

Exercising the Heart of History Education: Negotiating the Past Through a Principle-Based, Technological Driven Knowledge Building Culture

Melvin Chan, Teck Whye Secondary School, Chan_Joo_Seng_Melvin@moe.edu.sg

Teo Chew Lee, MOE, Singapore, Teo_Chew_Lee@moe.gov.sg

Abstract: This study examined the use of historical concept in a class of Secondary one students inquiring on the topics on “Pre-1819 Singapore” and the “British Heritage in Singapore History” using a Knowledge Building approach and Knowledge Forum technology. Analysis of a selected groups of students ‘contributions was done according to four level of negotiation revealed in the class’ discourse. Students engaged in such historical discourse suggests the development of concept and process skill which points to the fact that knowledge building pedagogy and technology are conducive to quality teaching and learning of history. Results also pinpoint common misnomer about knowledge building in history class and how a teacher can facilitate such discourse.

Introduction

Learning History is often perceived to involve mainly memorizing of historical facts. To do well in History means to cram those facts from the textbook into memory and then to be able to regurgitate the facts at an examination. This notion translates into a persistent pedagogical problem in history classes that emphasized on conventional narratives as the “dominant educational tool” (Resendes & Chuy, 2012). The Recent educational shift towards cognitive and social processes served to remind educators about the need to look into the nature of the subject as well as to how students think and learn about complex concepts. The introduction of historical thinking in History classroom, liken to the way a historian work to construct a historical explanation, is slowly influencing the way people understand about history lessons. In recent years, history teachers realize that they can no longer be the only knowledge dispensers in class because of how quickly their students could search for similar, if not more, of the required facts on the Internet. They are sensing a shift in their role to engage students in historical reasoning and inquiry on complex historical issues (Fulbrook, 2002).

Also, Learning Sciences Research (Bransford, 2002; Sawyer, 2008) has provided sufficient evidence to convince educators that students should engage in collaborative knowledge building activities which include questioning, researching, evaluating, analyzing, negotiating, and synthesizing to prepare for real knowledge work. This study attempts to study (i) the way in which students negotiate a historical phenomenon and recorded the pattern of interactions designed by the teacher in his Knowledge Building history class.

The classroom and teacher’s design

The participants of this study were from one secondary one (grade 7) class. This class is considered the less academically inclined group in school. Humanities subjects for lower Secondary in the school ran on a modular system which means students only have three months (July to September) of a history lesson in a year while the rest are for Geography lessons. The teacher observed that the class tends to ignore contesting views or change to adopt the new view when they are made to do whole-class discussion during the introductory sessions

KB principles, activities, and teachers' rationale.

Table 1. Mapping the KB principles, the KB activities and the teachers' rationales behind the design.

KB principles	<i>Democratizing Knowledge; Improvable Ideas; Community Knowledge</i>		<i>Improvable Ideas; Real Ideas and Authentic Problem; Epistemic Agency; Constructive use of Authoritative Sources</i>		<i>Epistemic agency; Rise above; Knowledge building discourse</i>
Inquiry process defined in Syllabus	<i>Sparking Curiosity</i>		<i>Gathering Evidence and Exercising Reasoning</i>		<i>Reflective Thinking</i>
Teacher's pedagogical move	<u>Start:</u> Design for students to surface current/ intuitive understanding to the issue or theme	<u>Seek:</u> Design for students to formulate ideas/ questions relating to the issue or theme.	<u>Spark:</u> Design for students to read, exchange and craft online comments.	<u>Stretch:</u> Design for students to synthesize ideas based on peers' suggestions and craft "a better theory" note.	<u>Scale:</u> Design for students to reflect on their ways of learning and/ways of thinking
KB Activities designed by the teacher (Stage 1: Pre-1819 Singapore)	Teacher facilitates whole class discussion through a class mind-map recording students' initial idea of Pre-1819 Singapore	Students post initial questions about pre-1819 Singapore. Next, there will be a whole-class discussion in deciding the overarching inquiry question.	Students, in pair, craft their initial stand to the overarching inquiry question then they read and comment on their peers' notes (using KF scaffolds). The comments can be a disagreement, suggestions or areas of concern.	Students, in pair, review peers' comments. They then make reference to these comments and synthesize information to formulate a "better theory" (KF scaffold) to the overarching inquiry question.	Students reflect on how they derive at the enhanced theory (KF notes). They weigh which is the best enhanced theory. Teacher show students' historical growth through the KF analytical tools and observations.
KB activities designed by the teacher (Stage 2: British Heritage in Singapore)	Students share ideas and examples of "British Heritage in Singapore". They read the build-ons to their ideas (agree/ disagree with justification).	Students work in groups to synthesize ideas on heritage before formulating a group inquiry question that they want to explore further.	Students brainstorm and research on their group inquiry question and craft their initial stand. They then build-on to their peers' entries in the following areas:(i) relevance of their examples and research,(ii) quality of their research and/or (iii) suggestions of other examples.	Students, in groups, make reference, review and synthesize the information to formulate a final group inquiry question. They also consider comments to their new inquiry question	Students reflect on the following through a survey on: (i) their perception of history (ii) their ideas/ viewpoints of a collaborative classroom culture (iii) their opinions about KB and KF and its use in facilitating their historical thought processes.
Rationales for KB activities	Increases students' ownership and engagement of learning. Understands students' prior knowledge and/or misconception related to the historical issue. Brings about a culture of "democratization of Knowledge" and collaboration.		Enculturates meta-cognition for history Gets students to appreciate conflicting opinions. Brings about a "building-on" versus "answering" culture	Strengthens students' meta-cognition through iterations of evaluation and reconciliation of varied opinions, perspectives and/or ideas to the issue. Creates authentic history learning environment that emphasises on co-learning and referencing	Encourages reflective thinking with regards to personal learning process and development. Celebrates the growth of historical understanding and personal attributes of the students
Rationales for small group and whole-class activities	Allows students to appreciate diverse ideas from a community and for them to understand the need to "pull-together" diverse ideas to develop improved ideas.		Supports assessment as learning through the culture of cross-referencing. Helps students appreciate that history is a social construct and historical discourse involves negotiation and collaboration.		Develops students' understanding that good history research requires collective questioning and inquiry.
Affordance and Rationale(s) of Knowledge Forum	Provide a collaborative space for students to see the reservoir of ideas (e.g. questions, viewpoints and concerns) at a glance and increases possibility of students seeing connections between varied information/ideas. Support students' historical and meta-cognitive reasoning through its six KB scaffolds. Referencing tool facilitates the habits of incorporating others' ideas to refine one's own idea.				KF analytics tool provide timely analysis that allows students to reflect on their interactions and growth.

Analysis of Stage 1 inquiry: Pre-1819 Singapore

Data collected includes students' notes and learning artefacts, teachers' design document and reflection. In this case, we focused on students' notes to analyse for how and to which degree the students negotiate ideas on the historical significance of Pre-1819 Singapore and the historical phenomenon of British heritage in Singapore. We traced and analysed each group's theory development, their reflection on their reasoning process, using the 4 level of students' stance in KB discourse in History (Table 2).

Table 2: 4 level of students' stance in KB Discourse in History

Level	Students' stance from kb discourse	Descriptions
Level 1	Ignore opposing ideas in KB discourse	Cancellation of challenging or contesting comments (be it differing stands or areas of concerns) without explanation or justification
Level 2	Switch to take up opposing ideas without explanation	Conformity to the opposing stand of the contesting comments and disregard their initial stand without explanation or justification
Level 3	Summarize information from different viewpoints/KF entries	Content Combination by merging and matching ideas due to their similarity or relevance. No clear evidence of historical concept as the overarching frame of thinking
Level 4	Synthesize to formulate new understanding of the varied viewpoints, ideas and suggestions	Conceptual Combination by forming an 'theory' or 'question' that uses the discipline of history such as procedural concepts (i.e. causation, change and continuity) or substantive concepts* (i.e. power, political, economic) as the overarching frame of thinking

We trace a series of students' build-on notes on the inquiry question: "Why must we study pre-1819 Singapore?"

Pair A's first KF entry provided a reason for the importance of studying pre-1819 Singapore.

My (Our) Theory: "We need to know Singapore before 1819 because we can know about Singapore past... By doing this we can better understand Singapore recent excavation of Fort Canning (that) provide evidence that Singapore was a port of some importance in (the) 14th century and used for transaction between (the) Malays and Chinese. We can also know what places in Singapore has changed and what significant event that took place in Singapore, we can also know that if Singapore is in connection with the countries."

Pair B neither agree or disagree with A. They posed a question to suggest a different perspective that Pair A could consider to better understand the question.

"My theory – we are convinced by them, We agree that it is important to know more about the history before the year 1819... "I need to understand – can you do research and tell us more about Singapore importance in the 14th century itself" "This theory cannot explain – how does knowing the recent excavation help us understand better of Singapore".

They seemed to suggest that the importance of knowing pre-1819 Singapore should not be measured solely on how it has led Singapore to who we are today or the lessons that we could learn. Instead, every period of time is important for its' own existence (historical context). In short, Pair B was seen to be adopting a meta-view of studying history for its own sake and not history for something (*level 4 stance in KB discourse*).

With this build-on from their friends in mind, Pair A went ahead to read others' notes and using KF referencing tool, Pair A referred to a note with detailed elaboration on two points, first being that 14th century Singapore, and second point that emphasized on the need to study the different time period for its own purposes. Pair A then connected these ideas in their "better theory".

Analysis of Pair A's "better theory" showed an elaborated description of the 14th century (*level 3 stance of KB discourse*). It included phrases that stressed on time, which happened to be an important Historical contextualization. Example of the phrases include "so that we will know what exactly happened then", "at that point of time", "back at that time Singapore is not..." Also, Pair A's note also contrasted events included in

peers' entries to highlight Singapore's importance in the 14th century, e.g. "*Singapore fell after 14th century because of better port in Melaka*".

Finally, they reflected on "how do they come to this better theory" and "why do they choose this way", Pair A echoed on how the idea of "that time" in their reading of other pairs' notes made them realise that "time" is an important element in historical explanation (*conceptual combination, level 4*). Pair A also expressed that they could not ignore the word "better" in the KF scaffold *A Better Theory* and therefore was constantly thinking of ways to make all information "glued together".

In summary, Pair A was observed to be reading and referencing to their friends' ideas in their notes. It was in this context of co-learning that explained how Pair A was able to synthesize different pieces of information and to use historical contextualization of time and causation to generate a better explanation for the inquiry question. In a similar vein, analysis generated from the KF analytic tool showed a higher frequency and longer span of conceptual words (e.g. relate, impact) as compared to content words (e.g. heritage, British) in the database.

Analysis Stage 2: British Heritage in Singapore

After experiencing an inquiry cycle showing how students were able to collaboratively construct new understanding, The teacher focused the second stage on bringing them through iteration of synthesizing and improving ideas. Students started at the initial stage of questions generation, then moving on to negotiation process and finally towards building a consensus that was demonstrated in their final product. Group A's KB entry it has been observed to change from "Is the British regulations good for Singapore?" to "Are we biased that we follow some British Education system until now?" through the knowledge building process. Students were more fluent in using KB scaffolds to ideate, e.g. (i) <I need to understand> the earlier question as too broad with no exact time reference and category and (ii) <New Information>a history-related question is about change.

A collaborative culture was developing as the teacher observed that Group A were able to enhance their final inquiry question using the idea of change and continuity, e.g. "*during our time with Malaya versus our time now*" (*level 4, conceptual combination*). This conceptual consideration was also evident where they incorporated various concerns raised by their peers by cross-referencing to Hong Kong and India (Both of which were British colonies too).

Findings and discussion

There were no entries that took the first two stances of level 1 (Ignore) or level 2 (switch to opposing ideas in KB discourse). In fact, students even mentioned that they should not discount or be indifference to other comments (be it differing stands or areas of concerns). This is in sharp contrast to what the teacher experienced during the introductory session when students were noticed to be quick in either dismissing differing ideas or disregarding suggestions and comments.

The teacher also reflected that he was pleased to note that the students were not merely sharing information but mainly working towards synthesizing to derive at conceptual knowledge. The opportunities for this group of students to synthesize their initial ideas, question, research and build-on their peers' comments have very positive impact on students' engagement in historical reasoning. The study presented here shows how engaging in knowledge building discourse can help secondary school students build conceptual combination from diverse ideas for historical phenomena. The analysis also suggests that students are capable of engaging in such knowledge creation endeavor and they are genuinely interested in building collective understanding.

Reference

- Bransford, J., Vye, N., & Bateman, H. (2002, April). Creating high-quality learning environments: Guidelines from research on how people learn. In *The Knowledge Economy and Postsecondary Education: Report of Workshop* (pp. 159-198).
- Sawyer, R. K. (2008). Optimising learning implications of learning sciences research. *Innovating to learn, learning to innovate*, 45.
- Resendes, M., & Chuy, M. (2010, June). Knowledge building for historical reasoning in Grade 4. In *Proceedings of the 9th International Conference of the Learning Sciences-Volume 2* (pp. 443-444). International Society of the Learning Sciences.
- Scardamalia, M. & Bereiter, C. (2003). Knowledge building. *Encyclopedia of education*, (2), 1380-1373.
- Fulbrook, Mary. (2002). *Historical Theory: Ways of Imagining the Past*. Routledge: London.