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KIDSMART SNAPSHOTS

AUSTRALIAN NATIONAL SCHOOLS NETWORK

ANSN

IBM

KidSmart Snapshots

"The KidSmart Snapshots are designed to celebrate and share the cumulative learning, since 2001, of the early childhood schools and centres across Australia who, in some cases, were pioneers in their communities in making the digital journey to explore and develop innovative teaching practices that integrated technology within a play based curriculum" Hanan Harrison (ANSN National KidSmart Coordinator)

> KidSmart Project

The global IBM Early Childhood KidSmart program is a core component of IBM Australia's community investment strategy and has been proudly supported by the. Australian National Schools Network (ANSN). The reflective stories of 10 centres across the nation have been selected to capture the essence and diversity of the program that was designed to help bridge the technological gap for disadvantaged and rural communities. The main objective of the program has been to help make technology integral to learning by supporting early childhood educators, through the provision of child friendly furniture, an up to date computer, educational software, a printer and professional development, to effectively use new technologies in their teaching and learning programs. Since the program began in Australia in 2001 to mid 2007 IBM Australia has donated over 640 KidSmart units to school, kindergartens and childcare centres.

Participants in the project committed to work in professional learning communities for a 12 month period, where they were continually challenged to reflect, explore, innovate and implement strategies for technology integration for all young learners, regardless of their culture, academic ability or previous exposure to technology.

Through the stories of our KidSmart teachers, we hope other educators will be inspired to continue on the journey of technology integration. As new technologies are being made available, our thinking on how to engage and teach students will also be continually challenged. Regardless of innovations, we need to keep in mind that true integration gives purpose to the technology; it should never be just about the technology itself. Technology in the classroom has the potential to go beyond being a tool for aiding learning, to creating a powerful environment for engaging and connecting our learners to essential skills and knowledge, so they may explore the world in which they live.

> Connecting Technology to How Young Students Learn

Early childhood teachers would all argue that "play" is an essential component for extending learning in all areas of the curriculum. Technology also is an essential component in educating our digital students. Like play, technology has many of the same motivational aspects that hook children into learning without the stigma or fear of failure.

Educators need to examine ways that they can utilise their knowledge of the traditional play based curriculum and use the same philosophy for integrating technology such as computers, interactive white boards and webcams within their planning. One of the biggest mind shifts that teachers need to develop is the understanding that technologies, especially computer games, reach a new potential when they are incorporated into a multi-modal approach to teaching.

We are now in the era where the parents of our young digital natives have already made the connection with technology as a learning tool. By observing young learners interact with toys such as Leapfrog, Lego Mindstorms, Tamagotchi, Furby and Robotics, it is evident that they are not only having fun playing, but are also learning, through multiliteracies including basic skills such as problem solving and communication.

> 2D- 3D integration

The philosophy behind 2D and 3D integration is based on the fact that students learn best through a multi-modal approach, where they can view and interpret the world around them from various perspectives and activities. Teachers traditionally look at 'block corner,' 'dress up', books and other resources as potential stimuli to generate their students' interest in deeply exploring and understanding new information; or as an opportunity to extend ideas and theories through investigations, problem solving and future projects. Educators now need to view technology as another classroom tool to engage and connect learners, in the same way that other 'stations' are being used in the classroom.

In reference to the KidSmart project, 2D experiences are defined as the interactions a child has with computer software or other technology; while 3D experiences are defined as the more traditional, 'hands on' opportunities and experiences a child is exposed to as a means of communicating or demonstrating their ideas, usually in the form of play, collage, construction etc.. Providing opportunities for students to translate their ideas from various "languages" (one symbolic system to another one), allows students to explore and challenge their ideas from different perspectives, e.g. when designing a building on a computer program, a child could easily use a triangle with the point facing down as the base but, when constructing it using blocks, this becomes an impossibility. Students can then discuss and reflect on their learning, and develop an understanding about multiliteracies that a design might be possible in certain media, but not functional in others.

The following are some examples that demonstrate how activities can be moved from 2D to 3D integration, resulting in the computer game being an integral part of the lesson planning:

> Young Explorer package

IBM combined the Little Tykes colourful child friendly furniture, educational software and computer package together to form the Young Explorer Unit.

This package combines hardware and software in a new and innovative way that encouraged collaborative learning and sharing. Some of the unique features of the package include:

- The enticing robust work station designed by Little Tikes, complete with a bright purple bench chair which was specifically created to accommodate young learners working interdependently.
- An additional flat key board designed by IBM with large, bright letters for clear identification with the added bonus of preventing little fingers from jamming
- A compilation of educational software supplied by Riverdeep from the Edmark Early Learning Series which consisted of the award wining Millie's Maths House, Bailey's Book House, Sammy's Science House, Trudy's Time and Place House and Thinkin Things Collection1.

Example 1:

Software programs such as Sorting Station from Sammy's Science House that develop an understanding of the concept of comparisons and differences can be further expanded to include detailed discussions with students about the process of classifying objects. Extending the program into a 3D experience allows the students to explore the concept that classification is a process of developing and implementing a criterion for selection, and that the criteria can change, depending on what is seen as important. By engaging in these discussions students can critically reflect on classification programs, which are often closed activities where the criterion is preset by the programmer, and can discuss how the program would be different if the criteria were changed.

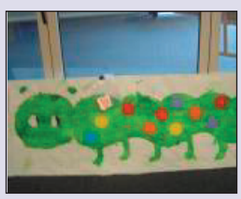
Example 2:

Descriptive language is a key component of many literacy software programs, e.g. programs such as My Friend in Bailey's Book House or Fribbles from Thinkin' Things. Tapping into students' motivations for making on screen characters can be easily extended into 3D learning activities, where students follow instructions to replicate their on screen characters by using collage, construction material or by simply drawing or painting their characters. 3D games can also be readily adapted that focus on descriptive language, e.g. students can make up instruction cards for each other that have a number of attributes that have to be replicated or found to produce the final character.

Another example of a descriptive game based on the Make a Friend Program (a game about recognising attributes) could include the class or the teacher making up a selection of cards which, when flipped over, have a description of a person they need to find in the room, e.g. a person with a yellow shirt, or a person with blue eyes. For more confident students, more than one attribute can be explored at one time.

Example 3:

Numeracy games that emphasise number recognition and counting, such as *Make a Bug* or *Cookie Machine* from **Millies Maths House**, can be further explored through 3D learning experiences like having students making their computer characters using construction and collage material. These activities can be easily adapted to 3D games that bring alive the characters and the concepts, for example, the *Make a Bug* game could involve designing two dice, one with numbers and the other with bug features on each side, which the students use to make their own bugs. The object of the game is to be the first person with a completed bug.



Example 4

Complex directional concepts such as understanding left and right, or North, South, East or West can often be confusing when viewed on a computer screen, e.g. forward direction is often represented using an "up" button and movement left and right depends where the characters are positioned initially on the screen. As most software packages are programmed for success, students can usually keep clicking the mouse until they get the characters facing in the correct direction without having any deep understanding of the positional concepts. Through 2D and 3D integration, students are provided an opportunity to explore and analyse the complexities of these concepts.

Program packages such as **Trudy's Time and Place** have a number of games that can be extended to 3D play to enhance learning e.g. Jelly Bean Hunt can easily be converted to an instructional activity, where a child takes on the role of being an ant in search of jelly beans, while the other students give directions to find the jelly beans. By taking on the characters, the students are provided with an opportunity to develop an understanding that left and right are positional concepts that refer to where one is standing, as opposed to North, South, East and West which are set positions, regardless of where one is positioned.

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The Australian National Schools Network (ANSN)

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