

Turning Students into Global Citizens in a School Setting

Game allows Singapore students to play roles and actively respond to world problems.

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In a globalized world, we need to educate our children on global citizenship. Education should prepare children to be agents of change, rather than just passive observers of world events. In Singapore, we need to train young people on how to live together in an increasingly diverse and complex society, as well as equip them with knowledge and skills in interpreting fast-changing information.

The reality of today's classrooms includes an overcrowded curriculum and a limited

capacity for global citizenship education. With this in mind, the Centre for Research in Pedagogy and Practice (CRPP) in Singapore has funded a research project involving the design of a "game-like" learning environment for primary school students in Singapore.

The following essay describes how two classes of 5th grade primary students at the Central Primary School learn English, mathematics and science by playing the role of global citizens. In the game,

“The reality of today’s classrooms includes an overcrowded curriculum and a limited capacity for global citizenship education.”

Atlantis (an imaginary place), is facing ecological, social and cultural decay, brought about by the rulers' pursuit of wealth and modernization. The challenge for each student is that he or she becomes the central character who would save the Atlantis. The mission of each student is to save Atlantis.

As the game plays out, the central character encounters different problems (similar to pressing global issues), so each student is expected to research and suggest solutions to the problems by himself or with his fellow questers. These problems closely adhere to the curriculum of Primary 5 in English, math and science. The goal is to prepare students to live in a world of rapid change, interdependence and diversity, as well as shape the future of globalization.

Beginnings of the project

In 2004, the authors of the game, Cher Ping Lim and Lee Yong Tay worked with local Singapore teachers and students in the use of an educational multi-user virtual environment or MUVE. Named as Quest Atlantis (QA), the project aimed to create a meaningful context for students to engage in the learning of English, math and science in primary schools. Quest Atlantis (<http://www.questatlantis.org>), a technology-rich strategy and inquiry game, was developed by the Centre for Research on Learning and Technology (CRLT) at Indiana University Bloomington in the United States.

Quest Atlantis consists of four core elements:

- (1) A 3D MUVE,
- (2) Learning quests,
- (3) A storyline, presented consistently throughout the QA space via video clips, novels and comics, which involves a mythical council and a set of social and knowledge commitments, and
- (4) A globally distributed community of participants from the United States, Australia, Singapore, Malaysia, China and Denmark.

Role of the teachers in QA

Teachers use the teacher toolkit in QA to register their students, assign learning quests to students and provide individual feedback on students' completed quests. Students log in through networked computers and enter the 3D MUVE where they can choose a virtual character, an avatar, that is free to move around in the different virtual worlds and interact with other avatars and complete the quests. Sample virtual worlds include Culture World, Unity



Figure 1. The Elements and World of QA

World, Ecology World and others. Sample quests include researching other cultures, analyzing newspaper articles, interviewing members of the community, and using software to design a meaningful document.

In order to examine the learning engagement in QA and its activities, engagement has been translated into observable traits or "behavioral indicators." These consist of seven distinct forms of engagement. At Engagement 7, the highest level, there is evidence of literate thinking. This is perceived as intentional learning involving problem-solving and self-regulatory skills. At Engagement 1, the lowest level, there is disengagement.

A game-like environment

Playing games under the "quest" category involves obtaining and analyzing information. Role-playing allows the students to change their character, qualities, activities and resources. At the outset, QA sets the stage or context for the students. To rebuild and restore lost wisdom, the Atlantian Council creates a series of quests.

The teacher plays the role of an Atlantian Council member who mentors and assigns appropriate quests to his/her students. The Council member rejects the students' quests, as needed, with constructive remarks. The students revise the quests until the Council accepts them. The students' ability to act in an emotionally engaging simulated situation—without the serious consequences that such action might have in the real world—allows them to repeat or revise their strategies, improve their performance and deepen their commitment.

The study on the use of QA in Indiana schools in various countries found that situating the play activities in a socially responsive context provides an element of meaning and value among the students, and hence, enhances their engagement in the learning tasks. QA aims to help children develop their own



Students at work in virtual play spaces.

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sense of purpose as individuals, as community members and as knowledgeable world citizens.

Seven fundamental values

The QA story, roles and quests have been developed based on the seven commitments defined by the Atlantian Council to support the mission:

- Creative expression – *I create*;
- Diversity affirmation – *Everyone matters*;
- Personal agency – *I have a voice*;
- Social responsibility – *We can make a difference*;
- Environmental awareness – *Think globally, act locally*;
- Healthy communities – *Live, love and grow*; and
- Compassionate wisdom – *Be kind*.



Figure 2: Quest Atlantis Commitments

Specific curricular topics

The topics identified for the construction of the quests include pollination and reproduction in science, fractions in math and descriptive essays in English. There are 12 assigned (compulsory) quests consisting of nine discipline-specific quests (math, English and science) and three inter-disciplinary quests, and six optional (allowed) quests. Figure 3 shows an example of an interdisciplinary quest (English and social studies) on “Who’s who: a directory of important people from Earth” that is tied to the commitment of personal agency.

Teachers, considered as classroom gatekeepers, are often held responsible for the academic and motivational successes and failures that occur in the classroom. Hence, the professional development of teachers is a key strategy in ensuring the sustainability and scalability of the project. More importantly, supporting the teachers “scaffolding them over time and space” has tended to transform this new learning into effective classroom practices.

Support for teachers

The study also provides a “mentorship model” for the teachers to ensure individualized attention and create a safe environment to operate in a QA-mediated lesson. The model supports the teachers in instructional planning and classroom implementation where they are encouraged to think, reflect and put their thoughts into practice. Apart from professional development, the teachers need technical and administrative support from the school to use QA to engage their students in inquiry-oriented learning.

Almost all of the students observed were between Level 1 (disengagement) to Level 3 (frustrated engagement) during the first three lessons of questing. The low levels might be due to the exploration of the different worlds in QA, the lack of understanding of the quest requirements and expectations, and/or the unfamiliarity with taking control of their own learning.

After the third session, the author and teachers

Village: Culture World Hub		
Lumins: 3	Reviewed by:	Social Commitment:
Cols: 3	Council	Personal Agency

Because of Mara and Nakal’s edicts in Atlantis, we have lost most of our historical records. As a result, the younger generation has little sense of the past and the important contributions of previous Atlantians. A historian in Atlantis recently proposed that we secretly build a directory of Important People from Earth so that we Atlantians can learn more about these people, look upon them as role models and use the Directory as a guide for compiling our own historical records. We are asking you to choose one important person, find out more about their life, and nominate them for inclusion in our Atlantian Directory.

You will need to do research by looking at books and exploring the Internet to gather information about these important people. The person you choose should have the qualities we need to make Atlantis strong again, people we can learn valuable lessons from. You will need to justify why these two people should be included in our directory. You will be able to pass your nomination on to the council through the Important People of our World bulletin board.

Your Goal(s):

- Discuss as a class what makes a person important to society. You might want to consider examples from history as well as famous living people.
- Research briefly one person who you think is important. Use the resources or search on the web to find out more about this person.
- Write a few sentences about the person you’ve suggested, describing briefly their importance to society and why you think it would be good for Atlantians to know about them.
- Post what you have written on the Important People of our World bulletin board and feel free to read and respond to what your friends have written. Do make sure to follow carefully the instructions for posting when you get to the bulletin board.
- Notify the Council through your quest response when your nomination has been posted.

Resources

These resources will help you find important people. The final link is to the bulletin board where you will propose your two important people.

You may use the following link(s):

- Biographical Dictionary
- Almanac: Biography
- Important People of our World Bulletin Board

Figure 3. An example of an inter-disciplinary quest (English and Social Studies)



Students working collaboratively in the classroom.

began to build more scaffolding into the QA-mediated lessons to address the low levels of engagement. Interventions included whole-class discussion of the quests and time-management before students started out on them. They also involved thinking-aloud modeling of the completion of a quest and provision of samples of completed quests that have been accepted by the Council. After the third session, there was a significant shift of engagement levels among most of the students.

Constraints

The teachers pointed out the constraints they had faced during the study:

- Lack of time
- Mode of assessment: The students in the two classes were assessed by the same examinations as the rest of the classes. The teachers admitted that most of the non QA-mediated lessons were taught didactically. This might lead to inconsistencies of practices and expectation between the QA-mediated lessons and the rest of the lessons.
- Lack of familiarity with the QA commitments

Motivation and commitment

This study has shown how the teachers have engaged their students in the learning of English, math and science as global citizens and how Quest Atlantis has enhanced the students’ academic motivation and commitments. Also, the study brings up an educational innovation’s sustainability and scale in a school system. It also highlights the constraints of the project’s continuity and survival. Although the study uses a game-like 3D

MUVE to situate the learning of specific subjects at a primary school in Singapore, its processes and findings may have wider implications for global citizenship education in other schools, not only in Singapore, but also in other parts of the world.

Samples of these implications are:

- Global citizenship as a meaningful context for engaged learning in schools;
- Developing a research culture in schools as a stepping stone for global citizenship education; and
- Professional development of teachers and school leaders in global citizenship.

Globalization, a complex and multi-dimensional phenomenon, has become part of everyday life that complicates local, national and global boundaries and creates tension between local and global dynamics. In light of these challenges, it is essential for education to prepare learners—children and young people—to become global citizens.

The authors of this essay hope that this account provides the context of the Quest Atlantis project and explains its findings. These interpretations are not the result of a single situation; they are built over the course of the study and guided by the literature review and the methods employed. Readers have to make the connections, specifically how the findings relate to their own situations and specific experiences. In the same way, they need to determine whether the account fits their situation and whether the approach is viable in their own system. In the process, they acquire a new perspective for making sense of their experiences and refashioning the method for their own needs.