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KIDSMART SNAPSHOTS

TRANBY PRIMARY SCHOOL

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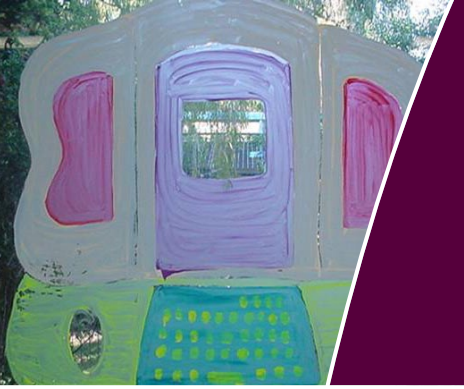

Tranby Primary is situated in Riverdale, Western Australia. It is regarded as a low socio-economic area, with a high Aboriginal population and a high proportion of state housing, with a transience rate of approximately 60%. The student population is approximately 160 students, though the attendance and punctuality of children can fluctuate from average to very poor.

> ICT Beliefs and Values Prior to the IBM KidSmart Program

In 2002 teachers at Tranby Primary participated in the IBM KidSmart Program as a professional learning opportunity to explore how computers could be integrated as learning tools to engage all learners within an early childhood setting. Prior to the IBM KidSmart program, student access to the computer was very structured and teacher focused. We believed adult supervision was essential, as students needed help accessing and loading appropriate software, even in free play time. In a more formal sense we thought we were integrating technology successfully into the curriculum, as time was allocated daily for both the year 1 and the pre-primary students to work on the computer. The year 1 students used the computer for report writing but, of course, with adult supervision. Adult helpers would dutifully help with the typing, would edit writing and help insert photos and borders, etc. In the Preschool class, the computer support time was used to develop basic computer awareness and mouse skills, which was often in total isolation to what else was going on in the room at the time. In general, reading and mathematics and topic-based programs were selected for the children to practise some computer skills and to assist them in the development of computer literacy skills. An example was the introduction of Kidspix to the children, which was greeted with a great deal of enthusiasm, however, its use was limited to times when adult supervision was available.

We now realise that the computer work we were doing was not true integration. Instead we were actually using technology for the sake of it, as there was an expectation that we had to utilise and expose students to technology on a daily basis and this, in itself, was adequate exposure for students in early childhood. In essence, we believed real learning was still the acquisition of skills and knowledge developed from more traditional modes of learning, cutting and pasting, role play, construction, group discussions, etc, and the computer was an add on.

In the classroom settings of today, where there is often a wide range of age groups and ability levels, we are constantly challenged by the enormous task of satisfying the wide range of needs and interests, while at the same time aiming to achieve maximum learning outcomes for all children. On top of all this, there is a system expectation that technology be embedded in all classrooms, including early childhood. We therefore felt that participating in the IBM KidSmart program would give us an opportunity to explore and reflect on our practice. With this in mind our research question became "*To what extent can the use of a computer be effective as a developmentally appropriate learning tool, for language and mathematical skills and concepts?*"

Within the early days of the program, teachers realised the concept of 2D to 3D reinforced essential skills and knowledge that have always been embedded within the curriculum in a new motivational way. Students' engagement in the software programs (2D experience) was high, and they were happy to extend their ideas

into 3D play, where the key points, strategies and characters from the software programs were replicated or included in similar "hands on," concrete learning.

Observing students' skill development, interactions and language development on the computer convinced us that technology was a wonderful tool to meet the diverse learning needs of our multi-aged, multicultural group of young children. We could see the potential for the focused development of social language and, more especially, the introduction and development of reading, writing and mathematical skills. The computer could introduce and extend these skills, which children could relate to their play. It could also be individualised to their specific needs, interests and developmental levels.

Teachers very quickly started to plan and program with a specific focus on integrating the computer as a tool for children to learn developmentally appropriate language and mathematics skills and concepts. For example, *Cookie Factory* from ***Millie's Maths House*** was an engaging program where students recognised numbers and reinforced counting. We were able to extend this activity to a 3D experience where students made cookies with play doh in real life and decorated them using number instruction cards. We quickly saw how students were becoming more engaged in the learning process, but we also wanted evidence in the form of data to verify the changes we were beginning to observe as a result of 2D and 3D integration. PIPS (Performance Indicators in Primary Schools) was selected as the tool for recording baseline testing for a select group of children in the area of language and mathematics.

> Observations

The following example early in the program challenged our belief that a teacher centred approach to teaching ICT was an effective method of immersing students in technology:

With the computer set up ready to go and the teacher unsure of how to use the Kidsdesk, the teacher was amazingly relieved when Lena (a relatively new student) wandered over and said, "I can do that," and immediately became the teacher.

That was the start of a very ***happy*** *story. The teacher began her learning program. lead by Lena, who felt so important. (Luckily for us, the teacher was in good hands and she made good progress, thanks to her special helper!).*

Lena continued to work, one on one, with the other students and within a short time there were lots of new experts. We then had a group of children who were successfully ***peer tutoring*** *other children, as well as adults, in the class. The skills the students developed went beyond numeracy and literacy outcomes to include dramatic changes in social interaction and social language, not to mention discovering the joys of learning on the computer. The children's engagement level was very high. We noticed them choosing the computer above other concept specific learning centres, and we knew we had to tap into this enthusiasm and harness their motivation for the computer as a tool to enhance learning.*

> Our Program Implementation

We began by using the PIPS program to test all children. This determined what basic language and mathematical skills the individual children already had. Then we knew at which level individual children would benefit most. We also identified specific programs, which children could confidently use to reinforce skills they were learning.

Our intent was to use the computer programs for specific teaching but, of course, we lacked adult time to sit with small groups or individuals. At this stage the children were so busy exploring their Kidsdesk and Kidspix that it was practically impossible to stop the enthusiastic race to find something knew and how something else worked. In fact, there was very little time available for adults to use the computer during school hours, unless they were caught up in the latest discovery, by a child desperate to show it off. Many times impromptu demonstrations were given by those children (who became the teachers) who knew they had a new discovery to share. At other times the quiet passing on of skills and knowledge would go on (across the purple seat), while the rest of us glued, painted or built to achieve our goals. And when I took time out to really notice and *listen* to what was happening here, the "**pure power of peer tutoring**" was very evident.

The children's enthusiastic and constant participation in a wide variety of programs was evidence of how much they love using the computer as a learning tool. Common phrases overheard were "*I can do it. I can do it, come and look, everyone.*" Groups of children regularly flocked around the computer to see what a child's latest discovery might be. They watched and then the questions started flowing. "*How did you do that?*" "*What happens if .....?" "Can I have a turn?" 'This is how you do it." "I'll show you how to do it." "Look at this." "Now do this." "I'll show him how to do i.t" "Can I help ..... do that?"* The excitement experienced by those with the more advanced computer and literacy skills snowballed to others, as quickly as children learn a new advertisement on television. I was then left with the question of, "Why structure adult directed time to teach an unknown skill?" This was in contrast to how the computer had been used in the past. The user-friendly Kidsdesk programs gave the children and adults greater freedom for exploration and independence. I decided not to structure time, until each child had had many hours of discovery time on the computer.

Within months it was evident a few children would benefit from the further exploration of skills and knowledge through additional software programs and linked 3D experiences. The computer provided a positive, non-threatening experience, which we took advantage of to use to reinforce or develop basic literacy/numeracy skills that were identified either through PIPS testing or other classroom observations (literacy net). After selecting appropriate learning opportunities, structured small group times with adults were used to target specific skill development. The children's participation in these groups was as enthusiastic as ever, because the computer was perceived as such a positive experience for them. Working in a small group had a number of benefits, as it allowed the students to learn from each other, as well as having skills reinforced by their friends, which promoted a sense of self achievement and success.

By the end of the program we had data to support our hypothesis that this attractive and stimulating learning tool increased focused learning time, which has attributed to the development of problem solving and communication skills in the area of language and mathematical skills, as well as the expected improvement of computer literacy skills. We can now say with confidence that we have observed the use of the computer as an effective, developmentally appropriate learning tool, for language and mathematical skills and concepts.

More Evidence

A new indigenous preschool student, who was rather reluctant to be at school, chose to sit at the computer. She was really amazed to see her photo on the Kiddesk screen, and raced over to get her mum. Her mum had kept her distance because she was afraid to be near the computer because she didn't know how it worked. 'Hey mum, I'm in the computer. Come and see." This mother was reluctantly pulled towards the computer to see what her daughter had to show her. They didn't do much that day but were both very excited about this picture on the computer. The child then asked if she could take the computer home to show her Nana. From that day on, the child and her mother spent progressively more time on the computer, with others huddled around them giving instructions on what to do next. When we had a "Meet and Greet" afternoon tea later in the term, the mother excitedly shared her experience with the teacher and other parents. I was unaware this had happened until that very day. The constant buzz of new things happening and the crowds that form, so that the computer is hardly visible, reflect the enthusiasm and excitement of learning and tutoring from the young and the old.

Reflection

The IBM KidSmart program has given us the opportunity to specifically focus on the use of the computer as an integral learning tool in our classroom. The results we obtained confirmed to us and our community the usefulness of computers as a tool to engage learning. The computer provided a fun and stimulating environment that promoted trial and error, problem solving and discussions but, most of all, mistakes were not seen as failure or something to be embarrassed about, but as challenges to master and solve.
This program has changed our pedagogical approach to integrating technology; we now believe we are providing a valuable learning tool, which provides learning experiences that:

- Cater for different levels
- Allow for achievement in different ways
- Accept and foster different ways of achieving learning outcomes.

Our team at Tranbury has experienced personal growth in the use of computers; the conversations and reflections we have had during and after the IBM KidSmart program have opened our eyes to the possibilities available for implementing and utilising computers within our teaching programs. We have learned that the uses of the computer are only limited by those who use them, and that children have no limits. The power of peer tutoring is an undervalued resource within the early childhood learning environment. Programs made available to the children can cater for their many and varied interests and needs. Critics who argue that computers do not belong in early childhood centres would be welcome to visit our classroom to personally become part of the excitement, and observe the obvious benefits the computer brings to the learning and enjoyment of these children

> The Future

Now that we are using our computer confidently as an integral part of our daily learning program, we will continue to build on our knowledge and understanding of its possibilities. We expect that our skills will continue to develop and open up new doors of opportunity for us.

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