Write-up on Ngee Ann Secondary School's Innovative Use of Second Life to Promote the Teaching and Learning of Art

Introduction

GetsmART is an art gallery designed by teachers in Ngee Ann Secondary School, in collaboration with Figment Pte Ltd, in the social networking world of Second Life to help teachers use works of visual art in their curriculum to strengthen students' thinking and learning in a 3-dimensional virtual world. GetsmART is anchored by a pedagogy called Artful Thinking, developed by Project Zero, Harvard University Graduate School of Education to help students appreciate art while developing thinking skills through thinking routines in the process.

Description of GetsmART

GetsmART art gallery (See Figure 1), the first of its kind in the world, models after a real time physical gallery with gallery entrance and various rooms where art works are displayed. In GetsmART, students or visitors assumed the role of an avatar to move in the gallery. Upon entry, students will be greeted and a welcome note given. Following the footprints on the ground, they will be led to a tutorial room where students can read up on additional information on the pedagogy that is used - Artful Thinking. After which, guided by the use of a questioning and investigating-centered routine, "I See/I Think/I Wonder", and two observing and describing-centered routines, "Colors, Shapes, Lines" and "Looking: Ten Times Two", students walked through the gallery with 3 pieces of 2-dimensional works displayed on the wall.

As they proceed further, students in their avatars will enter into an environment that simulates the third piece of work, *Deserted*. This is a unique learning experience only made possible in GetsmART where students actually get to "enter" or "walk" into the drawing itself with the exact replication in the 3-dimensional way. Students get to discuss about the art while being virtually inside the art piece. The last part of the gallery leads student to an atrium with lush vegetation where students are to sit and relax while discussing about the works they have seen.

The benefits of the amalgamation of both 3D virtual technology and the pedagogy are immense. This project has enabled students to acquire knowledge of the art works. Thinking and learning is evident as learners are engaged throughout the process. Post-survey was administered to elicit feedback from the 119 students. 96% of the students were engaged when they took up the role as the avatar. 92% agree that thinking routines helped them to know a painting better and that through the use of thinking routines, they can think deeper about the painting. 96% of respondents agree that 'GetsmART gallery in *Second Life* helps me in my learning' and 91% prefers this mode of learning art than the normal classroom teaching.

Value creation for Ngee Ann Secondary School

The infusion of technology and innovative pedagogy focuses on enabling students to experience and appreciate art in the virtual world. This project harnesses the power of a social networking environment that seeks to engage students and to improve areas in the curriculum that will strengthen students' thinking and learning through the use of "thinking routines". Teachers, and students alike, would benefit as a result of greater efficiency and virtual interaction that enables both teachers and students to focus on the key pedagogical aspects of project work while minimizing the barriers to self questions and high-order analytical skills. Such interactive platform will allow teachers to engage students with immersive environment where information and knowledge can be obtained by the student, through his or her own action or from his or her viewpoint. Scoped within the Singapore Ministry of Education's *Teach Less,*

Learn More framework, this project encourages teachers to plan lesson that will lead to greater self-directed and engaged learning, helping students search for knowledge, think for themselves, question and solve problems.

The GetsmART gallery is opened 24/7 and can be made available to any student from any part of the world when access is granted. The paintings in the virtual gallery can be replaced with new ones with each new lesson. There is potential for students from Singapore and their overseas exchange programme partner schools to use GetsmART for lessons exchange and collaboration online.

GetsmART is impactful because it is anchored on a sound and well-researched Pedagogy. We are proud that GetsmART was given a mark of endorsement by Shari Tishman, the Principal Investigator of Artful Thinking and Director of Project Zero, Harvard University Graduate School of Education. Shari Tishman described GetsmART as a "wonderful innovation – tremendously promising." She added that GetsmART "creates a great mechanism for documentation of student thinking" On top of this, the gallery also received good reviews from a Second Life virtual critic. In October 2009, Shari Tishman approached Ngee Ann Secondary School for permission to cite GetsmART's project paper as one of reading material for her graduate students in Harvard.

The project has value proposition for Singapore. In fact, it has gained international recognition as it was recently presented at a poster session at ICERI (International Conference in Educational Research and Innovation) in Madrid (Spain) on 18 November 2008. There was positive feedback received from conferees and many expressed interest in the project and had plans for it to be adopted back in their home country.

Awards and Recognition

(1) Commendation by Shari Tishman, the Principal Investigator of Artful Thinking at Project Zero, Harvard University Graduate School of Education. (Shari Tishman's email to Ngee Ann Principal dated 22 Dec 2008)

(2) Good review by Second Life Reviewer (See article "Amblings on Second Life" by Aleister Kronos" in http://slambling.blogspot.com/search?q=figment) on 17 Oct 2008.

(3) The project, "Artful Thinking in *Second Life*" was presented at a poster session at ICERI (International Conference in Educational Research and Innovation) in Madrid (Spain) on 18 November 2008.

(4) A full research paper on GetsmART was accepted for presentation at the International Thinking Conference (Kuala Lumpur) in June 2009.

(5) GetsmART was given the Silver Award at the 2009 SPRING Singapore National Innovation Quality Circles Convention in March 2009.

(6) GetsmART was given Commendation award at the Ministry of Education Innergy Award in March 2009.

(7) Upon request by Shari Tishman, the Principal Investigator of Artful Thinking at Project Zero, Harvard University Graduate School of Education, GetsmART's paper was cited as one of reading material for her graduate students.

(8) GetsmART was presented at Festival Di Arts organized by Innova Junior college in Sep 2009 at the Singapore Management University.

(9) GetsmART was included in the opening video during the opening address at International Conference for Teaching & Learning with Technology (ICTLT 2010).

(10) GetsmART was presented at Singapore Infocomm Development Authority (IDA) industry track during International Conference for Teaching & Learning with Technology (ICTLT 2010).

(11) GetsmART has been accepted for presentation at the 5th International Conference on the Arts in Society at University of Sydney on 22-25 July 2010.

Local and overseas schools that are given access to GetsmART:

Overseas Institutions
Harvard Graduate School of Education, USA
St Joseph's College Gregory Terrace, Brisbane, Australia
A.B. Paterson College, Brisbane, Australia

Local Institutions
St Hildas Primary
Mayflower Primary
Bedok View Secondary
Pasir Ris Secondary
Tampines Primary
Clementi Primary
Henry Park Primary
Nan Hua Primary
Qifa Primary
Yuhua Primary
Clementi Town Secondary
Shuqun Secondary
Tanglin Secondary
 New Town Secondary

Figure 1: GetsmART Gallery

Image A: Gallery Entrance
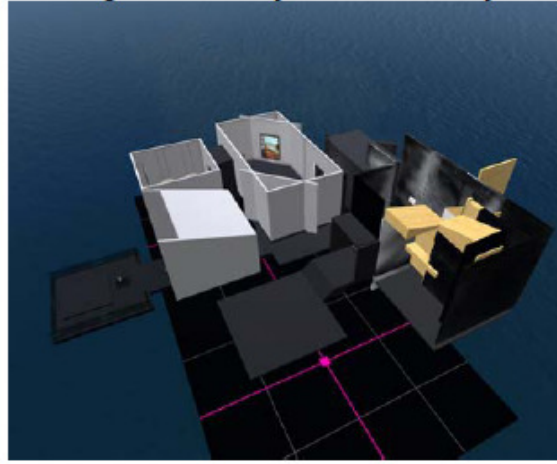
Image B: Bird's Eye View of Gallery

Image C: Deserted (Two Dimensional)

Image D: Deserted (Three Dimensional)