Title: Exploring possibilities of MUSEs in promoting creative thinking and Chinese language learning

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Exploring Possibilities of MUSEs in Promoting Creative Thinking and Chinese Language Learning

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Abstract: In this paper, we propose, based on the Image Streaming technique, to develop a Chinese MUSE environment. The MUSE environment will be constructed based on a classic Chinese literature known as the Song of Mountain and Sea. We discuss potential benefits of such an environment and propose possible research directions.

Introduction

Many people in Singapore still perceive Mandarin learning primarily to be a process of information receiving. This approach has been effective for exam-driven type of learning. Pupils learn the Mandarin language by memorization, accept what they are told and do not ask many questions. However, in this learning process, little thinking is fostered, especially divergent thinking (Chen, 1998). Research has shown that pupils who did well in the curriculum-based tests fail to perform well on life-based tests. One possible explanation of this discrepancy is that “Mandarin language lessons tend to be more teacher-centred than student-involved” (Soh & Chia, 1997, p. 82).

On the other hand, although Singapore has started integrating IT and thinking skills into the curriculum, many of the primary school Chinese language teachers are still at the introductory stage of integrating IT into the curriculum. How to use PowerPoint in the lessons, using CD-ROM’s in the computer labs etc are the main concern of most teachers.

In countries like the United States, a second stage teacher and instructors who are IT literate and need no courses in integrating IT into curriculum have emerged (Scandamalia, 2000). On one hand, these teachers are looking for some ways to handle the long standing problems of education-low literacy etc, on the other hand, these teachers are looking for something beyond the traditional objectives…more than multi-media and Internet search skills. Singapore may very soon follow the trend that is happening in the United States. It is therefore timely to look beyond the introductory stage and prepare for the second stage to arrive, to explore new approaches to inculcate IT, Chinese literacy, and thinking.

This paper aims to explore the potential benefits of developing a Chinese MUSE environment. The MUSE environment will be constructed based on a classic Chinese literature known as the Song of Mountain and Sea. Based on the underlying principal of a special learning method known as Image Streaming, a Chinese MUSE may develop students’ language and thinking ability.
Image Streaming as a Think Aloud Strategy for Sharpening Perception

Image Streaming (Wenger, 1974) is a technique that builds on an ancient method called ‘Socratic Method’ (Wenger, 2000). According to Wenger, the purpose of the ancient schools in Greece was to provide the leading thinkers and perceivers with quality audiences to whom to describe their perceptions, in order to develop those perceptions further.

Based on ‘Socratic Method’, Image Streaming was created: What one describe aloud, to an external focus such as a live listener or a tape recorder, while examining it in perceptions, will enable one to discover more and more about. It is therefore believed, not only does one increases one's language ability, but the thinking ability also improves. The reason being this action activates the process which integrates the imaginary part of the right brain to the verbal part of the left brain, thereby building up communications throughout the brain. For example, according to findings from Wenger (1974), and Reinert (1989,1990) people who undergo Image Streaming training gains a full point of on the IQ test for every 80 minutes of home practise.

Image Streaming Using the Chinese Language: Example of the Song of Mountain and Sea

The Song of Mountain and Sea (shan[1] hai[3] jing[1]) is one of the earliest account of Chinese attempting to explore the world around them. Written around BC220, in a period where imagination and fantasise ruled, the imaginary world created in the book fascinated scholars for more than two thousand years after it was created, long after the mysteries of this world has been largely conquered by science and technology. Even today, it is a highly regarded piece of ancient literature.

The Song of Mountain and Sea, judging by the geographical knowledge of today, is a journey of imagination. The world as described in the book is most probably non-existent, as least, not today. Although restricted by the limited vocabulary at that time, the writer actually described the adventure in enough details for maps to be drawn out. On the other hand, the ancient literature leaves enough rooms for additional details to be put in.

Some reasons for using the Song of Mountain and Sea for research:

- Image Streaming training: The imaginative world can be a good ground for image streaming training as the users has a wonderful world of imagination to explore, and since the user will need to describe this world to other users, ample opportunities for detailed description is provided.

- Fun: Recreating this imaginary world from the Song of Mountain and Sea allows students to experience the excitement and imagination as encountered by the ancient explorers.

- Chinese Language building: And as the literature was written in Chinese language and in Chinese context, it can be used for developing Chinese language ability.
• Introduction to important literature: Instead of having to read the ‘classic’ version of the *Song of Mountain and Sea*, students are introduced to this piece of literature through fun and play.

**Image Streaming in MUD, MUSE, and MOO Format**

MUD (Multi-user Dungeon) is a kind of virtual reality where multiple users get connected across the Internet. MUD with educational theme and social content for behaviour is known as a MUSE (Multi-user Simulation Environment) or MOO (MUSE Objective Oriented). We propose to develop a world from the *Song of Mountain and Sea* using this technology.

In such an environment, the user will experience the excitement of exploring a new land in the time their forefathers lived in. The users may assume roles of different characters from the original literature the *Song of Mountain and Sea*. If technology permits, one of the characters would be the computer, where data are input based on the *Song of Mountain and Sea*. This computerised character would appear / talk at certain time to add details to the journey. Ideally, this character would provide good models in Chinese communication. Different users may travel together or apart. They will be able to communicate to each other, describing in details what they see on the journey. In this process, the users will be trained in Image Streaming, where live partners, description, and imagination is involved. At the same time, they can develop their command of the Chinese language.

Integrating the Image Streaming technique with MUSE may serve the following educational goals:

• Sharpening perception: Students will examine their perception to living audiences while they communicate with other users in the world from the *Song of Mountain and Sea*. According to findings of Wenger, students may discover more about the things they are describing and examining.

• Improving Chinese language ability: Like the English version, frequent users of Chinese MUSE may improve their command of language over time. In order to use MUSE, students are faced with just about every grammar lesson, and writing lesson that would be presented in a "traditional manner" (Manning, 1996).

• Immersion: A common phenomenon in the spoken Chinese language in Singapore is that dialects and expressions in other languages are added into the mixture. This is also a common feature in Singaporeans' use of English, which is sometimes known as the "Singlish". Although it is comprehensible by most Singaporeans, this form of communication encourage students not to use complete Chinese sentences, an undesirable habit when communicating to Chinese in other parts of the world. In the MUSE world, all users are immersed in a Chinese-speaking environment, and thus the language can be picked up easily through practise.

• Creative Thinking: Imagination and creative thinking is evident throughout the entire journey. Users will be stimulated by ideas from other users, remote association while
examining own perception, vague graphics and information from computerised characters etc. Chinese characters are largely visual, and many are developed from pictograms. Image streaming conducted in Chinese language may stimulate a different dimension of imagination from its English language counterpart.

The Dilemma
MUSE is a text-based collaborative world. Users communicate through text and virtual images created in the mind. Only until recent, after the Web technology has become prominent, WOOs (Web-based MOOs) is gaining momentum. In order to take advantage of this new development, however, we are faced with the following dilemma.

Graphics versus text: the text-based MUSE offers teachers and students an unusual way to combine classroom content with imagination (Dyrli, 1996). Students are then given ample practises as they describe to their partners like: ‘I am now on top of a humongous hill with sharp edges…’ This is a good way to train student in refining language. However, new technologies allow WOOs to create the world with graphics. Although students with weaker command of the language may find it easier with the help of graphics, they nevertheless, would have less opportunity to practise their communicative skills. As graphics are self explanatory, the user may communicate well, i.e., messages can get across to other party easily, without having to describe in that much details as when all visual cues are missing. Without the need to describe in such great detail, the user may not have as much practise.

Creative thinking: A text-based MUSE on the Song of Mountain and Sea would have a set up where students will ‘travel’ in a world created by their imagination. Though multimedia allows images, sounds, actions to create a life-like simulation, it may hinder creative thinking or imagination.

Think-aloud: Audio conferencing method enable users to interact in spoken language. But it may further erode the imaginative component.

Unlike the English language where keyboard typing included all the necessary alphabets to form any word, Chinese characters typing is not as simple. Currently, there are different ways of imputing Chinese characters. In most Singapore primary schools, students uses Chinese software to key in the pronunciation of the Chinese word (known as hanyu pinyin), a list of Chinese characters bearing the same sound would appear. Students then choose the correct one from a list of characters with the same sound. Entering the pronunciation is also a problem among many Singaporeans because Singaporeans frequently do not pronounce words in the same way as in ‘Pu Tong Hua’ a standard Chinese language based on a dialect spoken in Northern China.

The Proposed Research
To explore the potential of Chinese MUSE, a research need to be conducted to find out:

- In terms of language building, which is more effective: text-based MUSE or Web-based?
In terms of creative thinking using the Chinese language, which is more effective: text-based MUSE or Web-based?

Is Chinese input a hindrance in such a virtual communication environment?

References
Wenger. (1992). *Beyond teaching and learning*. Project Renaissance, PO Box 332, Gaithersburg, MD 20884-0332