarily featuring the creek bed excursion. We used newly released software called Podium (2009) and became the beta testers, helping the technical developers to identify and work through several usability issues. The *Slippery Sliders* produced a digital slideshow using PowerPoint software (Microsoft Office Online, 2009) and then using Camtasia to screen cast their slideshow to produce a narrated movie. The children linked their Web pages, digital movie, podcast, and digital slideshow to the school Web site (Flagstone Creek State School, 2007).

In the weeks after the children had gathered their data and were working with computer software to represent their learning, we observed discord in the groups. Most of the older children were focussed and energised by their computer work. We observed them taking over the projects and leaving the younger children behind. The younger children complained that they were bored. They appeared distracted and began wandering away from the computers to play with tangible objects in the classrooms such as blocks and whiteboards. I (Michelle) questioned whether this phase of the project was meeting the needs of our younger students. One of the principles of the Queensland Studies Authority's (2006) *Early Years Curriculum Guidelines* states, "children learn best through interactions, active exploration, experimentation and by representing their learning through a variety of modes" (p. 13). In observing the emerging behaviour of our 6 through 8 year-old learners, it was becoming obvious that they were not feeling engaged because we were not providing opportunities for active learning.

I (Michelle) suggested that the early learners might build models of the range and Gorman's Gap. We presented this idea to the children and they unanimously agreed that they wanted to build mountains. I (Michelle) invited Janice Jones, who was my USQ lecturer for arts in education, to join our research team. She came to facilitate the mountain building process.

After several weeks of mountain building, the result was inspiring. The children had built four plaster models, each of which was the diameter of a teacher's desk

and the height of a three-drawer filing cabinet. The four mountains represented periods of history. Gorman's Gap on the range was represented: before humans; as an Aboriginal walking trail; with European settlers at the time of the *first crossing*, and; *modern day*. The mountains were painted in bright colours and the children had taken creative license. One group added a waterfall. The group showing the *first crossing* had built bullocks and carts out of clay. The *modern day* model included the thirty-two FCSS children ascending the road. The figures, made out of pipe cleaners, wore uniforms made out of remnants of plaid fabric of the FCSS school uniforms. The children had succeeded in representing their learning in an expressive, creative means.

The sixth project step was sharing the research with the community. As described in Kinash (2007) these children ascended beyond recipients to generators of knowledge. They gave back to the community through two public events (Kinash & Hoffman, in press). We called the first event our *Celebration of Learning*. The crowd circulated through the school where each student group repeated showcase presentations of their research outcomes. We closed the evening by watching the USQ Media Services' film of the project on a large outdoor screen.

The second event was called the *Roadshow*. It was coordinated by USQ Faculty of Education Academics, Dr. Karen Noble and Dr. Robyn Henderson, who used the event to launch *Phase Two* of the project. Their goal is to use this project to inspire other school renewal efforts. It was held in a large theatre at USQ. There were speeches and presentations, posters and brochures. The children performed musical theatre and movement choral.

In summary, over nineteen weeks, thirty-two children and their principal, teachers and other members of the community shared a unique schooling experience. The children wrote their own research questions and designed their own process. They conducted their research and produced creative, compelling presentations of their results. The experience changed the children and the adults. Together, we pondered what it means to learn and through adult-child collaboration, we brought innovative ideas of schooling to life.

Outcomes and evidence

Four groups of stakeholders benefited from the research project. The first, and the inspiration and motivation for the entire project, were the students. Students at FCSS demonstrated strong performance in measures of literacy and numeracy. The 2008 National Assessment Program (NAPLAN) was administered in the final stages of the project. Year 3, 5 and 7 students of FCSS scored the same as or higher than the state average in all categories on the assessment. Notably, FCSS student scores were significantly above the state average in Year 3 reading and numeracy, Year 5 numeracy, and Year 7 grammar, punctuation, and numeracy. David Prestridge, FCSS Principal, received a letter about the NAPLAN scores dated 14 November 2008, signed by Anna Bligh, Premier of Queensland. "I have particularly noted your school's strong performance in these tests and commend you and your staff for your commitment to helping your students achieve high level literacy and numeracy standards."

The children embraced student-directed learning. Madison Hoffman, FCSS Year 7 student at the time of the project, published the following quotation;

This project wasn't created by someone else and handed to us. It was something different and exciting; it was about our school coming together and wondering. ... Who would be better to research our school and our community? We are in it. We live it every day. ... A Friday at school used to be like any other day. Now, we realise how much more there is to grasp, how much more there is to reach towards. On the project, it makes me feel like there's something else to do. It's always going to be exciting and different. ... Our school seemed small, but now everything feels so much bigger. In a way, I feel bigger. I've never felt this way before. It makes me feel important. It makes me feel equal with the teachers. (Kinash & Hoffman, 2008, p. 87, 88)

Madison's words reflect what mattered to her about this project. She highlighted personal agency, choice, respect, excitement, possibility and empowerment.

The children were introduced to and trained in three new software packages. Students were mentored in the production of innovative multi-media information and communications technologies. As evidence of this outcome, the students' Web pages, podcasts, slideshows and digital movie are all accessible on the FCSS Web site (<http://www.flagcress.eq.edu.au>).

The students expressed heightened awareness and pride at being Flagstone Creek community members. As evidence of this outcome, the 32 FCSS students brought a crowd of over 170 people to the end-of-project *Celebration of Learning*. The project contributed to the development of motivated, confident, enthusiastic students who were eager to learn. As evidence, the 2008 School Opinion Survey of FCSS Years 4-7 students revealed results above the state benchmarks in all seven categories, statistically significant in six, notably including pedagogy.

The second group of stakeholders to benefit from the project was the school staff. The project inspired a transformation of the teachers' approaches to educational technologies and teaching philosophy.

Mrs. Caroline Evans, one of the Prep to Year 4 teachers, explained that in order for this project to work, she needed to let go of her need for structure and curricular control. While this transition was initially challenging, she feels that the positive impact on the students and their learning outcomes is worth the effort. (Kinash, 2008, p. 74)

Mrs. Evans' efforts were acknowledged at the *Roadshow* event, where a representative from Education Queensland attended to present her with a 2008 District Smart Classroom Award.

The other staff outcome was the teachers' feelings of being recognised, valued and supported. Evidence for this outcome came from the 2008 School Opinion Survey of FCSS staff, revealing results significantly above the state benchmarks in all six categories, notably including support, resources and training.

The next stakeholders to experience positive outcomes were the families and the local community. The first outcome was parental confidence that their children are receiving a good education. Evidence for this outcome came from the 2008 School Opinion Survey of FCSS parents, revealing results above the state benchmarks in all eight categories, statistically significant in five, notably including school climate and pedagogy. The project resulted in increased student enrolment. The student enrolment increased by 12.5% in 2008 and 15% in 2009 and feedback from parents of the newly enrolled children indicated that project media and artefacts affected

their school choice. There was a strengthened relationship between the school and community. As evidence for this outcome, excursions were directed and facilitated by key community members such as a Regional Councillor and staff of South-East Queensland Catchments. We hosted major community events including the *Tea & Talk*, *Celebration of Learning*, and *Roadshow*.

The final stakeholder group to benefit from the project was the broader community, including USQ and the scholarly community. Our research generated new knowledge to lead other innovative school initiatives, and created and disseminated an exemplar case to ground future projects. In addition to this article, the research project resulted in publication of four scholarly articles presenting the research, outcomes and recommendations for other school implementation (See Kinash, 2008b; Kinash & Hoffman, in press; Kinash & Hoffman, 2008; Kinash & Kinash, 2008). Six newspaper articles reported the project (Two in each of: *The Toowoomba Chronicle*; *The Gatton, Lockyer and Brisbane Valley Star*; and, *The Withcott Times*). How-to guides on pod casting and talking books were created and published in *Education Technology Solutions* (See Kinash, 2008/09, and Kinash, 2008a) and presented by Mr. David Prestridge at the Lockyer Valley Schools Pupil-Free Day In-service for teachers and principals. The final outcome was that the research moved beyond the single school case at FCSS to provide teaching and learning exemplars for USQ students and to model innovation for other Queensland schools. As evidence of this outcome, the Dean of Education, USQ opened the project *Roadshow* to launch the second phase dissemination beyond FCSS to other Queensland schools.

Beyond the single case

Our research at FCSS deepened our understanding of the children, the teachers, and the community context (including the history) of Flagstone Creek. We perceive our pedagogical learning to also have significance beyond FCSS and propose a number of pilot principles to test at other primary schools.

The first principle is that adults must remain open to the dynamic emergence of research questions, content and process as they enter into an inquiry relationship with children in a pedagogical context. In other words, plans must remain flexible and responsive to energy and ideas. Norris and Walker (2005) wrote,

It is not possible to pre-specify in detail the design for a naturalistic enquiry.
The naturalistic enquirer has to go with the flow of social action, so to speak.
The design of a naturalistic enquiry unfolds as the study progresses. (p. 133)

The project was initially tightly defined and bounded in time, content, roles, and process. What was not and cannot be planned, pre-determined and harnessed was the children's sense of wonder. The children asked why. Without having the vocabulary to trouble the pedagogy, they challenged and deepened the process. On that first Friday, they wanted to know why they were taking photos. They probed the significance and thereby the meaning of their experience. Once the children were embraced as full partners in the emerging pedagogy and once the wonder of the experience was permitted to flourish, the experience became exceptional.

The second principle is that for children to grow and develop they must be respected and trusted (Gussin Paley, 1997). The children expressed a need to be

more than recipients of pedagogy. They wanted to understand why we as adults chose particular activities as learning experiences. They wanted to wrap their mouths and minds around new vocabulary. They wanted to partner in determining the learning process. In response to their question about why they were using digital cameras, we taught them about phenomenology. In response, a Year Three student declared with pride that she is a “real researcher.” Given complete freedom to name their own teams, two of the groups named themselves after phenomenology - *The Funky Phenos*, and *The Phenomenomenologists*.

The third principle is that learning should be hands-on and multi-sensory. It is not enough for children to read about and hear about. It is essential that teachers move beyond a didactic approach to allowing children to *do*. In our research, the children were not satisfied nor fulfilled by listening to experts tell them about what it is like to videotape. The USQ Media Services experts were an excellent resource in that they could respond to the children’s questions about how to deal with difficult problems such as showing the passage of time in a short film. However, it was through personal, hands-on experience of making a film that these quandaries became salient and real to the children, and that they gained memorable and transferable skills.

The fourth principle, building on the third, is that early learners (children from 5 through 8 years of age) require tactile hands-on activity. The children from 9 through 12 years of age in our research were engaged through manipulating virtual environments through computer software. The younger children in our research were bored, distracted and frustrated by the intensive computer work. On the other hand, they were engaged and productive when they were invited to build mountains. The final mountains were large, colourful and creative. They were historical and represented the children’s excursion experiences.

The engagement of the children’s hands-on, multisensory learning is consistent with research into how people learn. Bransford, Brown, and Cocking (2000) applied neuro-imaging research to inform our understanding of how people learn. Neuro-imaging technology shows maximal brain activity when learners are engaged in multi-sensory activity. This theme has been particularly applied within early childhood education (e.g., Helm and Gronlund, 2000). In September 2007, Education Queensland released a document called, *Early phase of learning action plan*. <http://education.qld.gov.au/strategic/advice/earlychildhood/> Action 8 of this plan is to “review teaching and learning practices to provide a greater focus on the active engagement of children in the learning process” (p. 7). One of the sub-components of this action is to implement “teaching and learning approaches that engage students in active learning processes” (p. 7). Observation of the children’s motivation for active, hands-on learning throughout our research provided further evidence for these principles.

Conclusion

The project inspiring this case study presentation was new and different in four ways. First, it involved every student in the school in mixed-age teams. Second, it strengthened relationships between the school and community. Third, it introduced and trained students in the production of multi-media information and communications technologies. Fourth, it fostered student-directed learning. The key element of this project was wonder. The nature of our project encouraged the children to explore, embrace and celebrate their wonder. Pedagogy of wonder transformed the relationship between the adults and the children throughout our

project and enabled us to create and sustain new possibilities in primary school teaching and learning. The project was officially recognised as exemplar, in that the research team was awarded a Queensland Government Department of Education and Training, 2009 *Showcase Award for Excellence in Schools*. This award was at the Regional level (Darling Downs Southwest Queensland Awards) under the category of *Excellence in Innovation*.

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