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Contents

HSSE Online is a peer-reviewed electronic journal published by the Humanities and Social Studies Education (HSSE) Department, National Institute of Education, Singapore. The main purpose of the journal is to energize, inform and improve teaching practice in humanities and social studies education and to provide a venue to share ideas, research and resources that will be useful to humanities and social studies teachers and scholars. We invite you to make use of these ideas and resources as well as contribute your own

Editorial: Reimagining History Education for a Changing World

This volume explores, in various ways, the ongoing relationship between the discipline of history and the school curriculum. While school history is not intended to fully replicate the academic discipline—and students are not expected to become professional historians—the enduring question of "what should school history look like?" continues to drive reflection and discussion among history educators, experienced practitioners, and pre-service teachers.

In this issue, we bring together contributions that address two related themes: (a) how history learning can be made more substantive and enduring, and (b) how curriculum goals can be actualised effectively in the history classroom. What connects these discussions is a shared commitment to a vision of history education that not only prepares students to do well in school but also to develop habits of mind to think critically about the past, reason with evidence, and engage thoughtfully with the world beyond the classroom.

Taken as a whole, the papers in this volume reflect the belief that school history must not only cultivate disciplinary thinking but also be positioned to respond to a rapidly changing social and technological landscape. Across the diverse perspectives and pedagogical approaches proposed by the authors, a common thread emerged: that history education must empower students with the knowledge, skills, and dispositions that can enable them to thrive and remain relevant in an ever-changing, complex, and information-rich future.

Responding to the first theme, Suhaimi Afandi and Edward Tan examine how historical knowledge can be made more "powerful" for students, enabling those who possess it to act within and beyond the discipline. Drawing from conversations among colleagues at NIE and UCL IoE, they explore an approach to lesson design grounded in the idea of 'powerful knowledge', where students develop deep historical understanding through conceptually rich, socially relevant learning experiences that extend beyond formal assessment.

Mathew Lim's paper extends this conversation by considering how artificial intelligence (AI) is reshaping the information landscape that students encounter. His work highlights how history education can prepare learners to navigate AI-influenced realities, while also showing how AI might enhance historical inquiry and students' engagement with history and the past.

In the following paper, Candice Yvette Seet and her team of teacher-collaborators shift the focus to the power of conceptual teaching in the history classroom. Their paper positions concepts as a vital organising framework in curriculum and instruction, promoting student agency and supporting the development of critical and adaptive thinking—key capacities for learners facing the challenges of an uncertain and fast-changing future.

Turning to classroom experience, Edward Tan and Suhaimi Afandi revisit the theme of lesson design by advocating for the role of 'play' in promoting engagement and deep learning. Drawing on their interactions with history student teachers at NIE, they suggest using lesson planning activities (through the Playwheel) to foster playful dispositions amongst pre-service teachers and allow them to reimagine 'playful learning' as a legitimate, engaging, and effective pedagogical approach.

The next paper by Gavin Swee further examines how current attitudes towards history learning can be reframed, by addressing the teaching of historical writing, an often underexplored area. He proposes a process-oriented approach that conscientiously supports

students in developing historical argumentation and reasoning skills, thereby strengthening their capacity to cultivate disciplinary thinking and writing aligned with historical inquiry.

The second half of the volume turns to technology-mediated lesson designs that can help develop students' thinking and reasoning in history. Student teachers – Kenneth Kway, Warren Ong, and Andrew Tan – discuss how platforms like Canva open up collaborative learning opportunities, exposing learners to new learning experiences and enabling them to co-construct understanding in dynamic ways. Veteran educators Ezal Sani, Lloyd Yeo, and Samuel Wee demonstrate this idea further by showing how virtual field trips can simulate rich historical experiences, allowing students to practise inquiry, develop historical perspectives, and connect more deeply with the past, all within classroom settings.

Finally, Jason Seng discusses how inquiry-based learning in history can benefit from insights in recent work undertaken in the science of learning. By incorporating frameworks such as Readiness, Coherent Construction and Consolidation (RCC), and the Information Processing and SEEKING System (IPSS), he shows how students' dispositions toward reading sources can be developed more intentionally and systematically.

Also included in this issue is Kevin Blackburn's review of *Teaching History: A Practical Guide for Secondary Teachers* by Jonathon Dallimore. Blackburn found Dallimore's book to be an invaluable resource that combines practical teaching strategies with clear explanations of key concepts in historical understanding. It emphasises the importance of historical thinking skills for academic growth, civic engagement, and the ability to evaluate narratives in public life critically. The book successfully integrates theory and practice, and encourages teachers to remain "bifocal" by balancing historical scholarship with effective instruction.

Collectively, these papers call for a reimagining of history education by emphasising practical and thoughtful teaching, supported by pedagogical refinements, to develop robust historical understanding while ensuring that lessons remain responsive and relevant to the demands of today's world. Central to this endeavour is a push for more engaging, future-focused approaches that make history meaningful for today's learners. We hope this volume offers useful ideas for the classroom and sparks ongoing conversation, reflection, and collaboration among history educators in Singapore.

Suhaimi Afandi and Edward Tan
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Towards Powerful Knowledge in the Singaporean History Classroom

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Abstract

This article examines how historical knowledge can be made "powerful" – to equip our students with knowledge that enables them to understand, engage meaningfully with, and act upon the world. By outlining the features of powerful knowledge—specialised, conceptual, epistemic, and ontological—and addressing key challenges in implementing a knowledge-rich curriculum, this article considers the avenues in which historical knowledge can be made powerful for students. It then provides a practical framework for translating powerful knowledge into classroom practice. By offering both theoretical grounding and concrete exemplification, the article aims to support history educators in designing learning experiences that are conceptually rich, socially relevant, and enduring beyond formal assessment.

Introduction

"Knowledge" sits at the centre of many curricula – in Singapore, the Ministry of Education's (MOE) Desired Outcomes of Education explicitly states that students schooled in Singapore should possess "the necessary skills and knowledge to take on future challenges" (MOE, 2023). The curriculum in Singapore is not unique. It sits within a broader knowledge-turn in educational and curriculum contexts around the world that has been ongoing since the turn of the 21st century (Chapman, 2020).

Central to this shift is the belief that it is no longer sufficient for students to simply accumulate facts and skills about a subject matter. Rather, students are expected to develop an understanding of the nature of the discipline's processes and the knowledge that has emerged from these processes. These include the methods and organising concepts that underpin the discipline.[i] In practice, this often translates to positioning the discipline at the centre of the curriculum. Students are therefore invited to explore the nature and contestations of the processes through which knowledge is derived.

Singapore's secondary history curriculum echoes these broad goals. Correspondingly, it aims to "develop in students an appreciation of past human experiences, a critical awareness of the nature of historical knowledge, and the ability to make connections between the past and the present" (MOE, 2022). The latest iteration of the history curriculum is part of a gradual growth in the centrality of disciplinary knowledge, which started in

the 1990s.

Beyond developing disciplinary competencies in students, there is also a desire to ensure that students can bring this knowledge beyond the confines of the discipline. In the context of recent educational discourse in Singapore, this may be referred to at times as the problem of transference. In the case of school history, this desire entails going beyond simply sharpening students' historical thinking and reasoning, and ensuring that an education in history empowers them to act in the world with confidence (Chapman, 2021). Therefore, one interpretation of the Desired Outcomes of Education and the history curriculum is to view it as a desire to impart knowledge that is *powerful*[ii].

But how does one bring powerful knowledge into the classroom? Implementing a knowledge-rich curriculum in the school is not without its challenges. Despite these challenges, the Singaporean history curriculum provides opportunities and frameworks for teachers to lead a classroom grounded in the principles of powerful knowledge, with the potential to provide students with enduring knowledge that can help them make sense of the discipline and the world beyond the classroom. These opportunities include the emphasis on conceptual understanding in the discipline and inquiry-based learning as a key pedagogical approach.

Born from a series of discussions between educators at the National Institute of Education (NIE) and the Institute of Education (IoE), this article will explore some of the challenges and tensions of a knowledge-rich curriculum and make the case for powerful knowledge in the classroom by examining the features of powerful knowledge and how these features translate into teaching practice. In doing so, this article aims to provide practitioners with a starting point for considering the various components that contribute to developing students' knowledge that is both empowering and enduring.

Challenges of a Knowledge-based Curriculum in the Classroom

Even though, as mentioned above, the Singaporean school history curriculum has been framed as a knowledge-rich curriculum for a few iterations and has provided opportunities for the development of powerful knowledge in students, the translation of these ambitions into actual classroom practice continues to face a few key challenges and tensions that teachers have to grapple with. They are: (i) a knowledge-rich curriculum is complex and demanding on teachers, (ii) a knowledge-rich curriculum competes with other goals of the classroom, and (iii) a knowledge-rich curriculum in history struggles against the perception that the knowledge it espouses is less useful (or less powerful) compared to other disciplines.

First, a knowledge-based curriculum is complex and demanding on teachers. Teachers must make sense of a complex series of conceptual ideas in history to inform their teaching decisions. These ideas tacitly demand that teachers not only be familiar with the substance of the historical knowledge that they teach, but also be familiar with the epistemological structures that underpin the development of that knowledge. Furthermore, teachers are also expected to translate that into the classroom in a manner that supports the conceptual learning and development of students (Chapman, 2021). To manage this complexity, several models have emerged internationally over the preceding decades to describe and account for progression in the conceptual underpinnings of historical knowledge. In the UK, this tradition began with the Schools History Project (SHP) in

1972, which first articulated the first and second-order concepts that served to organise historical knowledge (Gómez Carraso & Serrano, 2022). These ideas were subsequently developed into other models, most notably Seixas and Morton's (2013) 'historical thinking concepts' and Wineburg's 'reading like a historian' (Wineburg et al., 2011). Due to their influence in the framing of substantive (first-order) and historical (second-order) concepts in the Singapore history curriculum, educators in Singapore are unfamiliar with the ideas proposed by these scholars.

Second, a knowledge-based curriculum is perceived as competing with other classroom objectives. A key near-term goal of the classroom in Singapore remains student attainment on the standardised national examinations. Both the processes and desired outcomes of a knowledge-based curriculum often appear misaligned with excellence in formal assessment. For instance, even as teachers pursue conceptual learning in the classroom, the structure of the national examination appears to incentivise a disproportional focus on second-order concepts that are more directly linked to the types of questions that frequently appear in the examinations (Seow, 2022: 75). Furthermore, a knowledge-based and discipline-focused history classroom also seem to be a misfit with the needs of the majority of students in the history classroom as most of these students will neither go on to study history at a higher-level, nor will they go on to pursue history as a profession. In that light, focusing on history as a discipline rather than on assessment competencies and skills may appear to be missing the point.

Third, a knowledge-based history (and more broadly, the humanities) curriculum struggles with the perception that the knowledge it espouses is less practical, less useful, and less powerful compared to other disciplines, such as the natural sciences and mathematics. This is likely the result of history and the humanities' positioning within the educational system places it as a positive add-on to the otherwise "core" subjects of English language, Mathematics, and Science. At the same time, beyond the confines of the educational system, the natural sciences continue to prove to be instrumental in the improvement of our collective material well-being and have been closely linked to the health of the economy (Young & Muller, 2016; Horowitz, 1970). This characterisation further questions the value and purpose of teaching history conceptually or as a discipline.

Powerful knowledge has the potential to address these three challenges by bridging the gap between learning history for the sake of the discipline and examinations, and learning history to equip students with the ability to engage with the broader world. Powerful knowledge builds upon and supplements the models of historical thinking and reasoning that were mentioned earlier, but goes further, also considering what such knowledge might enable students to *do* if they possess it. It furthers competencies in the discipline as much as it orients students to bring that knowledge beyond the discipline.

By designing learning experiences in history around powerful knowledge, students can potentially be empowered to discover new ways of seeing the world today, engage in society's conversations and debates about themselves, and understand the grounds for accepting or rejecting knowledge claims (Kitson, 2021). Therefore, the principles behind powerful knowledge can serve as a meaningful organising framework to help teachers make informed design decisions for their

classrooms, thereby elevating the disciplinary knowledge being explored in the classroom into one that is powerful.

What is Powerful Knowledge?

Having laid out some of the promises and potential that powerful knowledge have for history education in Singapore, this section hopes to outline the features of powerful knowledge before outlining what its implementation might look like in Singapore's context.

The principle of powerful knowledge is rooted in a sociological approach to education. However, its roots in sociology do not diminish its contributions to curriculum discourse, nor does it reduce its relevance to our present demands in secondary education (as illustrated in the previous section). An example of its influence on curriculum design can be seen in England's Office for Standards in Education, Children's Services and Skills (Ofsted) positioning of powerful knowledge as a core feature of a balanced national curriculum (Ofsted, 2019).

Beneath the evocative and at times vague label of 'powerful knowledge' is the idea that, given a set of issues or problems, some knowledge claims have better claims to truth than other knowledge claims. Therefore, some knowledge can be said to be "more powerful" than others. Consequently, those who possess more powerful knowledge are empowered to act in and on the world. This is because they have access to knowledge that enables them to understand how relevant aspects of the world work and the potential consequences of different courses of action (Chapman, 2021; Young & Muller, 2016). In that regard, the Singapore history curriculum shares in the core promises and goals of a "powerful" knowledge curriculum.

However, the question remains: What are the features that make some knowledge *more powerful* than others?

The proposition that some knowledge is more powerful than others also implies that not all knowledge is 'equal', and that there are distinctions between knowledge. Young and Muller proposed three key distinctions: first, there is a difference between 'knowledge of the powerful' and 'powerful knowledge'; second, there is a difference between specialised and unspecialised knowledge; and third, there is a difference between powerful and less powerful specialised knowledge.

First, 'knowledge of the powerful' and 'powerful knowledge' are related but distinct ideas. Whereas 'knowledge of the powerful' is concerned with who has access to knowledge, 'powerful knowledge' is concerned with what knowledge can enable one to do. 'Knowledge of the powerful' emerged from a context in which educators were concerned that unequal access to knowledge in an educational system may serve to replicate existing social inequalities, such as differences in socio-economic classes, by reducing the ability of a group to accumulate intellectual and cultural capital. Even though Muller's observations were developed from his experience and observations in South Africa, they nevertheless provide some food for thought for history educators in Singapore.

Sensitivity to 'knowledge of the powerful' is pertinent to teaching history because, as an intellectual and disciplinary tradition, history is often characterised as an elite phenomenon – it is reduced to the big man in power and their actions, to broad national narratives and heroes, and significant events and their turning points. Even with recent developments in the scholarship of social and cultural histories,

history can still be stereotyped as the knowledge of the powerful. School history in Singapore broadly grappled with the tension (of historical knowledge as 'knowledge of the powerful') as one of the few educational systems in the world that excluded students from access to history – students formerly on the Normal (Technical) stream were not offered access to the discipline, an inequality in access that is only recently changed with the introduction of G1 Humanities (MOE, 2023b). In this light, the ideas of 'powerful knowledge' explored in this article serve as a timely organising framework for educators to distinguish between access to and selection of knowledge within our curriculum (knowledge of the powerful) and what that historical knowledge can enable our students to do (powerful knowledge).

Second, powerful knowledge is distinct from everyday common-sense and unspecialised knowledge that is derived from one's personal experiences. A brief example of this distinction is the difference between one's personal experience of an event in the past and the knowledge about a historical event that has been generated through sound historical inquiry into the past. Through disciplinary history, students' everyday ideas about how the world works and how people behave can be gradually transformed into more sophisticated ideas about how people of the past, who lived in a different context and possessed minds of their own, behaved and acted (Lee, 2005: 31).

Third, building on the first two points, powerful knowledge is specialised and produced in a systematic manner. The systematic production of knowledge often takes place through disciplinary communities (such as groups of scholars and the peer-review process) with distinct fields and foci of enquiry. The knowledge developed through these disciplinary communities is objective and reliable due to the procedures of these communities through which new knowledge was scrutinised. This specialised knowledge enables those who possess it to transcend individual cases by developing unique interpretations (Chapman, 2021).

With these features of powerful knowledge in mind, powerful knowledge in the context of history are specialised forms of knowledge within history that will enable those who possess it to: (i) make sound revisions to historical knowledge, (ii) impose organising conceptual frames to the past to approach the past as an entity, (iii) examine the milieu in which historical knowledge is being generated, and (iv) engage with the present. This can be expressed through four modes of knowing, as summarised in the Table 1:

These different modes of knowing, when explored collectively in the classroom, have the potential to provide students with a powerful knowledge and understanding of history. The table also serves to help organise teaching decisions and give a guide to the design and implementation of a knowledge-based curriculum for the classroom. The following section provides an exemplification and further discussion of how these central considerations help to give a richer and more powerful learning experience for students.

Table 1. Translating features of powerful knowledge into the context of classroom history

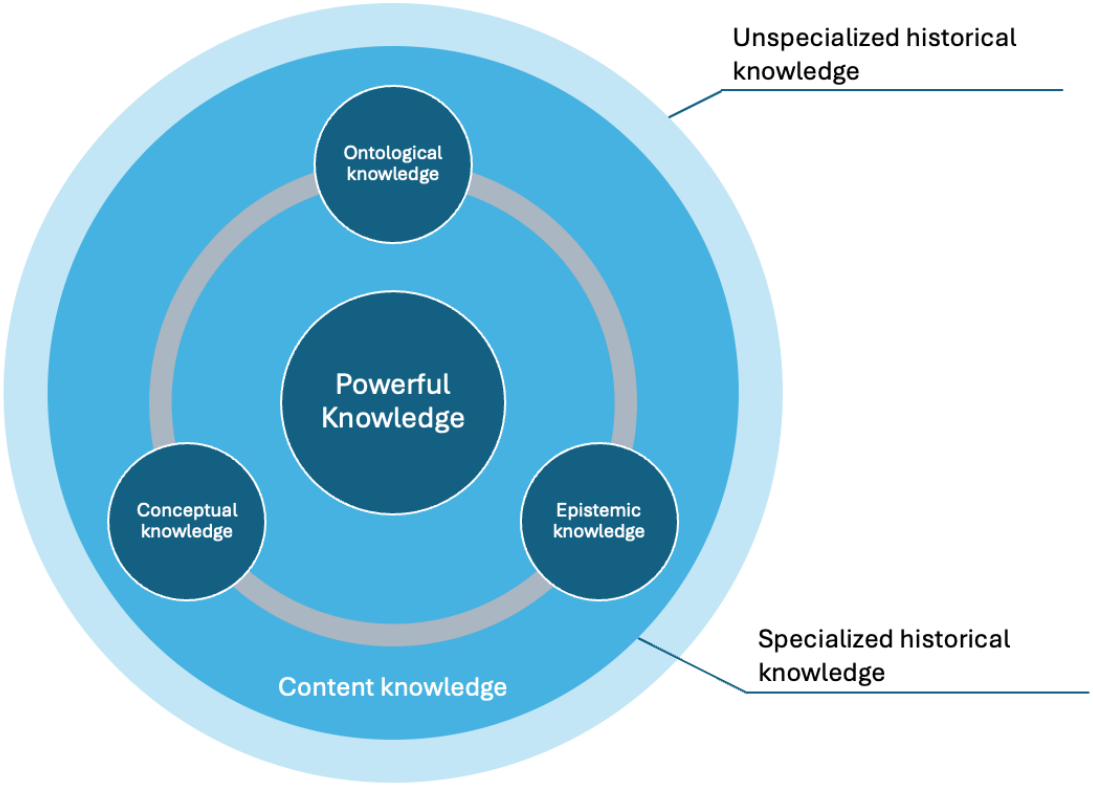
Knowledge	Description
Content knowledge	Knowledge of the past that is beyond one's immediate experience (as opposed to unspecialised historical knowledge, derived from daily experience, acquired through participation in the historical disciplinary community
Epistemic knowledge	Knowledge of how knowledge is derived and what the limitations are (e.g., historical methods)
Conceptual knowledge	Knowledge of how substantive ideas and events from the past can be organised in relation to present-day questions
Ontological knowledge	Knowledge of societal debates and interest in questions about the past

Bringing Powerful Knowledge into the Classroom

Given the features of powerful knowledge, what might that look like in the classroom? The following exemplification will utilise the topic of the Japanese invasion of Singapore from the lower secondary history curriculum to illustrate the considerations taken to bring powerful knowledge into the classroom.

As mentioned in the previous section, powerful knowledge in history should broadly provide students with content, epistemic, conceptual, and ontological knowledge, and this knowledge is distinct from unspecialised historical knowledge about the past. The figure below provides one way of conceptualising the relationship between these different modes of historical knowledge.

Figure 1. Features and aspects of powerful knowledge



Therefore, when considering a lesson, teachers will have to consider what unspecialised knowledge about the topic students may hold, as students are rarely *tabula rasa*. In the example of the Japanese invasion of Singapore, this might include facts and narratives that were acquired through family histories and other national commemorative events (such as Total Defence Day and National Day). Furthermore, students may also hold beliefs and ideas derived from more recent developments, such as equating accounts and experiences of current conflicts, current social organisations, and current geographies, to those of World War II. For instance, students may attempt to draw parallels and analogies between the ongoing Russian invasion of Ukraine, or to map how modern Singaporean society and government function compared to how Singapore functioned in 1942. This unspecialised knowledge serves as the starting point through which increasingly sophisticated specialised knowledge can be developed.

Beyond knowledge in content areas, unspecialised knowledge can also exist in the conceptual realm. For instance, words such as "causation" and "evidence" hold lay everyday meaning. However, they also specialised within the context of different disciplines. "Evidence" in the natural sciences implies a very different type of information and manner of using that information from that of history – the replicable and measurable data derived from scientific experiments represents a very different conception of "evidence" or proof from the particular first-hand account of a person who had witnessed the Japanese invasion of Singapore. Similarly, these unspecialised ideas of conceptual frameworks also serve as the starting point through which increasingly sophisticated

specialised knowledge about the epistemology of history can be developed.

After considering the unspecialised knowledge that students may hold about the topic, there is also a need to consider the content, conceptual, epistemic, and ontological knowledge behind the topic. The table below provides a summary of some of the possible knowledge that can be explored in the classroom regarding the given topic.

Table 2. Exemplification of various aspects of powerful knowledge with the topic, using the Japanese invasion of Singapore as an illustration

Knowledge Area	Elaboration
Content knowledge	Outbreak of World War II and the Fall of Singapore - Reasons for the Fall of Singapore - Japanese and British military strategies
Conceptual knowledge	- Military strategy - World War
Epistemic knowledge	Accounts - Differing interpretations - Cause and consequence - Multiple causes - Agency - Unintended consequences
Ontological knowledge	Why is it important to defend one's sovereignty and independence?

Much of the exemplification above is familiar to teachers in Singapore – the content and conceptual knowledge are already laid down in the syllabus. Meanwhile, teachers will have to decide on the exact conceptual, epistemic, and ontological knowledge that will be utilised in the lesson and identify appropriate goals to actualise these in the classroom.

The following example features lesson objectives that are drawn up with reference to the considerations of the content, conceptual, epistemic, and ontological knowledge that can be communicated and developed with students as part of the chapter on the Japanese invasion of Singapore. The series of lessons is grounded in an inquiry into why accounts of the fall of Singapore differ. Refer to Annex 1 for a brief outline of the series of lessons.

Lesson No.	Sub-Inquiry Focus	Lesson Objectives
1	Why did Singapore fall to the Japanese in 1942?	At the end of the lesson, students should: **Content knowledge outcome:** 1. Explain the reasons for the fall of Singapore in 1942.

Lesson No.	Sub-Inquiry Focus	Lesson Objectives
		2. Outline the sequence of events leading up to the fall of Singapore in 1942. **Ontological knowledge outcome:** 1. Have an awareness of why Singaporeans today are interested in knowing more about the reasons for the fall of Singapore in 1942. **Epistemic knowledge outcome:** 1. Understand that events can have multiple causes 2. Understand that individual actors have agency 3. Some events and actions may have unintended consequences
2	Can historical narratives and stories differ and remain true?	At the end of the lesson, students should: **Epistemic knowledge outcome:** 1. Be able to state the common characteristics and features of historical accounts. 2. Be able to explain why they deem certain accounts to be better at explaining why the event occurred. 3. Understand why there are plural accounts of the past (e.g., perspective, purpose, location in time, genre). 4. Understand that there is a difference between the past (what happened) and history (the stories we tell about the past afterwards) 5. Understand what accounts are and can be (e.g., they are not mirrors of a fixed past).
3	How do Australian, British, and Singaporean accounts of the fall of Singapore differ?	At the end of the lesson, students should: **Epistemic knowledge outcome:** 1. Be able to engage in the critical reading of historical accounts.

Lesson No.	Sub-Inquiry Focus	Lesson Objectives
		2. Be aware of some of the elements that influence the nature of historical accounts. **Ontological knowledge outcome:** 1. Have an awareness of the nature of British and Australian interest in the defence and fall of Singapore, and the significance of this event to the people in these countries.
4	How can we explain the fall of Singapore to others?	At the end of the lesson, students should: **Epistemic knowledge outcome:** 1. Be able to construct a historical account based on an understanding of the key elements of historical accounts. 2. Be able to construct a cogent explanation for the fall of Singapore. **Ontological knowledge outcome:** 1. Have an awareness of how the stories we tell about the fall of Singapore are being mobilised to influence memory/identity building in different societies.

In the example above, each lesson is accompanied by a set of design outcomes in the different knowledge areas. When taken collectively, they can serve to help students understand the basis for accepting or rejecting knowledge claims in history by providing students with the epistemic knowledge that (a) 'history' and the 'past' are different, (b) history is deliberately constructed by someone after the event, and (c) the past is interpreted in different ways by different people. This was achieved through the positioning of the concept of historical account as the key concept that drives and anchors the inquiry. It further provides students with the means to engage in debates and conversations about critical concerns that the Singapore society (and perhaps other societies as well) faces and has faced in the past, with the lesson objectives designed to introduce students to the broader societal interest in the given historical topic. It also offers opportunities for students to build an understanding of the present-day concerns of communities affected by the fall of Singapore in 1942, and by extension, enables students to engage with the issues and concerns of today's society through their possession of this knowledge, thus making the acquisition of such knowledge 'powerful'.

This brief example aims to demonstrate how each facet of historical knowledge can be considered within a given chapter and translated into classroom objectives, thereby potentially introducing aspects of 'powerful knowledge' into the classroom. Necessarily, further research and conceptual refinement would be required to ensure that this draft framework for thinking about powerful knowledge –

through the four "modes of knowing" (Content, Epistemic, Conceptual, and Ontological) – develops coherence, relatability, and effectiveness, for purposes of professional practice, or be made relevant for the general history practitioner. Nevertheless, this initial attempt may serve as a helpful starting point for succeeding work, where continued iterations could eventually lead to a more robust framework for powerful knowledge, especially one that supports progression in students' learning in history and guides teachers to systematically develop lesson designs that focus on developing students' thinking and understanding in history. (An initial identification of topics for teaching powerful knowledge in secondary Singapore history through inquiry-based learning, focusing on aligning content with both the history curriculum and the principles of powerful knowledge, can be found in Annex 2. They show how ideas about powerful knowledge or the four "modes of knowing" may be first identified and then further explicated through deliberate lesson designs.)

Conclusion

Powerful knowledge is knowledge that empowers those who possess it. In history, acquiring such knowledge must involve equipping students with more powerful ways of understanding history and the historical past (Lee & Ashby, 2000: 216). Among other things, this means providing students with opportunities to engage with the disciplinary basis of the subject and to understand how knowledge about the past is constructed, as well as how different versions of the past are judged and arbitrated (Afandi & Baildon, 2015). By introducing powerful knowledge into the classroom consciously and intentionally, teachers will be able to offer students with more than just knowledge of the past; they will also equip them with the skills to utilise historical knowledge in a meaningful way for the present. It is knowledge that enables those who possess it to act effectively both within the historical inquiry context and more broadly in society beyond the discipline. However, as discussed in this article, attempts to introduce powerful knowledge into the classroom can be a daunting task that requires teachers to be cognisant of the structures that underpin historical knowledge. Thankfully, significant research has been conducted over the years to help express and model historical concepts for teaching and learning. Building on these models, the principles of powerful knowledge can guide teachers in making conscious decisions to go beyond merely communicating knowledge of the past.

Of course, powerful knowledge is not without its critics. Some found the definition of powerful knowledge too narrow, arguing that, strictly speaking, only scientific knowledge contains all the necessary features that Young and Muller laid down. Education philosophers have argued that for a "so-called core subject", history does not contain schemes of *sui generis* concepts as science and mathematics do, and may not strictly be said to have its own system of interrelated concepts (White, 2018: 327). Meanwhile, others also proposed that the broad prescriptions of powerful knowledge made it unwieldy and unsuitable as a set of principles for making curriculum decisions (Ford, 2022). Nevertheless, we believe that the 'powerful knowledge' framework can continue to offer a potentially useful approach to curriculum design and one that can also meet broader educational objectives. The opportunity to acquire deep subject matter knowledge about 'the past' (e.g., through understanding the variety, peculiarity, and strangeness of life in the past) and the ability to develop powerful ideas about 'history' (e.g., as a discipline

rooted in the practice of historians, or as a defensible form of knowledge with its own disciplinary rules and standards of construction) can enable students to develop an increasingly sophisticated and more nuanced understanding of how the world works. If conceived and taught well, notions of powerful knowledge offer the potential to empower students with a range of intellectual tools and skills to engage with the world (beyond their everyday or context-bound experiences) and ensure that the understandings developed in the history classroom are enduring and have a life beyond the purposes of school history.

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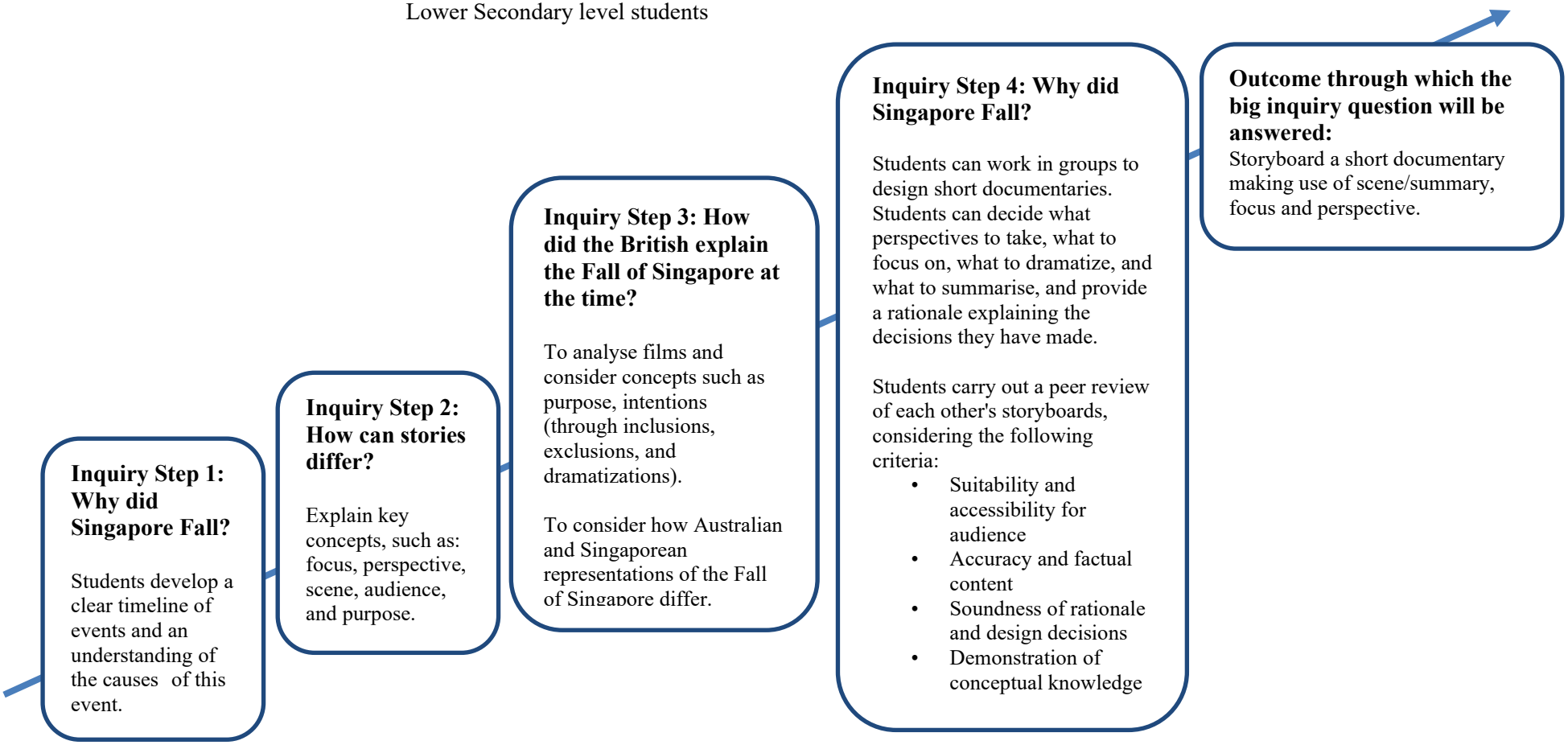
[i] Early proponents of such a curriculum includes Lynn Erickson, who put forth a "three-dimensional" model of curriculum, and whose work has resurfaced among history educators in Singapore as a means of making sense of the many moving parts of the curriculum.

[ii] The notion that knowledge can be powerful was mooted by Young (2009) and Muller (2009), who developed the principles of *powerful knowledge* both as a critique of conventional approaches to the sociology of education at the time and as a set of curriculum principles.

Annex A

Topic: The Fall of Singapore, 1942
Disciplinary Concept(s): Accounts

Big Inquiry Question: How do accounts of the Fall of Singapore differ?
Outcome: Storyboard a short documentary for Heritage Week, explaining the Fall of Singapore for Lower Secondary level students



Annex B

Translating Syllabus into Powerful Knowledge (PK) Framework

The identification of topics below serves as an example of how the existing history syllabus may be translated into a powerful knowledge framework. These should be considered within a methodological exemplification (as shown in Annex 1) of how the teaching of historical concepts (and the PK-related "modes of knowing") can be integrated within an IBL structure.

	Step 1	**Step 2**	**Step 3**	**Step 4**
Name	Introduction	Knowledge Focus	Critical Reasoning	Answering Inquiry
Description	To help students develop a clear timeline and/or understanding of the event, and introduce students to (or refresh students' understanding of) knowledge relevant to the topic of discussion. The knowledge may fall into one of four areas: - Content knowledge - Conceptual knowledge - Epistemic knowledge - Ontological knowledge	To help students develop an understanding of the key knowledge area that will anchor the inquiry.	To challenge students to interrogate historical sources and evidence, and to draw conclusions relevant to the inquiry question.	To have students construct and communicate new understandings and/or knowledge of the past.

Example 1: Lower Secondary History Syllabus

Unit	Topic	Content Knowledge	Conceptual Knowledge	Epistemic Knowledge	Ontological Knowledge[1]
1	**From Temasek to Singapore (1299 to Early 1800s)**	Rise of early Singapore (Temasek) as a port-of-call in the 1300s - Geographical advantages - External circumstances	- Trade - Geopolitics	- Cause and consequence o Multiple causes	- What is the nature of modern Singapore society's relationship with our pre-colonial history?
		Decline of early Singapore since the 1400s - Founding of Melaka - Melaka under the Portuguese and Dutch - Establishment of the Johor Sultanate	- Port cities	- Accounts - Change and continuity o Progress and decline - Cause and consequence o Multiple causes	- What is Singapore's position in and relationship with the Malay World? - How are Singapore's rise and fall cycles related to Singapore's current economic success?
		Singapore's establishment as a trading port under British control in the early 1800s	- Colonialism - Imperialism	- Cause and consequence o Agency	- How did global forces and developments influence Singapore?
2	**Singapore's Development as a Port City under the British (1819-1942)**	Singapore's development as a port city - Impact of British rule on the development of Singapore - Role of communities in the development of Singapore	- Intervention - Direct Rule - Indirect rule - Exploitation - Extractive economy	- Accounts o Differing interpretations - Historical perspectives o Taking perspectives o Avoiding presentism	- How did British colonization reshape Singapore and continue to influence present-day societal and state structures?

[1] What constitutes ontological knowledge can vary based on the profile of students and educators in the classroom.

		- Development of trade and industries in Singapore		- Evidence o Understanding the context and worldview of source authors o Interpretation as an inference	- Did British colonization benefit or harm Singaporean society in the long run?
		Outbreak of World War II and the Fall of Singapore - Reasons for the Fall of Singapore - Japanese and British military strategies	- Military strategy - World War	- Accounts o Differing interpretations - Cause and consequence o Multiple causes o Agency o Unintended consequences	- Why is it important to defend one's sovereignty and independence?
3	**Singapore's Struggle for Independence (1942-1965)**	People's experiences during the Japanese Occupation - Repression and resistance - Economic hardships and resilience	- War - Military occupation - Collaboration - Resistance	- Historical perspectives o Empathy o Understanding context	- Why is it important to defend one's sovereignty and independence? - What experiences shaped and influenced how Singaporeans viewed independence and decolonisation after World War II?
		Progress towards Self-Government - Impact of post-war global and regional developments in Singapore	- Anti-colonialism - Decolonisation - Republicanism	- Change and continuity o Turning points o Progress and decline - Cause and consequence o Agency	- How did post-war events shape Singapore's present-day politics and government structures?

		- British plans and their impact on post-war Singapore		o Varying influence of causes	
		Merger and Separation - Reasons for and opposition to proposed merger with Malaya (1963) - Reasons for Singapore's separation from Malaysia (1965)	- Sovereignty - Historical perspectives (avoiding presentism) - Cause and consequence (history does not unfold inevitably)	- Historical perspectives o Empathy o Understanding the worldviews of historical actors	- Why is Singapore not part of Malaysia despite close historical and cultural ties?
4	**Surviving as an Independent Nation-State (1965-late 1970s)**	Safeguarding the sovereignty of Singapore - Developments that threatened Singapore's security - Establishing a national defence force - Strengthening diplomatic relations with the world	- Sovereignty - Interstate conflict - Cause and consequence (socio-economic, political and cultural conditions which shaped societies)	- Historical perspectives o Understanding world views of historical actors	- Why does Singapore place significant emphasis on building good relationships with other countries and maintaining a military?
		Transformation of people's lives - Uncertainty over Singapore's survival as a nation - Meeting the needs of the people - Impact of policies on people's lives	- Nation-building - Economic development	- Cause and consequence o Events are not inevitable	- What influenced or shaped Singapore's present day social compact, governmental policies, and by extension life in present-day Singapore?

Example 2: Upper Secondary History Syllabus

Unit	Topic	Content Knowledge	Conceptual Knowledge	Epistemic Knowledge	Ontological Knowledge
1	**Aftermath of World War I**	Aims and Terms of the Paris Peace Conference and its immediate impact on Europe in the 1920s - Treaty of Versailles and its immediate impact on Germany - Redrawing of national boundaries and the creation of new nation-states - Attempts at collective security in the 1920s	- Collective security - Self-determination - Balance of power	- Cause and consequence o Agency - Historical perspectives o Empathy	- What shaped the modern-day world system? - How did World War I impact European politics?
2	**Rise of Authoritarian Regimes**	Case Study of Nazi Germany - Circumstances leading to the rise and establishment of authoritarian rule in Germany - Consolidation of Nazi rule in Germany	- Nationalism - Communism - Democracy - Authoritarianism	- Cause and consequences o Agency o Multiple causes o Events are not inevitable - Historical perspectives o Empathy o Avoiding presentism	- How does authoritarianism take root in a society? - Might present-day societies slip into authoritarianism? - Why do present-day European societies hold values such as human dignity, freedom, and democracy?
		Case Study of Militarist Japan - Circumstances leading to the rise and establishment of	- Nationalism - Communism - Democracy	- Cause and consequences o Agency	- How does militarism take root in a society?

		authoritarian regime in Japan - Increased influence of the militarists from the 1930s	- Authoritarianism - Militarism	○ Multiple causes ○ Events are not inevitable - Historical perspectives ○ Empathy ○ Avoiding presentism	- Might present-day societies slip into militarism? - Why is present-day Japan a pacifist state?
3	**War in Europe and the Asia-Pacific**	Key developments leading to the outbreak of World War II in Europe - Ineffectiveness of the League of Nations in the 1930s - Germany's aggressive foreign policy - Policy of appeasement	- Appeasement - Alliances - Expansionism - Revisionism - Recidivism - Militarism	- Accounts - Cause and consequences ○ Agency ○ Multiple causes ○ Events are not inevitable - Change and continuity ○ Periodization ○ Turning point(s)	- How do international systems fail? - Why is collective security important to the security of individual nations?
		Key developments leading to the outbreak of World War II in the Asia-Pacific - Ineffectiveness of the League of Nations in the 1930s - Worsening of US-Japan relations - Japan's expansionist foreign policy	- Appeasement - Expansionism - Revisionism - Recidivism - Militarism	- Accounts - Cause and consequences ○ Agency ○ Multiple causes ○ Events are not inevitable - Change and continuity ○ Periodization ○ Turning point(s)	- Why do nations choose to go to war? - Does the modern integration (or disintegration) of national economies help to avoid conflict?
		Reasons for the end of World War II - Strength of the Allies	- World War - Conflict - Attrition	- Cause and consequences ○ Agency	- How did the manner in which World War II ended influence the

		- Military weakness of Germany and Japan		○ Multiple causes ○ Events are not inevitable - Change and continuity ○ Periodization ○ Turning point(s)	present-day world system?
4	**The Cold War**	Origins and development of the Cold War in Europe - End of World War II and its impact on Europe - Growing mistrust between the USA and the USSR - Intensification of superpower rivalry	- Cold War - Communism - Capitalism - Democracy - Bipolarity - Superpower rivalry - Containment	- Chronology - Cause and consequence ○ Multiple causes ○ Underlying conditions ○ Agency ○ Unintended consequences - Accounts ○ Competing accounts	- How did the Cold War shape the late-20th-century world and influence present-day global institutions? - How did the Cold War influence global conditions during the period of Singapore's early nationhood?
		Extension of the Cold War outside Europe: Korean War - Post-World War II developments in Korea - Emergence of communist China - Outbreak of the Korean War - Korean Armistice Agreement and the immediate aftermath	- Cold War - Civil war - Proxy war	- Cause and consequence ○ Multiple causes ○ Agency - Historical perspectives ○ Empathy ○ Avoiding presentism	- How did the Cold War affect the extra-European world, e.g., Asia? - What is the long-term impact of the Cold War on Korea?
		Extension of the Cold War outside Europe: Vietnam War - Key developments in North and South Vietnam in the 1950s	- Cold War - Civil war - Proxy war - Decolonisation	- Cause and consequence ○ Multiple causes ○ Agency	- How did the Cold War affect the extra-European world, e.g., Asia?

		- Escalation of tensions between North and South Vietnam from 1954 - The end of the Vietnam War and the immediate aftermath		o Unintended consequences - Historical perspectives o Empathy o Understanding context	- What is the long-term impact of the Cold War on Vietnam and Southeast Asia?
		End of the Cold War - Overview of the different phases of thawing and rising tensions between the USA and the USSR - Decline of the USSR and the end of the Cold War	- Cold War - Bipolarity - Arms Race - Diplomacy - Reform	- Cause and consequence o Multiple causes o Short- and long-term causes - Historical perspectives o Empathy o Understanding the context and worldviews of actors	- How did the end of the Cold War reshape and influence the present-day international landscape?

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Rethinking History Education in the Age of AI

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Abstract

The rapid proliferation of generative artificial intelligence (AI) has raised questions about the relevance of history education. In response, this paper examines the limitations of AI, particularly its large language models (LLMs), and highlights the enduring educational value of historical thinking. While AI can generate plausible narratives, it often lacks empirical accuracy, interpretive depth, and contextual sensitivity—qualities essential to the discipline of history. Reaffirming history's epistemological foundations, the article argues that the rise of AI amplifies rather than reduces the importance of historical literacy. Historical literacy equips students to interrogate sources, evaluate bias, and navigate content increasingly shaped by algorithms. To support this, four pedagogical approaches are proposed: fostering critical engagement of AI-generated content, using AI tools to support source reading, developing AI literacy through inquiry-based projects, and revisiting historical source work with renewed disciplinary purpose. Cultivating critical, empathetic, and contextually grounded historical thinking is presented as an essential set of skills for preparing students to navigate an AI-mediated world.

Introduction

The emergence of generative artificial intelligence has led some to question the continued relevance of history education. If AI systems can produce sophisticated historical narratives and analyses instantaneously, why maintain traditional history teaching? Predictions that AI could replace human educators within a decade have further fueled these concerns. This perspective, however, fundamentally misunderstands both AI's limitations and history education's essential purpose. Current AI systems rely on pattern-matching rather than genuine understanding, often producing fabricated information, reflecting embedded biases, and presenting decontextualised content that lacks the nuanced interpretation essential to historical inquiry.

Consequently, far from diminishing its importance, the AI era makes history education more crucial than ever. The discipline's emphasis on critical thinking, source evaluation, and contextual understanding provides essential tools for navigating an information landscape increasingly populated by algorithmically generated content. Students need these interpretive skills to stay connected to the full range of human experience—our ability to derive meaning from the genuine experiences of others and to understand ourselves as part of ongoing human conversations and memory-making. This further requires us to distinguish authentic accounts of human experience from superficially authoritative AI outputs that lack the embodied understanding. This shift calls on history teachers to reflect on their

own historical literacy while integrating AI literacy into the history learning experience.

In response to the challenges posed by generative AI, it is important to reaffirm the value of fostering students' capacity for historical understanding. Four approaches are proposed to help strengthen the relevance of historical learning: encouraging critical engagement with AI-generated content; using AI tools to enhance historical reading and interpretation; developing students' AI literacy through inquiry-based projects; and revisiting history source work and historical thinking. It is hoped that, through improved understanding of AI as well as the disciplinary aims of history, teachers can better prepare students to be more ready participants in a digitally mediated world.

Why AI Cannot Replace History Teachers or the Learning of History

Since the emergence of generative artificial intelligence (Gen-AI) in 2023, considerable debate has arisen about its transformative implications for education. Salman Khan (2024: 39–41) optimistically envisions AI as a transformative teaching assistant, capable of creating personalised tutors that adapt to individual students' learning needs and provide specific, tailored feedback. This helps broaden educational opportunities for students who may not have access to qualified teachers or supportive learning environments. In Singapore, the Ministry of Education has integrated AI features into the Singapore Student Learning Space (SLS), an online platform used across schools. These features include the Learning Assistant, a customisable chatbot, a pilot adaptive learning system for Mathematics and Geography, a Feedback Assistant that provides timely, automated feedback and assigns marks based on teachers' 'context prompting', and a Data Assistant that analyses and summarises students' responses These tools offer multiple benefits, particularly in enhancing engagement and supporting personalised learning. The customisable chatbot, for instance, can enhance engagement by simulating historical figures for interactive role-play. Adaptive systems, though not yet available for history, could adjust content based on learners' needs, helping to close gaps and potentially support differentiated learning.[i]

In the long run, Bill Gates has predicted that AI could supplant many roles currently filled by human educators within the next decade, citing AI-driven tutoring systems as likely alternatives (Huddleston, 2025). A similar view was espoused earlier by historian Anthony Seldon, who anticipated that intelligent machines would begin replacing teachers in classrooms within a decade (von Radowitz, 2017).

However, the notion that AI can replace teachers underestimates the limitations of AI systems, particularly large language models (LLMs), when applied to the teaching of history. History is not simply a collection of facts to be retrieved and reframed by an algorithm. It is a discipline rooted in critical interpretation, contextual sensitivity, and empathetic engagement with the complexity of human experience. Unlike human historians, AI models do not truly understand the materials they process; they identify statistical patterns and assemble plausible narratives without grasping context, bias, or nuance—elements that are essential to the meaningful study of the past.

Inherent Limitations of LLMs

Among current AI systems, large language models (LLMs) are the most prominent due to their capacity to generate

human-like text, which has a direct impact on how educational content is produced and utilised. These models are capable of generating historical texts and narratives by drawing on extensive datasets. However, they operate by identifying patterns and producing a "reasonable continuation" of existing text, rather than genuinely understanding context, nuance, or underlying meaning (Wolfram, 2023). This limitation is often described as the "stochastic parrot" phenomenon, where LLMs produce seemingly coherent text without true comprehension and lack the [ii]"communicative intent" characteristic of human beings (Bender et al., 2021: 616). Furthermore, these systems lack the capacity for causal reasoning. As Chomsky et al. (2023) argue, LLMs are constitutionally incapable of distinguishing between correlation and causation. They excel at describing and predicting based on data patterns but cannot explain the underlying causal mechanisms. These limitations pose significant challenges when LLMs are deployed in educational contexts, where an understanding of causality can play an important role in fostering critical thinking and supporting deeper learning, particularly in disciplines that focus on causal reasoning.

Because LLMs rely on probabilistic pattern-matching rather than grounded and causal understanding, they can generate inconsistent outputs and may even "hallucinate" information. Hallucinations arise when models predict plausible-sounding content without verifying it against any factual source. These outputs often take the form of fictitious statistics, studies, or historical events that appear authoritative but are entirely fabricated. This makes them particularly difficult to identify without rigorous verification (Dahl et al., 2024), which explains why such tools are unreliable for producing consistent or meaningful historical analysis.

Furthermore, the absence of genuine real-world understanding in LLMs not only leads to hallucinations but also contributes to the reproduction of biases embedded in their training data. These biases may subtly manifest as stereotyped portrayals, unequal treatment of demographic groups, or skewed historical interpretations. Emily Bender et al. (2021) warn that increasing the scale of these models without addressing underlying data biases and ethical concerns risks perpetuating and amplifying harmful inaccuracies.

Compounding these challenges is what Jeffrey Yost (2023) terms "dual decontextualisation," a phenomenon where AI systems lose both the historical context of the material they process and the data context of their training sources. This means that LLMs frequently present historical material stripped of essential cultural, temporal, and situational contexts, which can lead to oversimplified or distorted representations that undermine the richness and complexity of historical understanding. At the same time, the provenance of the training data, including details such as the time and place of creation, authorship, and the circumstances under which it was produced, is routinely obscured (Bender et al., 2021: 615). As observed by Huang and Chang (2024), training methodologies that aggregate vast volumes of text from diverse and sometimes incompatible sources contribute to a broader loss of traceability and source attribution in LLMs. Building on this, we can further establish that critical information such as original publication dates, authoritative source distinctions, and intended audience nuances is typically lost during pre-training. Furthermore, LLM-generated outputs may occasionally conflate temporally or thematically inconsistent material, which weakens the accuracy and integrity of historical representation.

A further problem of provenance arises when LLMs are explicitly asked to account for the origin of their sources. Because LLMs are probabilistic text generators, they produce outputs by predicting the most likely sequence of words based on statistical patterns learned from training data. When prompted to provide citations, the model attempts to generate text that resembles a citation, drawing on patterns of how references typically appear in its training corpus. As a result, it may fabricate references — complete with plausible-sounding author names, article titles, journal names, and publication dates — that are entirely fictional. In early 2023, I demonstrated this problem by prompting the model to generate historical sources on the Maria Hertogh riots, only to find that the citations were fabricated (Lim, 2023). This problem of fabricated sources has persisted to varying degrees, even with improvements in language models, as noted by several studies and news reports.

In response to the limitations of LLMs regarding provenance, attribution, and contextual accuracy, one popular method known as Retrieval-Augmented Generation (RAG) enhances the outputs of LLMs by incorporating external knowledge bases such as Wikipedia. This allows models to ground their responses in verifiable sources, typically presented as footnotes or hyperlinks. Popular chatbots like Perplexity.ai, Gemini, and ChatGPT all use RAG to match LLM outputs with online metadata, thereby helping to provide AI-generated content supported by traceable sources.

However, RAG systems do not fundamentally resolve the challenges associated with LLMs. Rather, they reflect and extend the underlying problems of statistical pattern-matching and probabilistic aggregation. Contextual errors can still arise when there are mismatches between the retrieved information, the model's internal representations, and the user's intent, resulting in inconsistencies between source material and generated output. Moreover, important contextual nuances may be omitted during the retrieval and integration process, distorting meanings in ways analogous to quoting sources out of context (Wong et al., 2025).

Additionally, RAG's effectiveness depends critically on the quality, reliability, and accessibility of external sources. Because it retrieves information rather than verifying or deeply interpreting it, the system inherits any biases, inaccuracies, or omissions present in those sources. When retrieved documents are unreliable, one-sided, or poorly verified, RAG may reinforce misinformation or distortions rather than correct them (Wong et al., 2025). Restricted access to subscription-based or proprietary databases further creates knowledge gaps, particularly in specialised academic, legal, or technical domains where authoritative information often lies behind paywalls.

Therefore, while RAG provides more traceable provenance and an impression of accuracy, it remains vulnerable to the quality and availability of the information it retrieves. It also suffers from semantic misalignment due to the inherently probabilistic nature of both LLMs and the retrieval process, as these systems rely on statistical associations and relevance rather than true semantic understanding.

Overall, despite advances in AI technologies such as LLMs and RAG, their inherent limitations reinforce the indispensable role of history education. These technologies present significant challenges for history education by altering how history is read, written, taught, and understood. These models increasingly adopt an authoritative tone that mimics

scholarly writing while lacking the accountability and factual grounding of genuine expertise. This veneer of authority can mislead readers into accepting information uncritically and anthropomorphising the models, promoting reliance on oversimplified, instant outputs, and fostering a 'crutch mentality' that discourages deeper engagement with primary sources. A recent MIT study warns that such overreliance may create cognitive debt, where users progressively outsource thinking processes to AI models and lose their capacity to critically evaluate or generate content independently (Kosmyna et al., 2025). This undermines the cognitive benefits of actively 'doing' history, which demands sustained attention, analytical and critical reasoning, and the integration of multiple perspectives and historical contexts over time. These activities engage executive functions such as working memory, cognitive flexibility, and evaluative judgement, all essential to higher-order thinking and strengthened through historical practice. Beyond these cognitive concerns, LLMs obscure the provenance and intent behind historical documents, reducing rich, contextualised sources to flattened patterns of language and weakening readers' capacity to grasp the situated intentions and inner thinking of historical actors. For learners, such decontextualised narratives provide only shallow representations of historical figures and their situated and lived experiences, eroding the development of critical and empathetic historical understanding of individuals' minds as shaped by the contexts of the past. The more profound consequence is that persuasive, but unreliable AI-generated content promotes passive information consumption over active inquiry. In this evolving landscape, history education becomes increasingly indispensable, serving not merely to preserve interpretive rigour but to cultivate the critical thinking, contextual awareness, and meaningful engagement with the past that are essential in an age of algorithmic knowledge.

The Enduring Value of History Education in the Age of AI

History education fosters essential skills for navigating this complex information landscape. Through historical thinking, students learn to question information critically and assess its provenance. They develop the ability to evaluate reliability within social and temporal contexts. As Sam Wineburg explains, this includes interpretive skills such as identifying bias, analysing motives, and comparing narratives to form informed judgments (1991: 498–499). These competencies are vital in an era where digital content can mimic authority while concealing distortion.

One important aspect of historical thinking involves assessing bias and veracity. It employs specific methods such as sourcing, corroboration, and contextualisation to interrogate not only the content of a source but also its origins, purpose, and the conditions under which it was produced (Fitzgerald, 1983; Wineburg, 1991: 510–512; 2018: 173–177). It should also be added that although these methods demonstrate rigorous scrutiny of evidence, they should not be confused with the processes of 'verification' as advanced by logical positivists or 'falsification' as popularised by Karl Popper in scientific reasoning (Popper, 2002: 20). While historical and scientific inquiry may share specific procedures, such as evaluating evidence and assessing claims, their underlying epistemologies differ significantly. Scientific reasoning, particularly in the positivist tradition, is focused on the nomothetic aim of seeking generalisable laws through rigorous examination of empirical evidence. Historical reasoning, by contrast, is

grounded in interpretivism and emphasises contextual understanding and the recovery of human meaning.

Historical inquiry, at its core, rests on an interpretivist foundation; historians view knowledge as shaped by temporal context and embedded meaning. It requires perspective-taking and what David Stockley terms "empathetic reconstruction"—the attempt to understand past beliefs, motives, and actions through their own frames of reference, grounded in evidence (Stockley, 1983: 53–55; Seixas, 2015: 9-10). This approach aligns epistemologically with the concept of *verstehen*. Here, understanding human action requires reconstructing the meanings individuals attached to their behaviour within their unique context; this idea was developed by Max Weber and discussed by Stockley (Stockley, 1983: 53–55).

Importantly, historical sources are not merely texts to be decoded for factual content; they serve as windows into the lives, beliefs, and conflicts of people in the past. Engaging with them becomes an active and interpretive process—a conversation across time that requires students to bridge their own perspective with that of historical actors. This interpretive encounter involves what Hans-Georg Gadamer describes as a "fusion of horizons" between the present-day reader and the historical source (Gadamer, 2004: 305). Such engagement requires treating sources not as inert empirical data, but as products of human authorship, shaped by the author's intentions, worldview, audience, cultural norms, and historical circumstances

Robin Collingwood reinforces this view, insisting that history is the "reenactment of past thought in the historian's own mind" (Collingwood, 2005: 215). Engaging with historical sources demands that the historian does not merely record external events, but actively "discern the thought of its agent" (Collingwood, 2005: 213). In this sense, Collingwood argues that the past is not something to be observed from a distance like a spectacle, but something to be understood from within. This requires the historian to reconstruct the intentions, reasoning, circumstances, and cultures that shaped a person's decisions and actions as part of their lived experience (Wineburg, 1991; 2018: 173–177). From this perspective, historians play a critical role as what William Sewell calls "theoreticians of temporality", analysing how temporal contexts shape the lives of people in the past rather than merely recounting events in chronological order (Sewell, 2005: 6). Historical knowledge, then, is inseparable from the interpretive process by which the historian reenacts and critically engages with past thought.

Drawing on the above insights, Richard Bernstein emphasises that reading historical sources and doing history is not only an interpretive act but also a moral practice of learning and self-reflection. For Bernstein, understanding history becomes a means of challenging one's assumptions and deepening judgement. It fosters responsible engagement with contemporary life and encourages self-reflection. This mode of inquiry functions as both a moral and intellectual exercise in openness (Bernstein, 1983: 143). Such an approach is particularly valuable in breaking through echo chambers and assumption bubbles reinforced by digital technologies, including AI, which can limit understanding.

Sustaining this moral and intellectual openness requires individuals to remain active agents in the interpretive process, engaging critically with historical sources rather than passively accepting pre-digested narratives. This kind of careful scrutiny

becomes especially vital in the age of generative AI, where content is increasingly produced through algorithmic processes that simulate authority but lack historical grounding. These outputs offer 'flattened' versions of the past, stripped of the contextual depth necessary for meaningful historical understanding.

This imperative to cultivate critical historical thinking resonates with Singapore's history curriculum, which defines history as a "thinking discipline" that fosters reasoning, empathy, and historical perspective (Afandi and Lim, 2022: 394; Ministry of Education, 2023: 10–12). Within this framework, students learn not only about the past but also how historical meaning is constructed and contested. They examine how these interpretive processes unfold within specific temporal and cultural contexts (Afandi and Lim, 2022: 395).

Suggested Approaches to Teaching History

Given the enduring importance of historical education, how should history be taught in a landscape increasingly shaped by artificial intelligence? History teaching must evolve not by abandoning traditional humanistic methods, but by integrating digital literacy with critical, contextual engagement. This requires rethinking pedagogy, assessment, and classroom practices to ensure that students develop the skills to interpret, analyse, and critique both historical content and digitally produced text. The following suggestions outline ways to enhance the teaching of history in the age of AI.

1. *Encouraging Critical Engagement with AI Outputs*

In approaching history as a discipline grounded in interpretation, evidence, and contextual understanding, students must be introduced to the notion that historical knowledge is constructed, not merely retrieved. This epistemological awareness is particularly crucial when engaging with AI-generated outputs. Rather than accepting such AI content at face value, students should learn to critically examine its origins, biases, and underlying assumptions. Questions such as "Whose perspective is being represented?", "What is the historical context of this interpretation?", "What are the assumptions?" and "Who is likely to present this view?" should become part of how students naturally think when reading historical texts. Students should understand how large language models (LLMs) generate their outputs, which are based on training data and algorithms and are probabilistic, which means that they are not authored by a person and are not consistent or accountable in the way human-written sources are. More importantly, the information generated is often decontextualised and 'de-provenanced' from their original sources. While generative AI tools may provide quick and convenient information, these should serve only as starting points for deeper inquiry. Teachers should train students to scrutinise AI responses using the methods of historians. Comparing AI-generated content with other print or digital sources would help students identify gaps, biases, assumptions, perspectives, as well as the contextual roots of certain viewpoints. Practical classroom activities could include asking students to evaluate AI-generated outputs by comparing them with a range of primary and secondary sources. An example of this approach is the use of Character.ai, which allows students to interact with AI-generated historical personas. While such tools may produce inaccuracies, they offer opportunities for students to practise source verification and deepen their historical understanding by

cross-referencing them with other sources (Lee, 2023). This would help students corroborate these outputs with established evidence or point out inaccuracies, biases, and missing perspectives.

2. Reading Sources with AI Assistance

As discussed, historians rely on disciplined interpretive practices to interrogate sources. In his later work, Wineburg introduced the method of *lateral reading*, which involves leaving a website or source to consult other materials, including digital sources, allowing readers to evaluate credibility by drawing on a wider informational context (Wineburg, 2018: 150–151). Lateral reading further supports a deeper understanding of context by encouraging readers to situate individual claims within the wider networks of knowledge, perspective, and evidence. Such habits of mind are essential for navigating a digital landscape where misinformation often presents itself in the guise of authority (Wineburg & Caulfield, 2023: 221–222).

In today's digital and AI-rich environment, students and teachers can read sources with the support of generative AI, which can also enhance lateral reading practices. AI's semantic search capabilities—used in tools like ChatGPT, Perplexity.ai, and Google Gemini—facilitate the discovery of relevant contextual information, streamlining what once required extensive searching and cross-referencing. These tools support lateral reading by helping users locate relevant materials more efficiently, though they must be used with discernment. Additionally, AI could serve as a form of "co-intelligence", a notion proposed by Ethan Mollick (2024), suggesting that AI can act as a highly capable collaborator that enhances human thinking and writing by offering suggestions and explanations while leaving interpretation and judgment to the human reader. In historical education, AI can clarify terminology, provide background context, and suggest related sources, thus reinforcing students' understanding of both content and context.

Nevertheless, history teachers must ensure AI does not replace the interpretive work of historical reading. While AI can provide suggestions, such as clarifying terminology or suggesting sources, it does not grasp meaning or context in the way a human reader does and may oversimplify complex events or reflect biases from its training data. History teachers remain vital in guiding students through the careful reading process, fostering their ability to engage with historical sources critically, attentively, and with contextual awareness.

3. Developing AI Literacy Through History Investigation Projects

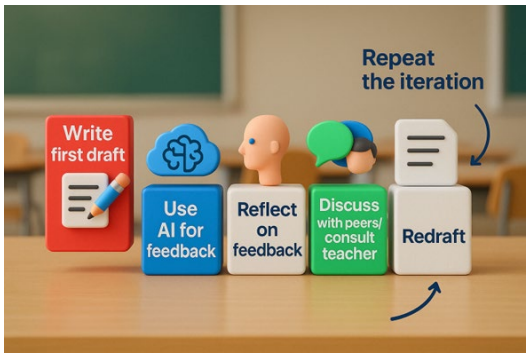
In the Singapore history curriculum, students are required to undertake History Investigation Projects guided by the principles of inquiry-based learning (Ministry of Education, 2021). These projects are designed to move students beyond rote memorisation, encouraging them to view history as a discipline of interpretation and evidence.

At the beginning of the project, teachers should explicitly communicate to students the learning objectives. The students should understand that through the inquiry process, they can explore and comprehend the lived experiences of people in the past, as well as the political, economic, and social conditions that shaped those experiences. Achieving this requires meaningful engagement with the research process, including examining primary and secondary sources, understanding their context, evaluating their credibility, and drawing informed conclusions. Teachers

should emphasise to students that the value of the project lies not only in meeting its intellectual demands, but also in the fulfilment and personal growth that come from engaging in authentic historical inquiry. To illustrate this, I previously created and showed a video titled *'Learning History in the Age of ChatGPT'*, using an AI avatar and voice to prepare my students for their Historical Investigation Project. [iii]The video highlights the limitations of relying solely on AI for historical understanding and underscores the importance of developing critical thinking through direct engagement with historical sources and perspectives (Lee, 2023).

Teachers should guide students to be mindful of the limitations of AI tools during the inquiry process. While generative AI tools may offer helpful background information or clarify terms, they often lack the capacity to interpret historical nuance and context. Overreliance on AI can lead to shallow or misleading conclusions. This includes students using AI to write extensively, often bypassing critical stages of the thinking and composition process. It thus deprives students of the opportunity to develop independent thinking, analytical rigour, historical literacy, and a deeper insight into the past. To use AI effectively, students should be guided through a structured writing process that preserves ownership of their work. For example, they could be advised to produce an initial draft independently, without using any AI tools. Once completed, they might use AI for suggestions or feedback. Students should then reflect on this input and discuss it with their teachers or peers. Finally, they should repeat the process by writing a second draft without AI assistance. This ensures that AI remains a supportive tool rather than a substitute for critical thinking or authentic writing. This "Brain-to-LLM" approach is supported by the aforementioned MIT research, which suggests that the greatest cognitive gains occur when learners first engage in tasks independently, using only their own thinking, before supplementing their efforts with AI support (Kosmyna et al., 2025). These findings underscore the pedagogical value of encouraging students to think and write unaided before turning to AI for refinement and feedback.

Figure 1. Image generated by ChatGPT that was shown to students



In addition, students must be cautioned against using AI to generate citations. Contrary to the advice of some institutions and publications, tools like ChatGPT should not be cited as sources due to their probabilistic nature and the absence of verifiable authorship or provenance. More specifically, as outputs generated by algorithms rather than authored by individuals, AI-generated content lacks identifiable origin, context, intentionality, and any basis for accountability or redeemability. Students should instead be guided to consult, understand, and reference credible, non-AI sources directly.

While today's more advanced and popular chatbots, such as Perplexity.ai, ChatGPT, Gemini, and Microsoft Copilot, now include hyperlinks or citations drawn from internet-based content, students must take full responsibility for locating, reading, and critically evaluating the original materials themselves, and should cite only those primary or secondary sources directly,

not the chatbot's summarised or synthesised versions.

To help teachers and students navigate the appropriate boundaries of AI use, the AI Assessment Scale (AIAS), introduced by Perkins et al. (2024), provides a structured framework that classifies student engagement with generative AI across five levels—from minimal to extensive involvement. The AIAS outlines five levels: starting with no AI use at all; then using AI to generate ideas and structures; followed by AI-assisted editing; then AI-generated content evaluated by students; and finally, full AI-generated work with minimal student input and transparency.

Frameworks like AIAS are not prescriptive, but serve to guide teachers in communicating to students how much AI use is acceptable, and the rationale behind these expectations. Teachers could provide these AI guidelines to students when working on their History Investigation Projects:

- Use AI to brainstorm, but not for generating full responses.
- Read and make references to all sources. Avoid using AI to generate references and do not cite AI as a source.
- Use AI to correct grammar and spelling errors, but not to write on your behalf.
- Keep a log of your AI use, including screenshots of prompts and outputs.
- Explain whether and how you have used AI in your reflection.

These suggested guidelines help ensure that AI is integrated ethically and effectively in the learning process, while preserving the integrity, purpose, and critical engagement that historical inquiry demands.

4. Revisiting Source Work and Historical Thinking

The rise of artificial intelligence is rapidly reshaping the way knowledge is produced, distributed, and consumed. In this evolving landscape, students and teachers are no longer just recipients of information but co-producers of knowledge, often in collaboration with AI tools. This transformation raises urgent questions about what it means to think historically, and why such thinking matters in an already digitised and informationalised world that is becoming increasingly saturated with AI-generated content.

In Singapore, historical source analysis is often taught with a heavy emphasis on exam preparation, relying on rigid and formulaic scaffolds. While these strategies may seem to be a stop-gap to better performative outcomes, they lack interpretive depth and reduce students' inquiry of sources to a mechanistic checklist. Such 'pedagogies' have perpetuated a narrow and instrumental view of history teaching (Afandi & Lim, 2022: 394).

Various institutional and systemic factors that have contributed to these reductionistic pedagogical practices among teachers, but there is now an urgency for teachers to revisit their disciplinary knowledge and renew their commitment to fostering reasoning, interpretation, and judgment, to prepare students to navigate an AI-infused world. Reconnecting with these disciplinary foundations is essential—not only to honour the intellectual integrity of history but to ensure our students are genuinely future-ready.

More than four decades ago, Peter Lee

(1983) observed that many teachers in Britain were not sufficiently engaged in the philosophical foundations of history education because they perceived it as a time-consuming pursuit that lacked practicality (Lee, 1983: 20). Yet his argument that teachers must be thinkers who critically examine the nature of historical knowledge and guide students accordingly remains relevant. Today's epistemic challenges, shaped by algorithmic mediation, disinformation, and content saturation, make Lee's call for deeper disciplinary engagement feel more urgent than ever.

Teachers must critically re-examine the philosophical foundations of history education: What is history for? Why and what does it mean to analyse a source? How do we teach students to engage with the past? Historical thinking must be anchored in deeper epistemic reflection about evidence, interpretation, and perspective, without which classroom practice risks becoming uncritical and detached from the essence of the discipline (Lee, 1983: 20–21, 28–29). In this age of AI, the onus is on teachers not simply to transmit content or to expose students to historical approaches in a superficial manner, but to cultivate the cognitive and interpretive habits that enable students to interrogate information, discern meaning from it, and situate it within appropriate historical contexts. The challenge, then, is to move beyond procedural proficiency and foster in students a historically grounded disposition that resists superficial thinking and embraces deeper disciplined inquiry. This calls for a renewed focus on the essence, foundations, and purpose of history as a discipline, along with the corresponding theoretical underpinnings of historical pedagogy. Such a focus strengthens teachers' disciplinary understanding and, in turn, enables them to better equip students with the critical faculties and information literacy necessary to navigate an AI-infused information landscape

While this commitment to examining disciplinary history and its philosophical foundations may have previously seemed exhausting to teachers, it is now made more feasible due to the ready availability of AI-powered tools. With these tools, the barriers to accessing complex ideas are reduced, thereby augmenting the reading and learning experiences of teachers. They can upload documents and texts to platforms such as Google NotebookLM, Microsoft Copilot, ChatGPT, or Claude by Anthropic (not exhaustive and ever-increasing), and then explore complex historical and philosophical ideas through natural language dialogues. These tools can provide definitions, explanations, contextual insights, challenge assumptions, and more, allowing users to *read laterally* as they interrogate, probe and reflect on, and acquire knowledge with speed, clarity, and discernment. Such support empowers and equips teachers to deepen their disciplinary knowledge, which would translate into more meaningful and purposeful teaching of history.

Conclusion

It is undeniable that the advent of Generative Artificial Intelligence will shape the education landscape for the foreseeable future. Yet, the rise of artificial intelligence does not signal the end of history education, nor does it mean the loss of its importance. As this article has demonstrated, AI's inherent limitations, including hallucination, bias, and decontextualisation, make the critical thinking skills fostered by historical education more essential than ever. Students navigating information landscapes increasingly populated by algorithmic content require the interpretive tools that only rigorous historical training can provide.

However, recognising these challenges is insufficient. This article seeks to explore the relationship between AI and historical literacy, in the hope of helping teachers understand their convergence, overlaps, and how the two seemingly distinct spheres could be mediated. At the heart of it, history educators must actively embrace their role as both guardians of disciplinary integrity and architects of pedagogical innovation. The four suggestions outlined in the article offer possible pathways forward, but there could be other areas and aspects to explore and examine.

Finally, it has to be stressed that in this age of AI, the distinctly human capacities for critical thinking, empathetic understanding, and informed judgment that history education cultivates are not going to be relics of a pre-digital past but essential tools for an uncertain future.

Author's note and acknowledgements

Given the rapid evolution of AI technology and its transformative impact on education, I have chosen to examine the fundamental principles of LLMs and history and provide some broad suggestions, rather than concrete pedagogical examples in this paper. It is hoped that, in times of such technological change, theoretical and generalised discussions may provide more enduring value.

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[i] The full list of AI features for the SLS, along with instructions, can be found here: https://www.learning.moe.edu.sg/teachers/teaching-and-learning-on-sls/aied-features

[ii] With recent developments, Large Language Models (LLMs) are becoming multimodal, giving rise to Multimodal Large Language Models (MLLMs). These systems process and generate outputs across different types of data, such as text, images, and audio, leading some to suggest they offer deeper comprehension. However, despite this broader input, MLLMs still rely on statistical correlations rather than true understanding.

[iii] The video is available at the following link: https://www.youtube.com/watch?v=5796waYGsvc

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The Power of Conceptual Teaching in the Everyday History Classroom

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Abstract

This paper discusses practical approaches that enable students to appreciate how individual historical events connect to form meaningful patterns and relationships. Through lesson examples [i] and samples of student responses, this paper foregrounds the benefits of teaching for conceptual understanding and how it deepens historical understanding. While recognising challenges in adopting such pedagogy, the authors highlight the value of teaching conceptually as part of a four-year process and how it can be enacted through intentional lesson design to aid student understanding and cultivate a culture of inquiry in the everyday History classroom.

Introduction

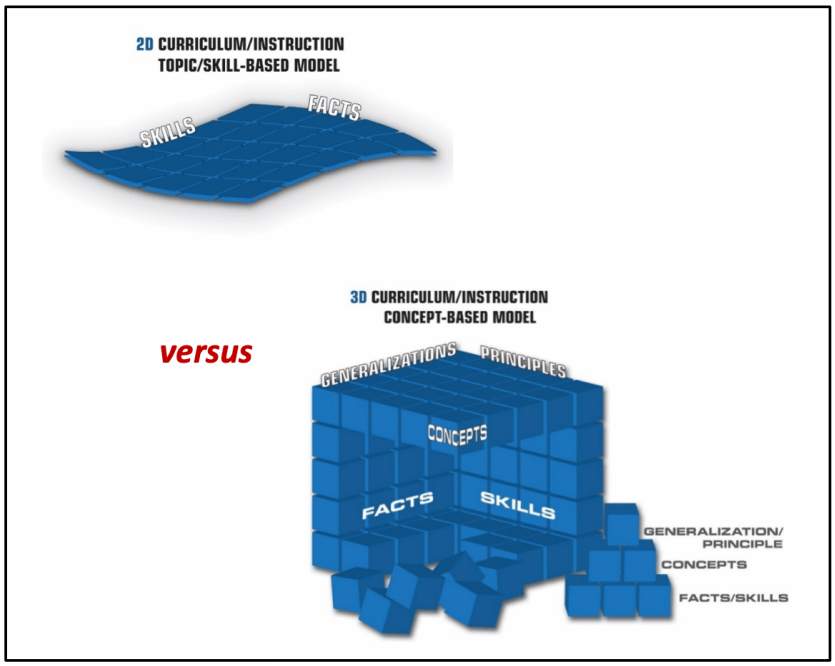
Students engage well with historical narratives but sometimes find it challenging to identify connections across different time periods and events. Understanding history allows students to flexibly deploy knowledge and contextualise information when interacting with various sources such as accounts (Smets, 2024). Teaching for conceptual understanding involves guiding students through a thinking process which helps them organise historical knowledge into meaningful categories and provide opportunities for transference to a different context, which contributes to historical understanding and deeper learning.

Since 2013, the history curriculum in Singapore has foregrounded inquiry-based learning (IBL) as the key pedagogy in humanities education, while highlighting other teaching strategies[ii] such as teaching for conceptual understanding and discussion-based pedagogy. The revised 2023 Upper Secondary History (USH) syllabus reiterated the importance of IBL for humanities education, while teaching for conceptual understanding was also included as a pedagogical approach (MOE CPDD, 2023). It was featured alongside blended learning and the use of e-Pedagogy and differentiating instruction for diverse learners. The COVID-19 pandemic accelerated the need to adopt blended learning approaches and ways to leverage technology to enhance student learning. As a result, practitioners might have been torn between competing contexts and pedagogies, which resulted in challenges in actualising the curriculum. Thus, teaching for conceptual understanding may not have been featured as extensively in history classrooms as the curriculum envisioned. This is a missed opportunity as framing

learning through concepts provides students with scaffolds to make sense of a myriad of historical facts.

Concepts are mental models that are timeless, universal and abstract, with their examples sharing common attributes; concepts also provide the basis for the development of generalisations that are transferable from one context to another (Erickson, 2008, 2017). According to Erickson, traditional learning typically focuses on equipping students to acquire new knowledge and providing opportunities to demonstrate skills learnt - it assumes that if students demonstrate that they possess knowledge and skills, students have developed conceptual understanding. To bridge the gap, Erickson advocates for a three-dimensional model of learning (Refer to Figure 1) where clear learning targets also include developing conceptual knowledge (Erickson, 2014). Since IBL has been the key pedagogy for history education in Singapore for at least the past ten years and teachers are generally familiar and confident with this approach, it is timely to explore lesson designs which intentionally integrates the teaching of concepts that are explicitly positioned within the history curriculum for both Lower Secondary History (LSH) and USH with pedagogies that support IBL. Teaching for conceptual understanding guides students to use facts and skills as tools to uncover patterns and connections which lead to deeper understanding. Adopting a conceptual approach thus entails guiding students to progress from merely acquiring factual knowledge to demonstrating understanding through transferring conceptual knowledge to new situations (Stern et al., 2017). Furthermore, teaching conceptually supports the development of 21st century competencies (21CC) as students critically analyse different historical accounts and demonstrate adaptive thinking when they transfer their understanding to another situation or case study.

Figure 1. Erickson's suggestion of 3-dimensional curriculum versus a traditional 2-dimensional curriculum (Erickson, 2017, p. 8)



In Singapore, there are various opportunities in the history classroom to guide students' learning through the teaching of concepts. [iii] Exploring substantive concepts contributes to deeper understanding of historical concepts and teachers can layer substantive concepts with historical concepts to support IBL (Seet et al, 2022). For example, the following inquiry question "How did the actions of Superpowers escalate Cold War tensions?" consists of the historical concept of causation and substantive concepts of security and the Cold War. Through the use of guideposts (Seixas and Morton, 2013) to uncover historical concepts as well as concept definition and concept formation activities, students can be guided to make sense of concepts. The following sections will outline some of the considerations behind designing lessons for conceptual understanding and provide examples of some strategies that can be implemented in the classroom, such as the use of concept definition and concept mapping to surface critical attributes, examples and non-examples of a concept.

Considerations when Teaching for Conceptual Understanding

When developing conceptual understanding, an important consideration would be exploration of historical concepts in tandem with substantive concepts. [iv] Kitson and Husband acknowledge the importance of historical concepts in providing lenses through which the past can be viewed and recommend making it explicit in history teaching to enable students to better understand and in turn construct historical knowledge (Kitson & Husband, 2011). They also advocate that historical concepts "must continue to sit side by side with the content knowledge of history in all history curricula" so that history remains a dynamic and engaging subject (Kitson & Husband, 2011, p. 88). Therefore, this requires conceptual lessons to be intentionally designed with clear learning targets that integrate knowledge, understandings, and skills. [v]

It is also important to promote a positive learning environment where students feel comfortable sharing their perspectives and co-creating knowledge with their peers. What would conceptual teaching look like in a history classroom? How would teachers assess whether students have developed a deep understanding of historical issues? One way to teach for conceptual understanding would be through an inductive approach, allowing students to organise historical facts and make connections through classification to "uncover" facts, and then provide opportunities for students to demonstrate conceptual understanding and "transfer" what they have learnt to new situations (Stern et al., 2017). Scaffolding is also necessary to guide students through the thinking process. One way to ensure effective student learning in a conceptual classroom is by promoting metacognition and providing more "think time" in class for students to make sense of their learning and to reflect on the learning process.

Learning can also be made more meaningful for students through the progressive development of conceptual understanding. This allows students to deepen their learning by transferring their understanding to different case studies. While there might be concerns among teachers that teaching for conceptual understanding is a time-consuming process, when students have gained conceptual understanding, they can transfer what they have learnt to a new context, which reinforces their understanding of the concept. LSH is an important starting point in the learning of history and adopting a conceptual approach which layers substantive concepts and historical

concepts helps students to organise historical knowledge and develop historical understanding. With a good foundation in conceptual understanding, students will be more confident to transfer their learning to different situations. This will be especially useful as students explore various case studies in USH. For example, the historical concept of causation and the substantive concepts of war and power are enduring and applicable across the four-year history curriculum. [vi] Given that power is about exerting control over another and it can be exemplified through political influence, military power and media control, this concept can be useful in understanding how the British and Japanese exerted control over the locals in the case study of Singapore in LSH. Similarly, the concept is also meaningful in helping students understand authoritarian regimes such as Nazi Germany and in the case study of militarist Japan where leaders had strong political influence over the people. Another example would be the substantive concept of war which is seen in LSH when students learn about the Battle of Singapore and the Japanese Occupation; and in USH when students learn about the Outbreak of The Second World War, The Cold War and its various case studies involving conflict such as The Korean War and The Vietnam War.

Teachers might also face challenges in making the shift towards teaching conceptually and convincing colleagues to explore innovative teaching approaches instead of tried-and-tested methods since there is no real impetus to deviate from existing practices that have proven successful for student learning. Open classroom is a good platform to allow colleagues to observe what conceptual teaching looks like. When our colleagues observed that students were engaged and able to articulate their understanding of historical knowledge, they were keen to experiment with teaching conceptually.

Teaching for conceptual understanding requires intentionality in lesson planning and consistent opportunities to be involved in concept definition, concept formation and transferring their conceptual understanding to another case study. One way to start would be through the use of strategies that are easy to enact, for example the use of word splash and concept mapping. Furthermore, Fisher, Frey, and Hattie's (2016) meta-analysis of the impact of various instructional approaches provide insights on factors that have a greater impact on student learning. For instance, concept mapping has an effect size [vii] of 0.60, while organising conceptual knowledge and transforming conceptual knowledge both have effect sizes of 0.85, which support the efficacy of teaching for conceptual understanding (Fisher, Frey & Hattie, 2016, pp. 80, 115, 122).

Another consideration when teaching conceptually is to address student perception of effective ways to learn. Some students perceive that knowledge from the teacher is superior and prefer direct instruction, as compared to collaborative learning or inquiry-based approaches (Kozanitis & Lucian, 2022). To circumvent the issue, we made conscious efforts to share the benefits of peer learning with students. [viii] Aside from actively involving students in the learning process, one essential consideration is explaining to students how developing conceptual understanding contributes to deeper learning, helps them appreciate what they are learning, and how it can be applied in class and beyond. Teaching for conceptual understanding promotes student agency in learning with greater opportunities for students to develop critical thinking skills. Lessons that are underpinned by conceptual teaching have shown to engage students meaningfully in the classroom by promoting higher order thinking skills and increased engagement together with student

ownership of learning (Romey, 2021). When students are consistently exposed to learning experiences that provide them with opportunities for cognitive engagement, they are more likely to develop confidence in sharing their perspectives and challenge themselves to think more critically about issues. Another key feature of conceptual teaching is providing students with opportunities to transfer their understanding to another context and the ability to understand different perspectives and transfer what they have learnt to another case study or scenario is a positive outcome of conceptual teaching.

Through lesson examples which the team conceptualised, this paper will show how different groups of learners [ix] across different history classrooms in Singapore experienced conceptual teaching. The following section will exemplify three approaches to teach for conceptual understanding: concept definition, concept formation and providing opportunities for transfer. Furthermore, this paper will use authentic student artefacts to exemplify how conceptual teaching enables students to deepen historical understanding.

Approaches to Teaching for Conceptual Understanding

1. Concept Definition

One way to teach conceptually is to guide students in the identification and definition of a concept that is relevant to the syllabus. An effective strategy for concept definition is a word splash, where students identify traits and characteristics of the concept and highlight the timeless and universal characteristics of a given concept across contexts. It can also involve the use of analogies and examples to illustrate the concept.

When facilitating a conceptual lesson for LSH[x], a team of teachers from the LSH NLC decided to focus on the historical concept of causation, as they noted that the concept would provide students with the opportunity to transfer their learning to other topics they may encounter in the history curriculum. Activating prior knowledge helped students to connect new knowledge with existing knowledge to aid understanding. To introduce the historical concept of causation, students were asked the following questions in order to determine their current level of understanding about causation. Thereafter, teachers refined this understanding and introduced the idea of trigger, contributory and underlying causes.

- What do you understand about causes?

- How can the concept of causation help us better understand history?[xi]

A real-world example was then utilised to help students understand the historical concept of causation using a familiar setting. Through the example of a fictitious classmate Peter who was unwell, students discussed different reasons that led to his condition (Refer to Annex A).

Students were then introduced to the story "What Caused the Death of Alphonse the Camel?" (Chapman, 2003) and explored three types of causes behind his death - trigger factors, underlying factors, and contributory factors. To check for student understanding of the concept of causation, students completed formative assessment tasks[xii] hosted on the Singapore Student Learning Space (SLS). [xiii] Thereafter, students provided explanations for the different causes of the Anti-National Service riots and their responses demonstrated conceptual understanding of causation (Refer to Table 2). Historical facts remain an important part of the

narrative[xiv] and it is essential that students have a good grasp of historical facts. To ensure that each lesson helps students to build conceptual understanding, frequent checks for understanding are also necessary to ensure students have the opportunity to refine their understanding before transferring knowledge to another situation.

Table 2. Student responses grouped according to three types of reasons for the Anti National Service Riots

Type of Causes	Causes	This caused the Anti-National Service Riots because…
Underlying	● Unhappiness with the British ● Anti-colonial feelings	It bred doubts towards the British as people no longer believed that the British were the rightful and only possible ruler of Singapore. Consequently, the people no longer had reverence for the British. This resulted in the people questioning the decisions of the British as they were more willing to make their demands and feelings heard.
Contributory	● Felt that the British discriminated against Chinese education while favouring English-medium schools ● Education already disrupted by the Japanese Occupation	It aggravated the unhappiness people had towards the British as it further confirmed their belief that the British only cared for themselves and not for the people in Singapore.
Trigger	National Service Ordinance was passed in 1953	It triggered feelings of dissatisfaction with the British and motivated them to riot against the British to fight for their rights.

Concept definition can also be used for substantive concepts. Choosing concepts that are applicable across various case studies and topics can provide opportunities for students to identify and appreciate connections instead of viewing historical events in isolation, as we shall see in the following example that explored reasons that contributed to the end of the Cold War. [xv] The choice of two historical concepts, causation and chronology were consciously layered with the substantive concepts of tensions and rivalry, and provided useful conceptual lenses to understand the later years of the Cold War. The lesson was designed to allow students to first explore the rivalry between the United States of America (USA) and the Soviet Union through four tension points - seen as points of tension that had a significant impact on the USA-USSR rivalry - between the 1960s and the

1980s.[xvi] Through a group activity, students focused on the following Cold War developments and their influence on tensions between the USA and USSR - the Brezhnev Doctrine, the Soviet invasion of Afghanistan, the Strategic Defense Initiative, and Gorbachev's reforms. As students required factual knowledge of specific historical circumstances to effectively contextualise tensions and rivalry, the support of concrete details and examples helped students to grasp these concepts (Smets, 2024). Historical facts were presented in either video form or short articles (Refer to Figure 3) through the use of Padlet, with guiding questions to scaffold the thinking process (Refer to Figure 4).[xvii]

To further scaffold their thinking, students were provided with a timeline of events related to the Cold War that took place between the 1960s to 1991. Next, causation was introduced as a historical concept that would be repeated as these tension points acted as multiple causes that resulted in various consequences on the Soviet Union's strength, which ultimately led to the end of the Cold War (Seixas and Morton, 2013). Students were also guided to appreciate the sequence of events that led to the development of these tension points between 1968 and 1991, which formed the connection between historical patterns and developments.

Figure 3. Use of Padlet for students to learn about key events linked to the dissolution of the Soviet Union

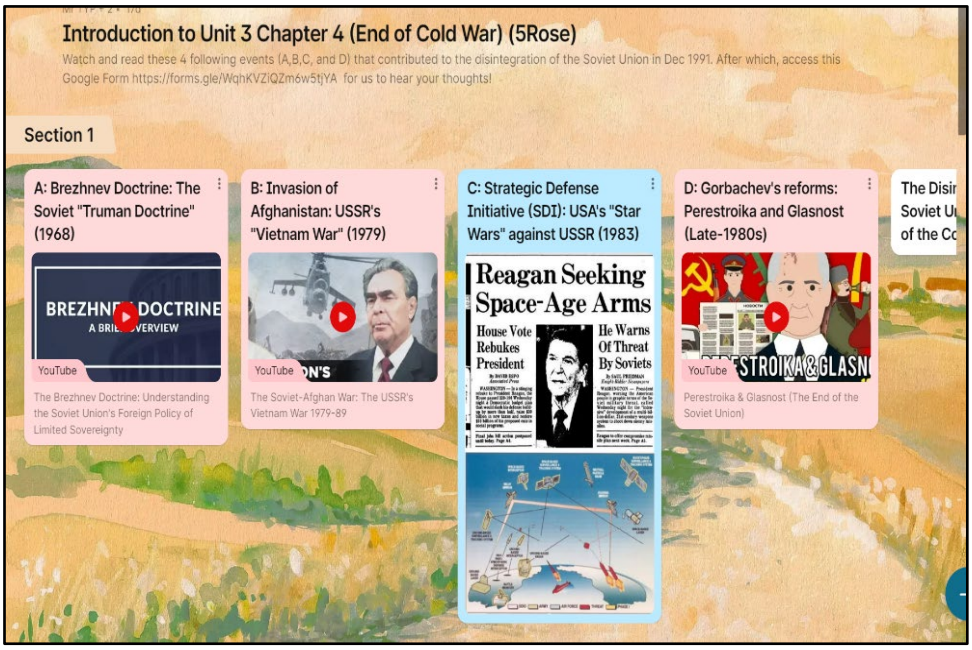
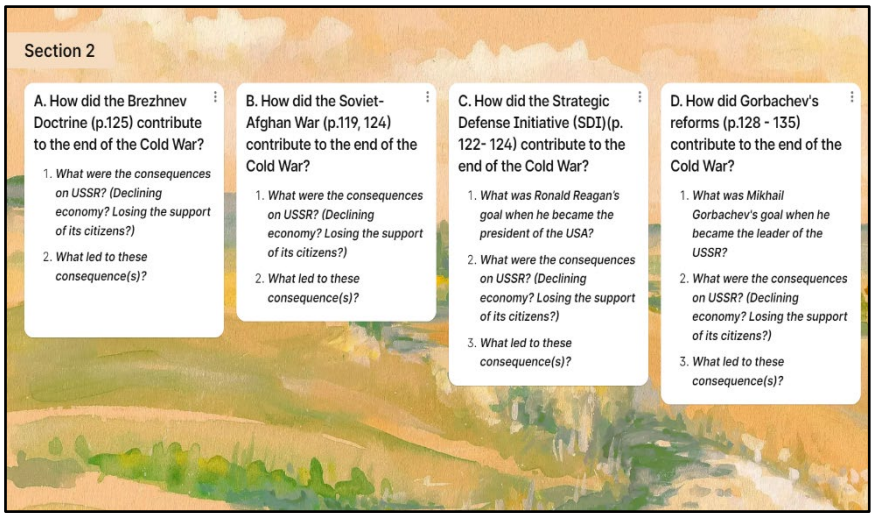
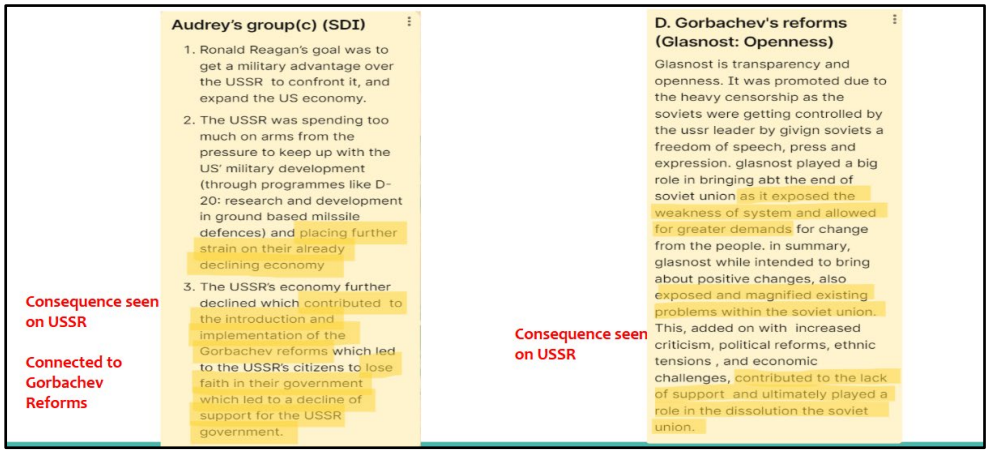


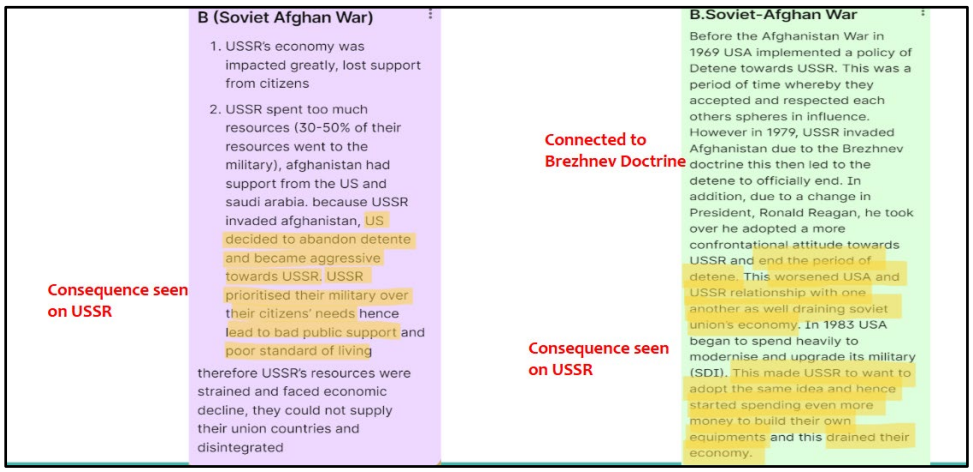
Figure 4. Use of Padlet to provide students with guiding questions to uncover the concept of "tension points"



Through the group responses, it was evident that students attempted to conclude how each of these individual tension points had an impact on the Soviet Union, such as a detrimental economic impact or a loss of public support. Furthermore, some responses showed that students were able to identify the connections between the different tension points rather than seeing them as isolated events (Refer to Figure 5). Teaching conceptually thus helped students to appreciate how the series of events collectively contributed to the dissolution of the Soviet Union. Overall, this lesson activity was effective for students to identify patterns across different historical events and enhance their historical understanding.[xviii]

Figure 5. Group responses from students that demonstrated their understanding of the substantive concepts of tension and rivalry, and the historical concept of causation





2. *Concept Formation*

Another approach to conceptual teaching is concept formation. Concept formation is an initial stage in conceptual thinking, consisting of differentiating, categorising, and labelling examples and non-examples to develop an understanding of a concept (Gagne, 1965; Taba, 1965, as cited in Marshall & French, 2018). After students have defined and identified the traits of a concept, big ideas that capture the essence of the topic can be introduced as organising frames to guide student understanding across different case studies.[xix] Grant and VanSledright (2006, as cited in Grant & Gradwell, 2010, p. 3) defined a big idea as a question or generalisation that helps teachers focus on what to teach and ways to organise it into "meaty, complex issues that are open to multiple perspectives and interpretations". The following lesson idea will demonstrate how common traits and examples can be derived from substantive and historical concepts either through a word splash activity or the use of case studies that reveal features of the concept.

Conceptual teaching requires intentionality and activities can be seen as building blocks for students to progressively gain historical knowledge and conceptual understanding. For example, as part of the topic of decolonisation in Southeast Asia after The Second World War, a key consideration in lesson design was to explicitly layer the substantive concept of decolonisation with the historical concept of change and continuity to help students view decolonisation as a process with varying stages of development in different parts of the world.[xx]

While concept formation can be achieved through either the deductive or inductive approach,[xxi] the example cited will focus on the inductive approach. An inductive approach was selected for this phase of the lesson because the concept of decolonisation was seen to be complex and thus the intention was for students to be active participants of learning and collectively co-construct knowledge. Over a series of six lessons, students activated their prior knowledge for both substantive and historical concepts, which allowed them to identify connections across topics and contexts and deepen historical understanding.

One strategy that was used to facilitate the process of concept formation was concept mapping and effective questioning.[xxii] For example, the concept formation process started with a word splash activity to identify and classify traits of the substantive concepts of decolonisation, anti-colonialism and nationalism, and explain how the concepts

are interlinked. Some examples of effective guiding questions that students were posed during the class activity are as follows: "What does it look like?", "What does a 'nation' even mean? What do people in a nation have in common?", "Is it possible to be anti-colonial without being nationalistic?". This was a useful activity for students to activate prior knowledge and make connections between topics. [xxiii] Thereafter, students had a choice of responding to either "What would allow colonial rule to persist?" or "What would allow colonial rule to end?". Their responses collectively indicate understanding of the necessary conditions for decolonisation, such as nationalism and political consciousness, local grievances, loss of credibility of colonial masters, and viable local leadership (Refer to Figure 6). Using these student responses (Refer to Figure 7), the teacher facilitated a class discussion and co-constructed the first big idea for the topic:

- Big Idea One: Decolonisation tends to occur with the rise of nationalist sentiments and when colonial master lose interest in their colonies

Figure 6. Samples of student responses during the process of co-constructing Big Idea One

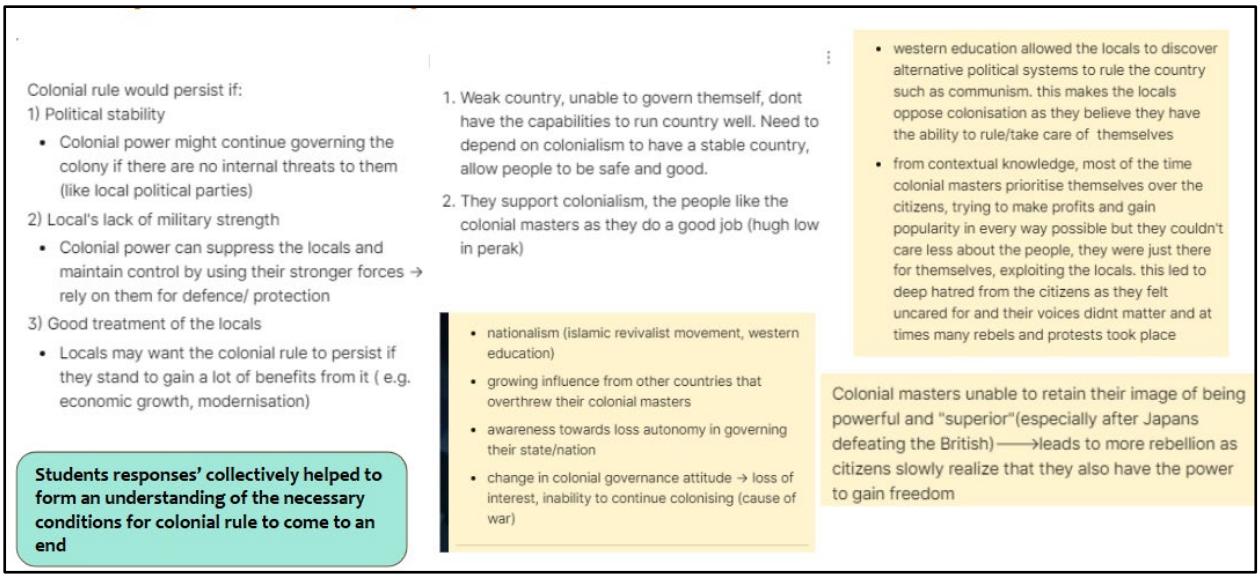
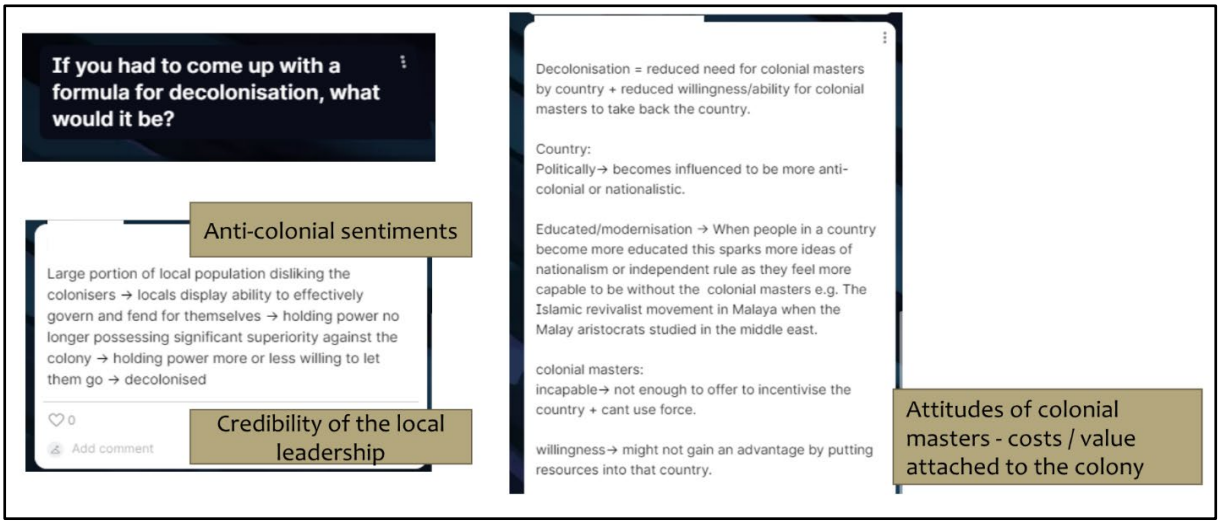


Figure 7. Samples of student responses during the process of co-constructing Big Idea One



To facilitate concept formation of the historical concept of change and continuity, students engaged in a class discussion on examples they previously encountered, such as the bombing of Pearl Harbor and the Tet Offensive. These examples provided the historical context for students to explore the concept of turning points, which is defined as "moments when the process of change shifts in direction or pace" (Seixas and Morton, 2013) and this was used to guide the second big idea for the topic:

- Big Idea Two: Change and continuity can exist together; "turning points are moments where the process of change shifts in direction or pace" (Seixas and Morton, 2013).

An important consideration in concept formation is to ensure that students have a clear understanding of the concepts before providing opportunities for transfer to another context. For the lesson example shown above, students were asked to consider whether different events that took place in Malaya before World War II could be viewed as turning points and the following inquiry question was introduced to guide the class discussion: "Which was a bigger turning point for Malayan independence: World War Two or the Malayan Union proposal?". To focus students on the historical concept of change and continuity, and to aid them in drawing comparisons, students worked in groups to explore whether the two historical events helped and/ or hindered independence. When discussing the idea of turning points, students evaluated the degree of change by adding qualifiers of their own, such as "temporarily hindered", "helped a lot/ a little", "helped in the long run", which proved their growing understanding of change as a process (Refer to Figure 8). In subsequent lessons, the same conceptual lens was used when teaching about post-1948 developments such as the Malayan Emergency and the formation of the Alliance Party. To check for understanding, students applied their learning by completing an essay on decolonisation in Malaya at the end of the unit. Many responses demonstrated a strong conceptual understanding, as evidenced by the use of language such as "root cause" and "catalyst," which signified their interaction and engagement with historical concepts (Refer to Annex B).

Figure 8. Sample of student responses which demonstrated their ability to see change as a process and co-existing with continuity, and thus the challenge of identifying turning points

Overarching Inquiry: Which was a bigger turning point in Malaya's road to independence: WW2 or the Malayan Union proposal?	
Role of WW2 - did it help or hinder independence? Why so?	**Role of Malayan Union proposal - did it help or hinder independence? Why so?**
World War 2 helped independence a lot in terms of fostering greater anti-colonial sentiments. • **Damage to British prestige (swift surrender the Japanese) and hence dispelled ideas of White Man superiority** • **Japanese propaganda was anti-Western, making Asians in Malaya more critical to colonial rulers** • **Economic hardships of the Japanese Occupation also fostered resentment again the British for failing to protect Malaya** **WW2 temporarily hindered independence as it led to the British wanting to hang on to the profitable colonies like Malaya** • WW2 bankrupted Britain. Britain thus needed resources of Malaya to aid its own recovery • Led British to create the Malayan Union to bring Malaya under a central government and direct rule (i.e. British were kept in power and colonial rule resumed with no timeline set for independence)	The MU proposal **helped significantly in trigger nationalist movement throughout Malaya, but still largely divided along ethnic lines. It height political activity amongst ALL communities in to fight for/against the Malayan Union proposa** **However, the MU proposal deepened inter-ethnic tensions, thus posing an obstacle to Malayan unity and hence independence** • **Non-Malays supported MU while Malays objected to MU** • The British's **counter-proposal of the Federation of Malaya was to appease the Malays, yet it had the opposite effect of undermining the interests of other groups** **MU proposal helped independence significantly in terms of creating more political parties that could speak up for the people and vie for power (i.e. mor options for the British to transfer power to)**

3. *Providing Opportunities for Transfer*

An essential feature of conceptual teaching is the opportunity for transference to another context. Teaching for conceptual understanding can be summarised in two processes: "uncover" and "transfer" (Stern et al., 2017). After students have uncovered the meaning of the concepts, an important way to know if they have acquired conceptual understanding is based on their ability to transfer what they have learnt about the concept, to another context.

One way to ensure meaningful transfer starts with thoughtful selection of concepts that are pervasive across the syllabus. For example, during the design phase of the lesson idea which focused on examples from the USH syllabus, a key objective of the lesson was identified: at the end of the lesson, students should understand the forces that led to decolonisation in Southeast Asia after World War II. Cognisant that students perceived the unit to be challenging due to the multitude of actors, policies and events, while recognising the opportunities for transference of concepts as students needed to grapple with at least two case studies,[xxiv] this unit was identified as a meaningful case study to be taught conceptually with the potential for organising frames to scaffold

student learning.

Students were given various opportunities to transfer their learning to another situation. For example, with reference to the historical concept of change and continuity and the two big ideas for the substantive concept of decolonisation; there were opportunities to transfer their understanding of the big idea to another case study within the unit. At the end of the series of six lessons, students proved adept at grasping Big Idea One. For example, students postulated that decolonisation would occur due to factors such as the rise of communism, western education, and the weakening of Britain due to The Second World War. They also noted that anti-colonial sentiments would more likely emerge from grievances or unmet needs, or due to dwindling benefits of colonial rule. Collectively, they constructed an understanding of why decolonisation occurred. Their responses showed that they had made connections to what they learnt about British rule in Secondary Three, such as the inherently exploitative nature of colonialism and its impact on local sentiments. With this conceptual understanding of the topic, students were able to transfer what they learnt from the case study of Malaya to the case study of Indonesia. For example, the ideas that students gleaned about the concept of decolonisation from the case study of Malaya, in particular the big ideas and traits of the concept, were applicable in the case study of Indonesia. Students were able to draw connections across the case studies and it helped them to concretise and reinforce their learning.

Transfer can take place within a unit across lessons, or it can also take place within a lesson. For example, in the LSH example mentioned earlier, students had various opportunities to transfer their understanding of the historical concept of causation. Having defined the concept through the story of Alphonse the Camel, students proceeded to apply their understanding of the three types of causes - trigger, contributory and underlying - to the case study of the Anti- National Service Riots of 1954. Students were provided with a variety of sources such as political cartoons, written accounts and archival photos related to the event, and the group activity involved identifying and classifying reasons for the riots. Finally, students were tasked to decide which was the most important reason that contributed to the Anti-National Service Riots in 1954 and to provide an explanation that was supported with historical facts to justify their thinking. Student responses showed they understood the concept of causation and they were able to apply it to a historical event (Refer to Annex C). In addition, conceptual understanding gleaned from the historical concept of causation could also be transferred to another case study present in LSH, specifically the inquiry focus on reasons for the introduction of National Service.[xxv] More opportunities for transfer of learning facilitates deeper learning and increases historical understanding.

Conclusion

This paper explored three approaches for conceptual teaching with strategies that are easy to implement, promote student agency and develop critical and adaptive thinking. Teaching for conceptual understanding enables students to appreciate connections across what they are learning and contributes to deeper historical understanding. Intentional identification of historical concepts and substantive concepts support student understanding across a four-year curriculum, enabling students to see continuity in learning and develop progressive understanding of concepts.

Our students' ability to transfer their understanding of concepts demonstrated the effectiveness of teaching for conceptual understanding. The development in their thinking process was particularly evident when they were taught using a conceptual approach from Secondary One to Secondary Four. While students were initially guided through the process of concept mapping and concept formation, they later gained confidence and the ability to independently organise their thinking and classify information into meaningful groups, and they were also able to derive big ideas of topics and apply their understanding to different case studies.

In an increasingly complex world, students will be overly exposed to information from multiple perspectives. They will need to navigate the Artificial Intelligence landscapes that are capable of generating content within a very short period of time or unverified information based on populist views on the internet. Teaching for conceptual understanding helps promote higher-order thinking skills when students have to analyse, synthesise and generalise information, rather than recall facts. Through this practice of analysing, synthesising and generalising, students will be more ready for the future when they have the skills to critically examine global issues.

Through the lesson ideas shared in this paper, it is clear that the cognitive engagement of students is present with increased student agency in the learning process. This builds confidence in students which are important in the increasingly complex, social media influenced world, where populist views dominate social media. Providing opportunities for students to exercise their voice in the classroom and deliberate about their opinions about various topics. Such opportunities will enable students to understand perspectives from others and for them to see if their personal opinions can stand up to scrutiny. To quote Sam Wineburg, "teaching students to separate fact from fiction by reading textbook narratives purged of ambiguity is akin to preparing a swimmer who's never ventured outside a wading pool to navigate the torrents of a raging sea" (Wineburg, 2018, p. 6). Students must be given the opportunity to counter the complexity of the outside world with scaffolds, so that they are ready for it. Conceptual teaching can be the scaffolds that students need to navigate these complexities.

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[i] The lesson ideas featured in this article were shared at the 2024 CPDD History Symposium and 2025 AST Teacher-Led Workshop: A Snapshot into the Everyday History Classroom - Developing Learning through Conceptual Lenses, as part of the collaboration between the Concept-Based Learning Network Learning Community and Lower Secondary History (LSH) Network Learning Community (NLC).

[ii] In addition, the 2013 Upper Secondary History (USH) Teaching and Learning Guide (TLG) also featured the following strategies to develop historical understanding: using sources and role play, cooperative learning, structured academic controversy (SAC), Socratic Seminar and historical inquiry field trips.

[iii] Within the LSH curriculum, Historical Investigation (HI) provides students with the opportunity to draw connections between substantive and historical concepts through engaging in research, inquiring into historical narratives and demonstrating conceptual understanding through interaction with sources and accounts.

[iv] Substantive concepts refer to knowledge relevant to the subject matter, for example conflict and rivalry; while historical concepts refer to how historical knowledge is constructed, such as causation and significance.

[v] Learning targets should include outcomes related to both substantive and historical concepts, and student's understanding and ability to apply their learning of knowledge and skills gained through the lessons. For example, the learning targets for the LSH lesson example featured are as follows: students will be able to explain the causes of the Anti-National Service Riots; and categorise different reasons for the riots into underlying, trigger and contributory causes.

[vi] A useful starting point would be to take reference to concepts listed in the MOE syllabus document. For example, "war" is listed as a key concept on page 21 of the LSH Teaching and Learning Syllabus (TLS). Although it is not listed in the USH TLG, the concept of "war" is a useful conceptual lens in the study of USH, especially for topics such as the Outbreak of War in Europe and the Asia Pacific, and The Cold War. Similarly, our team felt that the traits of power were applicable across the LSH and USH syllabus and chose to anchor conceptual understanding on the concept of power. For teachers who are well-versed with teaching for conceptual understanding, and clear with the syllabus outcomes, our team feels that there is some leeway to introduce substantive concepts that are enduring and aid students' understanding across different case studies.

[vii] An effect size between 0.4 to 1.2 on the barometer of influence is considered high in the zone of desired effects.

[viii] First, we were intentional in clarifying misconceptions within smaller groups; and second, we also reiterated key ideas shared by students. These efforts reassured students that historical knowledge and ideas shared by their peers had been curated and were equal if not better than direct instruction.

[ix] The lesson ideas featured in this paper were enacted in the G2 and G3 history classroom for Lower Secondary and Upper Secondary Humanities (History); and in the G3 History classroom.

[x] A 3-step process was used to deliver the lesson. First, the teacher related the concept of

causation to the real-world context; second, the teacher used formative assessment strategies to check for students' understanding of the concept; and third, students were asked to apply their understanding of the concept to a historical event.

[xi] Some student responses include "the reason why something is happening" and "something that triggers another effect or chain that will eventually lead to something".

[xii] One affordance of technology is the provision of almost immediate feedback to clarify misconceptions. Technology can also be leveraged to support differentiated instruction - in the LSH lesson example, students were directed to tasks of varying difficulty based on their scores from the assessment task.

[xiii] Learning resources were hosted in the Singapore Student Learning Space (SLS) and the SLS Lesson Package was used as an in-class teaching resource.

[xiv] Students were given time in class to read through the case studies of riots in Chapter 7 "How Did the People in Singapore Respond to British Rule After World War II?". The teacher then summarised key ideas before proceeding with the lesson that focused on Alphonse the Camel.

[xv] The learning targets for the lesson example are as follows: students will be able to explain the role of historical actors (e.g. USA, USSR) in contributing to the end of the Cold War; and explain how different factors led to the end of the Cold War.

[xvi] The lesson package was carried out over two lessons to allow students time to make sense of what they had learnt and to prevent cognitive overload. During the first lesson, students were introduced to the above-mentioned substantive concepts and historical concepts. The second lesson involved students working in groups and collaboratively contributing perspectives about how the tension points contributed to the end of the Cold War. To consolidate learning, the teacher facilitated a class discussion, using students' responses to co-create conclusions.

[xvii] Teaching for conceptual understanding also supports blended learning which was consciously incorporated in the lesson package. For instance, students were tasked to analyse media resources as part of asynchronous learning before the synchronous class discussion.

[xviii] This lesson activity helped students conceptualise the dissolution of the Soviet Union as a sequential flow of escalating tensions between the USA and Soviet Union, while recognising other reasons that shaped the trajectory of the Soviet Union's collapse, such as the weaknesses of the Soviet economy and the impact of Gorbachev's reforms.

[xix] A big idea is a statement that generally consists of two or more concepts.

[xx] The learning targets for the lesson example are as follows: students will be able to evaluate the role of different factors in contributing to the end of colonial rule in Malaya; and appreciate decolonisation as a complex process where change and continuity can coexist.

[xxi] Deciding between adopting a deductive or inductive approach depends on students' level of readiness and the complexity of the concept. Rachel French listed deductive and inductive approaches as concept formation strategies and suggested that a deductive approach might be more time efficient for concepts with clear definitions and a range of examples and non-examples (Marschall & French, 2018, p. 109). The 2013 USH TLG (MOE 2013, pp. 119-121) also featured the use of deductive and inductive approaches when teaching for conceptual understanding.

[xxii] Concept mapping is a useful strategy to elicit student responses and it can be paired with open-ended questions that promote thinking and encourage students to make connections to prior knowledge. Some useful thinking routines can be found on Harvard's Project Zero website https://pz.harvard.edu/thinking-routines

[xxiii] Students used their prior knowledge of Singapore's independence and colonial rule in Malaya from their study of history in Secondary two and Secondary three respectively, to postulate conditions that would allow colonial rule to come to an end or to be sustained.
[xxiv] Students have a choice of focusing on the case studies of Malaya and Indonesia or Vietnam.
[xxv] Chapter 9 "How Did Singapore Safeguard Its Independence after 1965?"

Annex A

Type of Cause	Trigger/Immediate Cause.	Contributory Cause.	Underlying Cause.
Explanation	Catching the virus directly resulted in Peter falling sick.	Sitting next to a sick classmate meant there was a likelihood of Peter catching the virus.	Sleeping late for several nights made Peter weaker and more prone to falling sick.
Situation	Peter was infected by a virus, which caused him to have a fever.	Peter sat next to a classmate who was still recovering from a sickness. The classmate spread the virus to Peter.	Peter had been sleeping late for several nights as he was not coping with school and spending too long on his homework, which weakened Peter's body and made him less able to fight off the viral infection.

Student responses grouped according to three types of reasons for the example of Peter falling ill (students taking G2 History)

Annex B

Essay Question: "The formation of the Alliance Party brought about the end of British rule in Malaya." How far do you agree? Explain your answer.

Students' comfort in using causal vocabulary - e.g. root cause vs catalyst "In conclusion, I think that WW2 was a more important factor that brought about the end of British rule because it was the root cause for greater anti-colonial sentiments. While the formation of the Alliance Party contributed significantly to fuel British's withdrawal, WW2 was the main event where anti-colonial sentiments stemmed from, and locals' desire to be independent became more apparent. Hence WW2 is a more important factor as it was what motivated and gave locals a more urgent need to take action, whereas the formation of the Alliance merely sped up the process of decolonisation."
Students' understanding of turning point: weak political movements in Malaya prior to WW2 "I disagree with this statement as the success of the Alliance Party in bringing about independence was founded on anti-colonial sentiments, which was brought about by World War II. Pre-WWII, nationalist movements and political parties independent of the British were weak and often did not gain any traction. It was only after World War II that a national awakening in desire for self-rule occurred, which contributed to the rise in local political involvement and leading eventually to the formation of the Alliance. The strong, credible leadership of the Alliance stemmed from the events of WW2, thus bringing about the end of British rule in Malaya."

Sample extracts from students' essays which show their ability to undertake higher-order thinking and to refer to historical concepts of causation as well as change and continuity.

Annex C

The most significant reason contributing to the Anti-National Service Riots in 1954 in Singapore was the imposition of compulsory military service through the NS Ordinance by the British colonial government. This measure was deeply unpopular among the Chinese-speaking population due to perceived economic disruptions and social tensions, exacerbating existing grievances and leading to widespread protests and violence.	The most important reason that contributed to the Anti-National Service Riots in 1954 was likely the imposition of mandatory national service without proper consultation or consideration for the sentiments and rights of the affected population. This unilateral decision undermined trust in the government and fueled resentment, ultimately leading to widespread unrest and protests	The British favoured English-medium schools over Chinese-medium schools.

Student responses demonstrated understanding of the historical concept of causation and application to the case study of the Anti-National Service Riots (Students taking G2 History)

The 1954 Anti-National Service Riots were primarily sparked by economic hardship, as the introduction of National Service exacerbated unemployment and threatened livelihoods, particularly among lower-income groups.	One of the most significant reasons was the perception among the local population that the ordinance discriminated against them. Many felt that the policy favored the interests of the colonial authorities and British nationals over the welfare of the local population. There was a sense of injustice and inequality in the enforcement of conscription, as it mainly

	targeted the local Malay and Chinese communities, while exempting British expatriates and wealthy individuals.

Student responses demonstrated understanding of the historical concept of causation and application to the case study of the Anti-National Service Riots (Students taking G3 History)

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Playful Pedagogies for Future History Educators

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Abstract

How can play serve as a powerful pedagogical tool for fostering joy and engagement in Singapore's history classrooms, especially given the high-stakes and examination-driven context? Through insights from a study trip to Denmark and conversations with Singaporean student-teachers, this article examines the possibilities and tensions of adopting Playful Learning in the classroom as a means of enhancing student engagement, promoting historical thinking, and nurturing 21st-century skills and competencies. This article proposes several approaches to developing playful teachers who view the classroom learning process as one that is rich in possibilities for choice, delight, and wonder – the key ingredients of play.

Introduction

The education landscape and national curriculum in Singapore have undergone significant changes over the past few years. This was partly spurred by the acceleration of developments in virtual interaction due to the COVID-19 pandemic, but also rooted mainly in structural shifts that were already underway before 2020. One such change was an increased emphasis on the "joy of learning".

First mooted by the then Minister of Education in 2017, this change represents a more concerted effort of the Ministry towards developing "intrinsic motivation [that] will drive them [students] forward to explore and discover their interests and passions" (Ng, 2017). Since 2017, efforts have been made to reposition the purpose of teaching and learning in the classroom towards one that aims to nurture the joy of learning.

Translating that vision into reality took two main forms. First, at the structural level, the total curriculum was reorganised to reduce the number (and, hopefully, the role) of formal assessments during an academic year. As of 2023, all schooling levels no longer sit for mid-year examinations (MOE, 2023). Instead, formal assessments during most of the school year take the form of smaller bite-sized assessments. This reduction in examinations was geared towards engendering a mindset shift away from formal assessments, and by extension, help manage some of the academic stress that students face. Second, at the practice level, teachers were made aware of issues surrounding student motivation and metacognition, enabling them to develop lessons that are more meaningful and

enjoyable by taking into account students' motivational needs (Wang, 2018).

These are among the most visible changes that have occurred to help teachers find the curriculum space and resources to design and implement lessons that spark curiosity, account for student interests, and engage students as stakeholders in their own learning. Even though these structural and institutional changes are important, the question remains – what does it mean for teachers to bring joyful learning to their classrooms?

Perhaps the current gap in how we conceive of joy in the learning process can be summed up by the words of a student teacher whom we have spoken to for this article: "Joy is possible, but this is dependent on the teacher. It cannot be instituted. Furthermore, there are exams at the end of the day."

In this article, we aim to contribute to the discussion on nurturing the joy of learning by presenting a different perspective on the issue. Instead of focusing on the structural and institutional changes mentioned above, this article will examine play – what is the relationship between play, joy, and learning, and how can teachers incorporate play into their classrooms?

By utilising Denmark's experience of working with ideas of *playful learning*, as observed during a recent study trip, and conversations with several student teachers, this article will illustrate the concerns and challenge that student teachers hold with regards to nurturing the joy of learning in their students, their beliefs about their role as educators, and the limits of practicalities of lessons that are meant to spark joy in their students. Subsequently, this article examines how student teachers can be positioned to incorporate *playful learning* into their lesson designs and classrooms.

Play and Learning

We often make an (almost intuitive) distinction between "learning" and "playing". Whereas lesson time is for learning, recess time is conversely for playing. The distinction between 'play' and 'learning' is not one that adults and teachers exclusively hold. Often, students understand their world in terms of these dichotomies as well. To share a personal anecdote, after a role-play and simulation lesson as a beginning teacher, a student came up to me and expressed that he enjoyed the lesson and had fun, but he preferred that I had taught the lesson in "the normal way". When I probed what "the normal way" might entail to this student, he explained that he was expecting classes to involve writing and source-reading activities. As students and teachers, our conception of what each period and each space is meant for often perpetuates this false dichotomy between play and learning.

However, this distinction is often arbitrary and takes a very narrow definition of play, conflating it with activities that involve fun and games. Play is not an interruption of ordinary life in favour of a momentary distraction (Schechner, 1988). Some scholars go so far as to point to a fundamental human instinct to play, as evidenced by the notion that "where there are people, there is play" (Mardell et al., 2016). Therefore, play is arguably more ubiquitous than one might imagine.

Despite the supposed ubiquity of play in the human experience, play is also an ambiguous activity whose boundaries are often unclear (Sutton-Smith, 1997). A large variety of disparate activities could all qualify as "playing" – from a football match between friends to tinkering with a scale model. However, play possesses a few key features: (i) it is pleasurable or enjoyable, (ii) directed by the player, (iii) involves

one's imagination, allowing one to envision new possibilities, (iv) engaging, and (v) often social in nature (Mardell et al., 2023). Finally, a last ingredient to play requires the players to perceive the activity *as* play, and to frame a situation that includes possibilities for enjoyment and exploration (Barnett, 1990; Liberman, 1977).

If play and learning are not distinct processes, how are they related? Studies in the science of learning have demonstrated a link between learning and playing. For instance, it has been observed that when a play activity (such as a game) is too easy and no longer challenging, or far too challenging, children lose interest in the activity and stop (Andersen, 2022). To many teachers, this behaviour is immediately reminiscent of Vygotsky's zone of proximal development, strongly suggesting that our faculties for play and learning are shared. In that vein, playful lessons have been noted to help children understand abstract concepts and promote creativity (Qasem, 2017).

Play has also been observed to improve student engagement and motivation. While test results is not a perfect measure of engagement with lessons and schooling, a British study found that students who enjoy going to school performed better academically (Morris et al., 2021). Beyond test scores, students also expressed the idea that enjoyable lessons are beneficial to learning. In a survey of 1,500 students from 18 boys' schools around the Anglophone world, Riechert and Hawley (2010) found that effective lessons included a "transitive factor" – a lesson element that is engaging, energetic, and ultimately, playful.

These recent findings and the ideas underlying the use of play as a means of learning drew heavily from earlier traditions in educational thought, chiefly Piaget's constructivism, Vygotsky's sociocultural theory, and Dewey's progressivism. First, play is rooted in constructivism, which argues that students learn through actively engaging in activities – through manipulation, exploration, and problem-solving. Second, play is also social-constructivist in nature, where learning is mediated through interactions with others. Third, play is also progressive as it is a way of learning through experiences, by doing and reflecting (Skovbjerg et al., 2024).

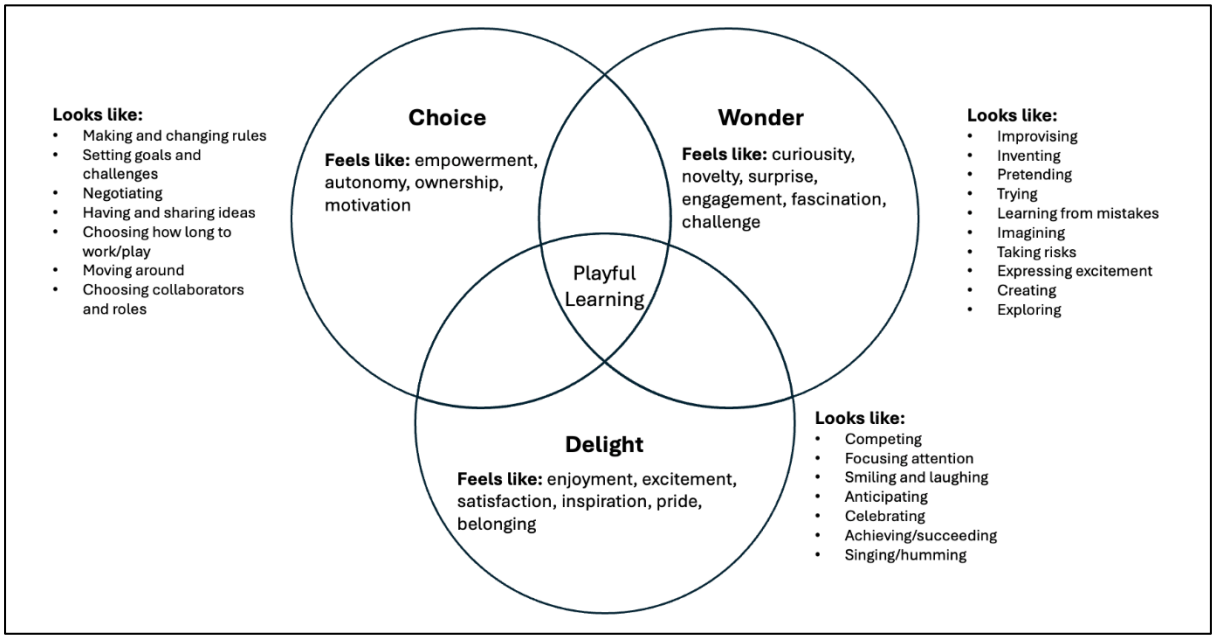
Therefore, what is explored here is that play is not antithetical to learning. Rather, the experiences that come with play are often congruent with, and indeed an essential part of, learning. Playing is also a disposition and mindset, and for learning to be joyful, it does not only rely on good lesson design and activities, but also on teachers and students engaging with teaching and learning with a playful mindset. Hence, bringing us to the idea of *playful learning*.

What does Playful Learning look like?

The desire to bring joy into the classroom and to learning is not a uniquely Singaporean concern. In different iterations and verbiage, it is also being pursued in other educational contexts. As alluded to in the introduction to this article, Denmark is one such case study. In Denmark, *playful learning* is an educational approach that integrates play-based strategies to foster deeper engagement, creativity, and collaboration in learning environments (both within and beyond the classroom). The *playful learning* approach rests upon the belief that play is essential to how students (and indeed, humans) learn, as discussed in the previous section. This approach has also gained currency in school systems beyond Denmark, including those in the United States, Colombia, and South Africa.

Playful learning is comprised of three components, and these components can be described as the indicators of play: (i) choice, (ii) wonder, and (iii) delight (Mardell et al., 2016). Each of these indicators describes the quality of students' experience of the given lesson, as summarised by Figure 1 below:

Figure 1. The Indicators of Play (Mardell et al., 2016, 2023)



To provide *choice* in a playful lesson means giving students a sense of empowerment, autonomy, ownership, and spontaneity. At this point, it is essential to note that having a choice and taking a playful approach does not mean that there are no boundaries to the learning activity – a playful activity is still bounded by the overarching learning goals and other considerations, such as the time allotted by the teacher. However, instead of viewing these boundaries as the tension between students' interests and teachers' learning objectives, they should be viewed as guardrails within which experimentation and exploration can be supported and take place (Mardell et al., 2016, 2023). Figure 1 provides examples of some of the range of playful choices that can be offered in the classroom, beyond the conventional method of giving choices through differentiated instruction.

To provide *wonder* in playful lessons means to provide students with the experience of curiosity, novelty, surprise, and challenge. It is a process that fascinates and engages the learner. As briefly explored in the earlier sections, students have been noted to enjoy new and interesting challenges, and playful lessons provide students with the opportunity to push the horizons of their imagination and possibilities. However, it is also important to note that wonderment is a subjective idea, and not all activities will include the same response from all learners – the takeaway is to continuously calibrate based on the interests of one's students, and not to be disheartened when only a portion of the class experiences wonder through a given activity.

To provide *delight* in playful lessons includes excitement, joy, satisfaction, inspiration, anticipation, pride, and a sense

of belonging. This emotional response extends beyond the relationship between the student and the activity at hand. It also encompasses the interpersonal realm, where students can share a good time with friends as part of the activity, and where teachers can experience delight in their teaching of students.

Collectively, by considering choice, wonder, and delight in a lesson design, playful lessons hope to bring the following qualities into the classroom:

Table 1. Summary of the Qualities of Play (Mardell et al., 2023: 30-37)

Quality	Description
Joyful	Playful learning experiences are enjoyable and engaging, fostering a positive attitude towards learning.
Actively Engaging	Children are actively involved in the learning process, rather than passively receiving information.
Meaningful	Activities are connected to real-life experiences and provide a sense of purpose.
Iterative	Children are encouraged to try different approaches, learn from mistakes, and refine their understanding through experimentation.
Socially Interactive	Playful learning often involves interaction with peers and adults, promoting collaboration, communication, and social skills.

Hopefully, this section has provided some possible aspects that teachers can consider when trying to bring play (and by extension, joy) into the classroom. More broadly, it hopes to encourage teachers to consider teaching practices that extend beyond the transmission of knowledge and the development of discipline- and examination-centric skills. Instead, playful learning also factors in the interpersonal, relational, and affective dimensions of learning into the classroom.

The Case for Playful Learning in the History Classroom

Should history teachers in Singapore be concerned about being *playful* in their classrooms and engaging in playful learning with their students? Beyond viewing playful learning as an attempt to align with the Ministry's stance on the joy of learning, playful learning in the classroom can also serve to enhance history teaching and learning in Singapore. The relevance of playful learning lies in the opportunities it can provide for teachers to help their students engage with the discipline, promote historical thinking, and develop 21st-century skills and competencies. These benefits have also been previously explored in the context of sparking the joy of learning in Singapore's history classrooms (Baildon et al., 2019).

First, playful learning has the potential to enhance students' engagement with the discipline and their motivation levels. As discussed earlier, playful learning emphasizes the provision of choice, wonder, and delight in the learning process. By providing students with the autonomy to be self-directed learners – for example, to give students space to generate their own questions about the past as part of a broader historical inquiry, to guide them through the process of investigation, and encourage students to share their ideas through such a process – it can serve to boost student motivation through empowering them to

ask questions about the past.

Second, playful learning can serve to promote historical thinking. A playful classroom encourages students to imagine and envision new possibilities through tasks they are engaged in – a disposition that is central to authentic historical and intellectual work. For instance, simulation exercises of historical developments, such as the 1963 referendum to join Malaysia, encourage students to consider the historical "what-ifs" and "if-nots" when they wrestle with the dilemmas and trade-offs faced by the various communities and stakeholders in the process. Furthermore, well-structured and guided playful activities can also serve as safe spaces for the discussion of sensitive historical events (such as the legacies of colonialism or historical atrocities), while encouraging students to exercise their historical reasoning to make sense of historical sources and to come closer to the motivations and experiences of various historical actors.

Third, playful learning also provides opportunities for developing 21st-century skills and competencies in the classroom. Playful activities, such as collaborative and competitive games, historical role-play, and authentic historical tasks (like inquiry), are often multidimensional and challenge a range of competencies in students. For instance, as part of a historical role-play of the different historical actors involved in the outbreak of the Cold War, students are tasked to take on differing perspectives (of both historical characters they are role-playing, and of their peers they are collaborating with), and to communicate the perspectives of the characters they are role-playing. Such a form of play develops global and cross-cultural literacies, as well as communication and collaboration skills, organically and authentically, as students learn through directly engaging in dynamic and authentic historical tasks.

In the Singapore context, playful learning has the potential to enhance current teaching practices, making learning joyful, deeper, and more meaningful. Given that playing and learning are not fundamentally distinct, rather than viewing play as a pause on other 'serious' learning activities, well-designed and engaging learning activities should already possess the features of playful activities.

Is Play Possible? Student Teachers' Perspectives

Given the potential benefits of a play-based pedagogy in promoting learning and nurturing the joy of learning, as explored in the previous sections, is it feasible in the context of the Singaporean history classroom? This question was posed to a group of student teachers of history at the National Institute of Education (NIE). For context, this group of four student teachers has had practical classroom experience through the required pre-training contract teaching and has also participated in at least one teaching assistantship as part of their pre-service preparatory programme. These student teachers were also briefly introduced to notions of *play* and tools such as the Playwheel as part of their coursework sessions for QCH52B –Teaching for Historical Understanding.

Throughout the conversation, several key themes emerged. First, this group of student teachers reflected a dichotomy between play and learning, similar to what was discussed in the earlier sections. Second, this group of student teachers believes that joy and fun are possible in their classrooms, and a lot of it is derived from cultivating a love and appreciation for the discipline of history. Third, these student teachers believe that delivering on examination results (and preparing students

to do well in formal assessments) is a major part of their role and responsibility in the classroom.

The distinction between "play" and "learning" is one that has been developed over a long period and has become deeply ingrained in our educational and societal culture. When these student teachers were asked, "What do you think about bringing play or playful activities into your classroom?", concerns about whether play (or fun, as it has often been understood) contributes to student learning, and whether it is a good use of the curriculum time, as seen below:

> Student Teacher C: Joyful and playful learning experiences can go a long way to create meaningful lessons for students.
>
> Student Teacher A: It depends on the student profile on your school.
>
> Student Teacher B: Time in the classroom is limited, and a lot of curriculum time is consumed due to HBL and SBB.

Furthermore, *play* is not only seen as competing with other major curriculum initiatives, such as home-based learning and subject-based banding for time, it is also seen as competing with aspects of the history curriculum as well:

> Student Teacher B: [Even now] historical concepts are not really fronted in the classroom. We are already struggling to teach inference; there is hardly time left to talk about evidence.

From these brief glimpses, it could be seen that *play* and *learning* activities are conceived as separate and competing for time. An illustrative example of this competing use of time in the classroom could be seen in how interesting and fun activities were often used as a means of sparking curiosity or building rapport before diving deeper into a more conventional lesson:

> Student Teacher D: Student profile [of the school I taught in] is challenging. Just engage them through memes, often at the start of lessons, to get them interested.

What was gathered from this conversation is that these student teachers were generally keen and interested in making their lessons enjoyable for their students but also recognised the limitations that they face in a school environment, in which they attempted to balance between time constraints and various curriculum initiatives and goals that they are expected to deliver on. However, the fact that these limitations are conceived of as a trade-off strongly implies that *play* and *learning* are being viewed as separate activities.

Second, these student teachers believe that delivering on examination results and ensuring their students perform as well as possible remains a major component of their role and responsibilities as teachers. This may, in part, contribute to explaining how these student teachers perceive the limitations of the classroom, as explored above.

The conversation below illustrates the attitudes and concerns that these student teachers hold about formal assessments in schools:

> Student Teacher C: Removal of mid-year exams does not help at all. The fundamental game does not change. Compared to

> Denmark, it also depends on the culture of the place. It is a question of decision-making and risk-taking. Play constitutes a career risk.
>
> Student Teacher B: How are Danish teachers being assessed? How are Singaporean teachers being assessed?
>
> Student Teacher A: Concepts, fun, inquiry, are side-quests. The main question is, how does it translate to exam results? [For concepts and inquiry] You often don't see rewards till after you graduate. I am happy as long as they have a broad understanding of the structure [of history].

There is a tendency to view the ability to ensure student attainment in examinations as directly linked to their effectiveness as teachers and, hence, their career success. The reluctance to incorporate play, and arguably other pedagogies, stems from a pragmatic decision to prioritise activities that appear to have a more immediate link to improving the skills and dispositions being examined.

Interestingly, the sentiments of these three student teachers are not new and echo sentiments of more senior teachers from the past. As observed from the following excerpt from an unpublished teacher interview carried out as part of a PhD study that incorporated teachers' views on the teaching and learning of history in Singapore schools (Afandi, 2012):

> Teacher A: Yes. Isn't it [examinations] how teachers are ranked anyway? It boils down to the basic bread-and-butter issues. Of course, the ideal would be the second approach (i.e., promoting historical understanding), but this is not Xanadu. This is Singapore. Everything is result-oriented.

Examinations, the need to be accountable to one's students and other stakeholders, and ultimately concerns about one's career performance are perennial issues in Singapore's educational landscape. Set in such a milieu, it is not surprising that these student teachers may find it challenging to bring a *playful* disposition to their lesson designs and their classrooms.

Third, these student teachers still believe that joy and fun are possibilities in their classroom and see the cultivation of a love and appreciation for the discipline of history as closely tied to the joy of learning history. When asked how they might nurture the joy of learning in the classroom, they responded:

> Student Teacher A: It should be done through conceptual teaching. As a teacher, enjoyment and fulfilment in the classroom come from helping students appreciate and understand the broad structures of the discipline.
>
> Student Teacher B: Fun activities are a way of activating their schema; if done properly, they are very rewarding.
>
> Student Teacher C: There is a gap between what MOE defines as the 'joy of learning' and what joyful learning experiences are. The whole point is to create meaning for students. If only there is more space and time for teachers to work on their unit plans and consider how procedural concepts fit into lessons for the long term.

The prevailing sentiment was a recognition that, why conceptual teaching and the use of second-order concepts in the classroom can be time-consuming and challenging, it is still viewed as an avenue in which students can be presented an engaging intellectual puzzle, one that, through solving, can both produce enduring understandings and an appreciation for history and the past.

To summarise this section, based on conversations with a handful of current student teachers, it appears that ensuring examination readiness remains a primary concern for young educators. There is also the awareness that joyful and meaningful learning requires teachers to invest time and effort in infusing concepts meaningfully within a tight curriculum space. These concerns influence their understanding of the role of play in their classrooms. However, beneath all that, there is a continued interest and belief that there is a role for play in the teaching of the discipline. As one of the student teachers in this conversation said, "the joy of learning is tied to the joy of teaching"; therefore, the question is how teachers can be empowered to adopt a playful disposition.

Developing Playful Teachers

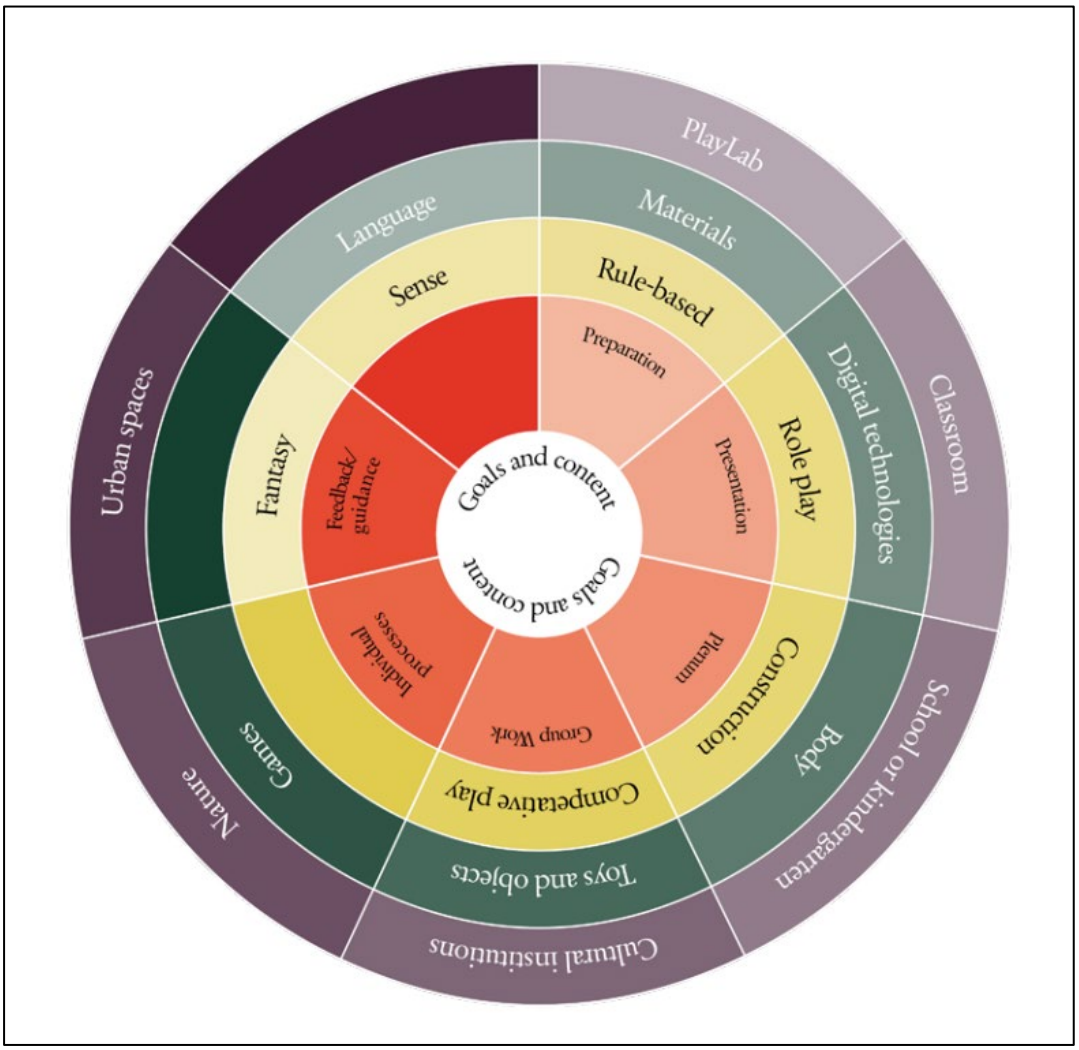
While the concept of Playful Learning may appear attractive – for its potential benefits in student motivation, learning, and also for nurturing the joy of learning – a playful approach to learning does not just require students enjoy the lesson, but also for educators to engage with play and themselves embrace the unpredictable and the chaos of playful learning (Ørsted and Laybourn, 2016).

Given the context outlined above, how can teacher preparation programmes, such as the NIE postgraduate diploma in education (PGDE), and in-service mentors (e.g., senior teachers) develop teachers who possess playful dispositions?

A playful disposition among teachers encourages teachers to see learning opportunities and activities as containing possibilities for leading, exploring, and enjoying (the key ingredients of play). This disposition places teachers in a position to transform their learning activities into ones that contain the key qualities of *play* as discussed earlier in this article.

Beyond equipping student teachers with knowledge about the principles and modalities of play, teacher preparation can also provide opportunities for exploration and enjoyment. One potential method could be the employment of the *Playwheel*. The *Playwheel* was developed by the LEGO Foundation and educators at the University College Copenhagen in 2019 to help build a playful disposition in their student teachers. It was based on research into play-based learning by Callois (2001) and Steenholt (2011, as cited in Ørsted and Laybourn, 2016).

Figure 2. Example of a Playwheel used at the University College Copenhagen as part of their teacher training programme (Playful Learning, 2024)



Each layer of the *Playwheel* represents an aspect of classroom and lesson design that student teachers must consider. From the innermost ring working outwards:

Table 2. Explanation for each layer of the Playwheel

Layer	Description
Goals and content	Lesson objectives that are determined by the teacher.
Typical teaching and organisation forms	Teaching and organisation forms represent the general didactic forms that the lesson/activity will take.
Play types	The play type represents some of the common or standard play forms that can be brought into the classroom.
Play media	The media through which the type of play that is selected can be enacted.
Location	Locations where lessons and activities can be carried out, locations shortlisted in the wheel are locations where playful, creative, and experimental teaching can take place.

The Playwheel is not just a thinking scaffold with meaningful categories for student teachers to consider when crafting their playful lessons and activities; it is also a useful training tool for developing playful dispositions in student teachers. For instance, by spinning the different layers of the Playwheel, student teachers can be presented with a novel, randomised lesson specification from which they can consider the types of goals and content areas that work with the given didactic form, play type, and play media. When used in a seminar or group setting, it can help elicit lively discussions among student teachers on how these different dimensions of playful lessons can be integrated and brought to life, promoting collaborative learning.

By engaging student teachers with activities such as the Playwheel, it can help to illustrate and model the principles of playful activities in the following ways:

(i) It encourages active engagement as it empowers learning. Engaging with student teachers and their lesson designs through the Playwheel encourages student teachers to take an active role in charting the direction of the class discussion.
(ii) It is socially interactive as it welcomes collaboration. It encourages student teachers to exchange ideas, build upon, or even disagree with each other while working towards a common goal of solving the 'puzzle' posed by the Playwheel. Through such activities, it also allows student teachers to build relationships, facilitate purposeful conversations that co-construct knowledge (or ideas), and foster a culture of feedback.
(iii) It is iterative as it promotes experimentation and risk-taking and encourages imaginative thinking. Through the Playwheel, potentially unlikely match-ups in lesson design may occur, and it encourages student teachers to engage with their imagination (the "what-if" space) and to explore new ideas and perspectives on how lessons can be designed. Furthermore, class discussions about these imaginative possibilities also encourage an iterative lesson design process that can encourage experimentation and risk-taking.

Through activities such as the Playwheel, student teachers can be placed in a position to consider the possibilities for play in their own teaching practice.

Of course, the culture of play in Singapore's context is different from that of Denmark, and the corresponding challenges, constraints, and pressures of the classroom are different as well, as astutely pointed out by the student teachers we have spoken to. To accommodate the priorities of a Singaporean classroom, a more conventional Playwheel can be used instead, see below:

Figure 3. A Playwheel for the Singapore Context?

While some of the activities listed above may not appear immediately as "playful" – such as support and feedback or inquiry-based learning – the use of such a wheel to foster discussion and consideration among student teachers can also encourage them to consider the imaginative possibilities in their lesson design. This further opens the possibility of increasingly playful categories in future iterations, once an initial inclination to play has taken root among student teachers.

Such a device can help student teachers to be sensitive to the various layers of teaching decisions – for instance, in Figure 3, from the innermost layer to the outermost, the layers represents the possible lesson objectives, classroom organisation forms, experiential elements, lesson medium, and physical location of the lesson – that have to be made when designing a lesson. Each of these considerations provides opportunities for student teachers to consider ways to give the students choice, wonder, and delight, and more broadly, to explore both possibilities and opportunities for playful learning in the classroom. By breaking down lesson planning into its various sub-components that require teachers to make decisions on, it also serves to make the process of imagining play in the classroom less expansive and more manageable – not all aspects of the classroom need to be made playful at the same time. For example, whereas the physical space for a classroom

may present limited play opportunities compared to that of a field trip site or a humanities resource room in the school, teachers can still look to the lesson medium or the classroom organisation form as avenues where playful learning can be implemented.

One way to utilise the Playwheel to foster the playful disposition of student teachers is to challenge them to consider the opportunities for play at each level and, as a group, weigh the pros and cons. As a learning activity, student teachers can work in groups of five and agree upon a set of lesson goals. Having done so, each student teacher can be assigned to a different layer of the Playwheel and give their specific layer a spin to obtain a randomised teaching decision for their assigned layer. They are then to individually consider the opportunities for play in their given category vis-à-vis the lesson's goals – for instance, should one draw "feedback and support" as the experiential element for the lesson, possible avenues for play may involve celebrating successes to introduce delight into the process, or to provide wonderment through turning feedback and support into a series of collaborative improvision by students.

Members of the group can then reconvene and assemble a cohesive lesson plan based on each randomised teaching decision they have drawn. This process may present odd combinations – such as attempting to introduce feedback and support elements while the lesson is set in a field trip site. Some of these abnormal combinations further encourage student teachers to consider what their lessons can look like beyond conventional lesson forms that are currently tried and proven in schools. Taken in totality, the Playwheel and activities such as drawing random lots to collaboratively design a lesson hope to raise teachers' disposition for play, by making the lesson planning process a playful one – and as a result provide room and space to consider the possibilities for choice, wonderment, and delight in their own classrooms.

Conclusion

While the removal of mid-year examinations and the release of curriculum time for teachers present an opportunity for teachers to nurture the joy of learning in their classrooms, it is evident that the examinations continue to occupy a significant part of the mindshare of many student teachers. By helping history teachers develop lessons guided by ideas around playful learning, it is hoped that some of the recent developments can be fully leveraged, and play and joy can be more effectively integrated into the classroom. To that end, this article provides an introductory overview of the principles of Playful Learning, a brief (but arguably indicative) snapshot of the concerns and aspirations of young educators in Singapore, and some suggestions on how Playful Learning can be tapped and made meaningful for teacher education in the Singaporean context.

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Beyond the PEEL: Reflections and Explorations on Instruction in Argumentative Writing in Singapore History Classrooms

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Abstract

Beyond investigating into the past and interrogating sources, the practice of History involves a significant communicative aspect – learners are also expected to read and write History. However, historical writing in Singapore schools is often subordinated to expedient writing frames, which often prioritise writing outcomes over the growth of student thinking processes. Through a survey of the literature in historical writing (and reading), this paper makes the case for focusing on historical writing in instructional design and discusses some of the instructional strategies that can help to bring that vision into the Singapore classroom.

I. Introduction

The Humanities Inquiry Approach has undergirded the teaching of History in Singapore schools for more than a decade. In this time, much attention has been paid to the philosophy, beliefs, and practices surrounding Inquiry as an instructional framework in History. Within the third stage of inquiry, "Exercising Reasoning," efforts in school have mostly been focused on growing students' competencies in interpreting, evaluating, and analysing sources, possibly because of the perceived tangible benefits this brings when it comes to examinations. Less attention has been devoted to growing students' abilities in communicating their interpretations through cogent historical arguments. This is arguably troubling as the full potential of inquiry as a means for students to engage with the nature and disciplinary attributes of History, as well as to develop students' critical and reasoning skills, may thus not be fully realised. The rich interpretive work encouraged by inquiry, which fosters an appreciation for multiple perspectives, can become limited if students' ability to construct compelling and cogent arguments is insufficiently developed.

This article begins with an exploration of the importance of writing – particularly of the argumentative genre – within an instructional programme in History. I then consider current pedagogical practices and discuss how such practices might evolve through a brief survey of instructional strategies suggested in research literature. Where relevant, I also highlight areas and issues that deserve closer examination, particularly as they pertain to the Singapore context.

The ideas discussed in this essay stem from a reflective engagement with current practices and a brief, preliminary and rudimentary survey of relevant literature, both grounded in my necessarily limited experiences in Singapore schools. Consequently, this piece should be viewed less as an authoritative treatise and more as a point of departure and an invitation for broader dialogue and collaborative exploration into how we might collectively enhance writing instruction in History classrooms.

II. Why Teach Writing?

First, writing is central to History as a discipline. It has been more than a decade since the Ministry of Education foregrounded conceptual understandings (particularly, second-order concepts that underpin and define the disciplinary practice of History). Writing remains the key platform for students to demonstrate their understanding and application of these conceptual understandings. Nokes and De La Paz (2018) observe that:

> Argumentative historical writing, through which historians defend their interpretations, their use of evidence, their research methodologies, and the significance of their work, represents the pinnacle of historical writing according to researchers in the US (Bain, 2006), France (Rouet, Perfetti, Favart, & Marron, 1998), the Netherlands (van Drie & van Boxtel, 2008), and Canada (Seixas & Morton, 2013).

The authors further cite Monte-Sano (2010)'s argument that "historical arguments require 'conceptual understanding, procedural knowledge of historical analysis, an underlying grasp of the topic and discipline, and background content knowledge'" (Nokes & De La Paz, 2018), suggesting that in writing argumentatively, students are in fact demonstrating their learning and engagement with the discipline.

Monte-Sano (2011) goes further to argue that beyond simply being a vehicle for students to demonstrate their disciplinary understandings, instruction that incorporates writing can foster and deepen such disciplinary understandings in students. This is based upon the "conception of History as an interpretive discipline grounded in evidence that is analysed, not simply accepted" (Monte-Sano, 2011). Given the nature of the discipline as one that is interpretive and open to multiple accounts, a disciplinary approach to History not only leads to an emphasis on reading and writing, but instruction that emphasises argumentation can also lead to growth in students' capacities at disciplinary thinking (Monte-Sano, 2010). Just like historians, when students engage in writing history, they "apply concepts such as time, change, context, empathy, and evidence to their analyses. They engage in such procedures as researching, critiquing sources of evidence, or constructing interpretations" (Nokes & De La Paz, 2018).

Second, writing is beneficial for students' learning, particularly in the acquisition of content and in fostering first-order conceptual understandings. Nokes and De La Paz (2018) cite research that suggests that as students learn to produce argumentative historical writing, they "engage in knowledge transformation and develop richer content knowledge, which they retain at significantly higher rates for longer periods of time." According to Klein and Rose (2010), knowledge transformation takes place during writing as students restructure knowledge, create new meaning from existing content areas, and engage in meaning-making in intellectual moves that are distinct from knowledge-telling. The following example illustrates the knowledge transformation that takes

place when students engage in argumentative writing:

> Students writing an argument adopt a rhetorical goal, such as providing evidence. This requires that the student has some relevant topic knowledge; if the student does not, then he or she could set the content subgoal of solving this problem. The writer could draw on some previous knowledge and make new inferences from it. … Or, … the student may read some relevant nonfiction, researching information that bears on the claim. The writer would then make inferences about how this information bears on the claim, forming new claim-evidence relationships. … Alternatively, the student could modify the claim, or investigate the opposing point of view. Any of these would contribute to transformations in the writer's knowledge (Klein and Rose, 2010).

Beyond argumentation, even the act of explaining in writing invites writers to understand processes and theories (Klein and Rose, 2010), which again challenges students to move beyond simple regurgitation or repetition of content knowledge. As argued by Barton (2013), writing "places control of learning in the hands of students themselves, so that they have a chance to construct their own ideas instead of simply reproducing what they encounter from teachers, texts, or other sources."

Given that instruction in History that intentionally and carefully incorporates discipline-specific ways of reading (see sub-section III(A) below) and writing could lead to knowledge transformation for students, it therefore also serves the purpose of deepening students' content understandings. Nokes and De La Paz (2018) argue that not only does writing-focused instruction in History help students "retain content knowledge better than … traditional, lecture-focused instruction," writing argumentative essays based on reading from multiple texts "produces greater content learning than other types of writing" (Wiley & Voss, 1999, as cited in Nokes & De La Paz, 2018).

III. Rethinking the Teaching of Writing in Singapore History Classrooms

In my decade of experience teaching History and leading teams in the implementation of Singapore's History curricula, as well as in my current role as a teacher educator, I have found that instructional strategies and teacher professional development on the teaching of writing have typically been focused on addressing the superficial perceived demands of writing to score well for examination questions, rather than on the processes of writing and argumentation themselves. History teachers in Singapore cannot escape (and indeed, have perhaps rarely thought beyond) providing students with writing frames such as the Point, Evidence, Explanation, Link (PEEL) format, or in training students to structure their responses to questions based on immutable sentence starters or phrases like, "I agree with the statement because…," and "However, I also disagree because…."

Commonly-cited reasons include: (i) limited curriculum time that is often subject to further disruptions to the teaching timetable; (ii) school-designated Weighted Assessment weeks which corresponds with the need to calibrate student progress and ensure adequate 'preparation'[i]; (iii) the belief that students naturally lack the ability to write argumentatively given their weak language ability; (iv) such writing frames are quick for students to remember and operationalise given the three reasons above; and (iv) the teaching of writing should be done solely by English Language teachers. I posit that beyond these factors, History teachers themselves may need more professional development in argumentation and teaching writing before they are fully

confident in moving beyond these writing frames. In sum, the teaching of writing is product-oriented (with the product being written pieces that can help students score well in examinations), rather than process-oriented—that is, where the learning takes place with and through writing, and the focus is on the intellectual moves required when writing (Nokes & De La Paz, 2018).[ii]

With my brief survey of the benefits of writing (and the teaching of writing) in History in the previous section, the rest of this piece assumes that paying closer attention to writing and its associated instructional processes would be beneficial in bringing students closer to attaining the aims of our History curriculum. I will discuss instructional processes and practices suggested by various scholars, and briefly explore the considerations, opportunities, and challenges of applying these suggested strategies in the Singapore History classroom.

A. Repositioning Reading and Writing in our History Classrooms

As alluded to above, students stand to benefit when teachers devote time and resources to writing instruction. Rather than viewing writing as an adjunct to, or discrete from, the learning of History, teachers should consider student writing as *essential* to the learning of History, and that they have a responsibility to teach writing in their classrooms despite the challenges they face. Correspondingly, teachers could develop their instructional programmes consciously to incorporate reading and writing as part of instruction in content, concepts, and examination strategies. If one accepts that the "nature of tasks and instruction influence the development of students' argumentative writing in the classroom" (Monte-Sano, 2011), then a shift away from reading and writing tasks that call for basic comprehension or summary is in order. Such tasks inhibit "a conception of History as an interpretive discipline grounded in evidence that is analysed, not simply accepted" (Monte-Sano, 2011). Correspondingly, writing activities should shift away from fill-in-the-blank worksheets, copying from slides, or multiple-choice questions (Duke et al., 2012; VanSledright, 2014; Ercikan & Seixas, 2015, as cited in Nokes & De La Paz, 2018). After all, as Monte-Sano et al. (2015) argue:

> Students cannot learn to consider multiple perspectives, critique what they read, or develop an argument if history lessons focus solely on memorising names and dates or filling in bubbles on a Scantron sheet. Instead, focusing on historical interpretation gives students a chance to read critically and form their own ideas.

I proceed now to suggest a possible strategy for teachers' consideration when planning to infuse writing-rich activities into their instruction. When planning for units of study, teachers could take reference from the teacher in Monte-Sano's (2011) study and intentionally plan multiple writing activities around key issues of historical inquiry. These writing activities, especially in the initial phases of instruction (e.g. Secondary 1 during the two-year Lower Secondary History Programme, and Secondary 3 during the two- or three-year Upper Secondary History Programme) and at the start of investigating a particular issue, need not be modelled after the final product (i.e., either the essay or particular source-based question types) that students will be required to produce in the examinations. A possible sequence could resemble the following:

i. Teachers could start with short free writing exercises for students to ask questions or communicate their (limited) understanding of facts and the

chronology surrounding a historical phenomenon or actor.

ii. In the next stage, teachers could introduce curated sources and corresponding writing exercises for students to investigate and interpret the issue a little deeper.

iii. Subsequently, students could be assigned to – or select – different perspectives, angles or actors (perhaps based on the sources that they encountered in Stage ii above) and write position papers based on the perspectives they take on. Lesson time can also be devoted to students discussing their writing and seeking to understand and evaluate theirs and others' perspectives.[iii]

iv. Finally, students could submit a longer argumentative essay that requires them to state their own opinion while incorporating the analysis, discussion and writing done in the earlier stages.

Just as writing should not be a discrete learning process separate from content or conceptual acquisition, productive reading, too, is part of what Monte-Sano (2011) considers to be "discipline-specific literacy strategies." Monte-Sano (2011) further argues that "how students read influences their writing, and how they write is an indication of that reading. Reading and writing are related, not separate processes. They are foremost rooted in thinking—not just in basic comprehension, but questioning texts, recognising and evaluating authors' opinions." Similarly, Nokes and De La Paz (2018) observe that

> New theories have dispelled the long-held view of reading and writing as separate or even opposite processes. Instead, modern researchers argue that reading and writing involve similar cognitive processes and symbol systems (Graham & Hebert, 2010; Shanahan, 2006). Notions from 40 years ago that fluent reading was a prerequisite for writing instruction have been replaced by the idea that teaching the two processes together may streamline literacy development (Fitzgerald & Shanahan, 2000).

In sum, "reading and writing involve… complementary cognitive processes that can enhance learning when used together" (Nokes & De La Paz, 2018).

B. Strategies and Suggestions for Classroom Practice

In this section, I discuss some possible strategies for how educators might move students beyond the trappings of frameworks like PEEL, based on my brief survey of the literature. It is not my intention here to be prescriptive; indeed, I have observed that most teachers have already incorporated at least some of the following strategies into their practice. Instead, I hope that this segment serves as a point of departure for further explorations, discussions, and research-backed classroom interventions that address the specific context of History teaching in the Singapore classroom.

i. The literature recommends frequent writing tasks: these could be informal or spontaneous (Monte-Sano, 2011; Barton, 2013), or periodic writing tasks that are extensions of these shorter writing exercises (Monte-Sano, 2011). These tasks should foster "productive disciplinary engagement" by being grounded in "authentic, intellectual problems" (Engle & Conant, 2002, as cited in Nokes & De La Paz, 2018) that arise as part of historical inquiry. In the context of our secondary school or pre-university classrooms, this means planning for such tasks to address the key issues of historical debate which shape the content areas, and for these tasks to activate student engagement with both the content and procedural

concepts which undergird the various units of study.

Monte-Sano (2011) argues that the provision of short, informal writing tasks gives students opportunities to read carefully, comprehend what they have read, and work through individual issues before synthesising the different perspectives (or sources) in their longer pieces. Such an approach allows students to "develop their content knowledge, and improve their thinking about the content" (Langer, 1986, as cited in Monte-Sano, 2011). Nokes and De La Paz (2018) further highlight that spontaneous writing exercises convert "tacit knowledge into explicit knowledge," and "may help the writer generate new ideas" (Ong, 2013, as cited in Nokes & De La Paz, 2018). This can be especially helpful as complex and multifaceted thinking could overload a student's working memory: writing then becomes a memory aid which creates opportunities to elaborate, process and organise ideas, and remove contradictions" (Nokes & De La Paz, 2018). Barton (2013) adds that "when students react to information through [a spontaneous writing] activity, they construct their own understanding of it. Otherwise they are just memorising." Moreover, this could reap affective and motivational rewards, as "giving students a chance to write quickly about what they have been learning allows them to sift through their ideas and identify areas of both clarity and confusion, but without feeling the burden of producing an elaborate and polished composition" (Barton, 2013).

ii. As discussed above, writing cannot take place in a silo: it must be accompanied by productive reading. Monte-Sano's (2011) study found that growing students' ability to write argumentatively for History was supported, in part, by a move away from the use of a singular authoritative textbook; instead, students read compendia of primary documents and accounts by historians. One observes that such a practice could already shift students' mindset decisively away from history as a received body of knowledge towards one that is contestable and open to interpretation. In turn, this could ground students intellectually for the task of considering multiple perspectives before arriving at a considered and well-substantiated argument. Curation and the intentional selection of materials to aid disciplinary thinking, however, only forms one-half of a reading-rich instructional strategy: it must be accompanied by instruction in active and reflective reading. The teacher in Monte-Sano's (2011) study devoted instructional time on teaching students to annotate, for, annotation pushes students "to become active readers engaged with the text in many ways: asking and answering questions of themselves and the author, … making connections to prior knowledge and other texts, … [and] summarising" (Monte-Sano, 2011).

Besides the need to examine the specific processes when teaching students how to annotate, the issue of how to most effectively reap the benefits described above, given the constraints of the Singapore context, warrants further study. The teacher in Monte-Sano's (2011) study was able to design instruction in the way that he did because his students had strong literacy backgrounds, his class met for almost five hours each week, and there was no prescribed curriculum. All these are conditions that do not currently exist in Singapore schools: our classes typically have students of mixed readiness and

literacy levels, there is a prescribed syllabus to be completed in time for relatively high-stakes examinations, and for upper secondary History, anything more than *three* hours of instruction a week is a luxury. In spite – or perhaps precisely because – of these circumstances, there is an impetus to study how – and the extent to which – such instructional practices could benefit History students in Singapore schools. At the very least, teachers could experiment with some of these practices in their own classrooms to explore how they could potentially be beneficial for their students. As Monte-Sano (2011) observes, the strategies described "still merits study simply because so many of his practices have never been documented in the historical thinking literature."

iii. Scholars highlight the importance of explicit instruction in writing. This begins with frequent exposure to informational and argumentative texts, for "students who rarely read argumentative texts are unlikely to be able to produce argumentative texts. [Their] fluency with expository text structures continues to develop … as they are increasingly exposed to expository text (Galloway & Uccelli, 2015, as cited in Nokes & De La Paz, 2018). This exposure could then be supported by explicit instruction on the writing process, as well as features of good argumentative writing, particularly through the sharing of what Applebee and Langer (2006) call "mentor texts," which are "models that demonstrate elements of strong writing" (as cited in Nokes & De La Paz, 2018).

There is no dearth of studies on instructional strategies specific to writing that can grow students' competencies in writing argumentatively. In the following table, I present a brief summary of these proposed strategies for teachers' exploration:

Table 1. Summary of proposed strategies for the developing of student writing in the classroom

Suggested Strategies or Approaches	Effects/Benefits^	Researcher(s)*
Teaching students to engage in a planning monologue using planning cues	Increased young students' reflection during planning	Scardamalia, Bereiter, & Steinbach (1984)
Procedural facilitation through the provision of cues, prompts, routines	Helps students execute more complex composing processes	Bereiter & Scardamalia (1987)
Using mnemonics, text frames, "think sheets," and graphic organisers combined with teacher and peer interaction	Teaches students more sophisticated approaches to planning	Englert, Raphael, Anderson, Anthony, & Stevens (1991)
Scaffolding	Reduces the strain on a student's working memory	Stanford History Education Group (n.d.)
Providing simplified texts		Wineburg & Martin (2011)
Providing guiding questions		Reisman (2012)

Table 1. Summary of proposed strategies for the developing of student writing in the classroom

Suggested Strategies or Approaches	Effects/Benefits^	Researcher(s)*
Explicit instruction on the goals of argumentative writing (in terms of content and audience)	Helps students support their claims with evidence and refute opposing positions	Midgette et al. (2008)
Providing students with specific writing prompts that outline the goals of argumentative text	*Not described in Nokes & De La Paz (2018).*	Ferretti, MacArthur, & Dowdy (2000)
Providing scaffolding in the form of templates, outlines, graphic organisers, and sentence starters		McAlister, Ravenscroft, & Scanlon (2004)

^ Where described in Nokes & De La Paz (2018).
*All as cited in Nokes and De La Paz (2018).

iv. Assessment and feedback in History should be focused on growing students' disciplinary thinking and writing. We are fortunate in Singapore that our assessments in History no longer privilege students' ability to recall and reproduce the putative 'facts' of History: whether in source-based questions, essays, or in Historical Investigation (HI) projects, assessment – at least in intent – foregrounds the disciplinary attributes of History. Students are tasked to explain and evaluate causal factors, interpret sources for perspective, message, and intent, evaluate the relative significance of historical events, and so on. Here lies an issue that should prompt reflection amongst History educators in Singapore: do our classroom practices support writing that demonstrates and honours disciplinary thinking, or do we – perhaps by circumstance – continue to teach primarily for adherence to prescribed structures and formats, despite the *intent* of our assessment items?

    Researchers have also stressed the importance of regular and timely feedback that emphasises attributes of disciplinary thinking such as "evidence-based thinking," and an "historically astute interpretation of issues and perspectives" (Monte-Sano, 2011; Nokes & De La Paz, 2018). This issue warrants further study given the potential challenges posed by Singapore's context. In schools, History enjoys fewer teaching periods relative to other subjects like English, Mathematics, and the Sciences. In recent years, there have been deployment and timetabling constraints posed by the introduction of Full Subject-Based Banding, which necessitates the deployment of more teachers to each teaching level. Taken together, in mainstream schools which offer instruction at all of the G1, G2, and G3 levels, History teachers typically juggle multiple teaching preparations, which could make providing regular and timely feedback on all formal and informal writing assignments somewhat unfeasible. Of course, with the introduction of much-touted artificial intelligence (AI) tools like the Short Answer Feedback Assistant in the Student Learning Space (SLS), there is the potential for technology to serve as a multiplier and customiser in providing

feedback to students. The affordances of AI – and the extent to which they can augment and replace the individualised and personalised feedback provided by History teachers on matters of disciplinary thinking – deserves closer study and experimentation.

The four strategies and processes discussed above could be applied as part of the Cognitive Apprenticeship instructional model advocated by Brown, Collins, and Duguid (1989), which begins with modelling processes and gradually shifts responsibility over to the learner. The thinking for argumentative writing is first made visible to students through teacher modelling. In Cognitive Apprenticeship, teachers explicitly discuss the heuristics and reasoning processes used by experts and provide coaching and scaffolding as students begin to apply these strategies in their own work (Nokes & De La Paz, 2018). As students gain confidence and competence, teachers gradually release responsibility for reading, thinking, and writing, while continuing to offer feedback to support their independent use of cognitive and literacy practices (De La Paz et al., 2014). The key element of modelling is one strategy of explicit instruction; the gradual release of responsibility can be paced out over numerous writing exercises, while regular feedback helps students grow in confidence and competence in writing argumentatively.

IV. Areas for Closer Consideration

As seen in the previous section, there is abundant research on teaching students how to write and how to write argumentatively. What warrants closer study seems to be the specific focus on *what argumentation is, and how to teach students to argue*, within the context of History education in Singapore. What are the features of argumentation? Beyond application of frameworks, what are the logical, cognitive and linguistic processes involved in the construction of strong arguments? How do we teach these to our students in light of disciplinary standards in History? In this section, I discuss briefly areas that teachers and researchers can explore. For a start, teachers could consider small interventions in specific areas based on their qualitative analysis of their students' work. For instance, for students who mechanically apply the PEEL framework but whose writing demonstrates an incongruity between the evidence/examples cited and the corresponding explanations, teachers could explore teaching strategies to help students explain the relationships between different elements of arguments.

Guidebooks like those by Chapman (2016) provide useful insights into what argumentation in History entails and how teachers might develop students' capacity to argue effectively. Chapman's guide outlines practical strategies for helping students recognise argumentation in historical writing, such as identifying claims and supporting reasons, analysing how historians justify their interpretations, and understanding the logic that underpins competing perspectives. It also provides activities to scaffold students' ability to construct their own arguments.

What warrants further study, however, is how these approaches can be incorporated into Singapore's History curriculum for argumentation to be taught explicitly and in ability-appropriate ways. To do so, I propose that researchers and practitioners also explore beyond our traditional disciplines into the fields of applied linguistics, epistemology, and philosophical reasoning. These fields can provide insights into the role of language in constructing arguments, the nature and forms of knowledge, and the ways of reasoning clearly and evaluating

interpretations. Given the myriad demands on teachers' time and focus, perhaps senior members of humanities departments can identify specific areas for teachers' professional development and curate bite-sized learning opportunities that also provide teachers with tools for immediate application in their classrooms. These could be done as short workshops as part of department meetings, professional learning communities (PLCs), or even as networked learning communities (NLCs) across schools.

Within the context of a school, teachers in the Humanities and English Language departments could collaborate in professional learning on – and designing instruction in – argumentative writing. I posit that a consistent and unified approach in the teaching of logical reasoning and argumentation across academic subjects and various school experiences could reap economies of scale and be mutually reinforcing for students.

Finally, both De La Paz and her colleagues (2014) and Monte-Sano (2011) acknowledge that there is currently insufficient breadth when it comes to research on writing development in History students: most studies focus on university students or higher readiness pre-university students; lesser attention has been paid to lower readiness students and those at the secondary level. Of course, there exists neither a systematic study – nor research-backed interventions – on how students learn to write in Singapore History classrooms. Given the unique characteristics of our Singapore classrooms, issues like scalability and applicability of suggested interventions (e.g., frequent feedback) could also be studied in greater depth.

V. Conclusion

In this essay, I have suggested two impetuses for paying closer attention to teaching writing in History: first, argumentation is central to History as an interpretive and evidence-based discipline, and enables students to demonstrate and deepen their conceptual understandings. Second, intentionally teaching writing has noteworthy benefits for student learning. I have reflected on what I perceive to be the current product-oriented approach to writing instruction in Singapore History classrooms, and suggest that a shift in outlook towards focusing on writing instruction as a process, rather than a product, could transform our classroom practices and benefit disciplinary thinking and literacy in History.

As an educator, I am reminded that teaching writing in History is less about producing well-structured essays for examinations, but about fostering deep conceptual understanding, critical disciplinary engagement, and lasting knowledge transformation in our students. To achieve this, experimentation on the suggested instructional processes and strategies could uncover interventions that are feasible and especially effective for students in Singapore. A closer look at the mechanics and heuristics of argumentation, as well as research on how to teach argumentation, could go some distance towards achieving these aims. I also suggest that a more consistent and unified approach to teaching logical reasoning and argumentation across academic subjects within Singapore schools could reap beneficial professional outcomes for teachers and learning outcomes for students.

Beyond technical competence in writing and deeper disciplinary understandings, a refreshed approach towards writing in History instruction in Singapore could deepen student engagement and joy in learning, and develop students' 21st

Century Competencies in such areas as critical, adaptive and inventive thinking, as well as communication and information skills. By empowering students to communicate effectively in History today, we are playing a part in nurturing active contributors and concerned citizens who are equipped to navigate and shape the complexities of tomorrow.

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[i] This is itself premised on the mindset that such assessments are valuable opportunities for students to be prepared for the formal, summative assessment tasks.

[ii] I wish to highlight that my statement here is not an indictment of practices in our classrooms or intended to be a sweeping conclusion on the state of History teaching in Singapore. As a classroom practitioner, I am fully cognisant of the numerous competing demands placed on History teachers which often necessitate the use of more expedient frameworks when teaching. I have alluded to some of these challenges in this section (see III(B)(ii) and III(B)(iv) below).

[iii] A good instructional strategy here would be Structured Academic Controversy.

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A Canva(s) of Possibilities: Leveraging Educational Technologies to Develop Historical Understanding

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Abstract

The rise of educational technologies creates many opportunities for history teachers to deepen their students' understanding of historical concepts. This article highlights a case study of how history teachers can use Canva, an online interactive platform, to conduct a lesson on the historical concept of causation. This article is not prescriptive — the onus should always be on the history teacher to decide whether the use of educational technologies is conducive to their own teaching environments. Nevertheless, the authors argue that there is a plethora of possibilities in educational technologies, which history educators can harness to facilitate an enhanced conceptual learning experience for their students.

Introduction

History teachers are engaged in a perennial struggle — how to make the study of the past engaging to students living in the present but also ensure that the students accurately understand important historical concepts at the same time. The answer often lies in taking advantage of the opportunities that modern educational technologies have to offer — innovating the way we teach a subject that we are so passionate about. While some history teachers are understandably concerned about the effects of the increased use of education technology in the classroom, the winds of change — at least in the Singaporean education system — are firmly blowing in one direction. In 2020, the Singapore government announced its intention to provide all secondary school students with their own Personal Learning Devices (PLDs), such as iPads and Chromebooks, by the end of 2028. The Ministry of Education (MOE) also provided financial subsidies to help students purchase their PLDs (Ang, 2020). The National Institute of Education (NIE), where most of Singapore's public school teachers are trained, includes a course on educational technology in its teaching diplomas. Teachers are graded for their incorporation of educational technology into their lessons during their observations. It is clear that in the context of Singapore's education system, educational technology is here to stay. Therefore, while history teachers are right to be wary of the dangers of educational technology, we must also harness the opportunities that educational technology provides.

It is in this light that we detail our proposals, in this article, regarding the use of Canva in the history classroom to teach an activity centred around the historical concept of causation. This activity was part

of a lesson plan — while it was not implemented in a classroom, the necessary materials were drawn up by us and reviewed by fellow student teachers. The activity introduces Secondary 4 (16-year-old) students to the causes of the Korean War, with the inquiry question "Who caused the Korean War?" Apart from learning that the Korean War was multi-causal in nature, students will also arrive at the enduring understanding that different explanations of what caused an event can be valid, depending on the criteria applied. Through the lesson activity, we argue that incorporating education technology tools into the teaching of history in the classroom can be intellectually and conceptually effective. The case use of Canva for this article serves as merely one of the many possibilities that educational technology has to offer history educators. That being said, we believe that at the time of writing, Canva is a tool uniquely positioned to offer teachers versatility and flexibility in tailoring digital lessons to their pedagogical and curricular requirements. This article will be broken down into three main segments. First, a literature review highlighting previous examples of how history teachers have incorporated educational technology into their lessons. These previous iterations of technology have sought to solve common problems that history teachers face in teaching the subject, such as student engagement. Second, an introduction to the Canva platform and its capabilities, using the aforementioned case study. Third, an evaluation of the Canva platform's opportunities and challenges, along with possible measures to mitigate these challenges in the classroom. The hope is to showcase just one of the many innovative possibilities that Canva can facilitate, with the hope that history teachers reading this embrace Canva and use it in their own ways to enhance the teaching of history.

Literature Review

In this section, the literature review will explore, first, the use of educational technology at a macro level in teaching. The review will then explore how history educators have attempted to incorporate digital technology into the teaching of historical concepts. The review will then demonstrate how recent studies on Canva's utility in the history classroom tend to focus on its facilitation of creativity and engagement, while overlooking its ability to cultivate conceptual learning.

The use of educational technology in the classroom has long intrigued educators and academics alike. Between 2014 and 2023, the number of publications focusing on educational technology increased year-on-year by 21.5% (Alam et al., 2025). These publications show the generalised benefits of educational technology — "increased accessibility, better engagement, personalised learning, and flexible learning environments" (Alam et al., 2025). At the same time, educators have shown their wariness of the rise of educational technology. These concerns include teachers being unwilling to incorporate educational technology into their own lessons, a lack of assistance from educational institutions in training their teachers to be technologically savvy, and concerns surrounding the safety of educational technology to students. Our stance is that we firmly believe that educational technology has much potential in the history classroom, but that its implementation should be at the teacher's sole discretion with consideration for the classroom context, with the primary purpose of improving a student's grasp of historical concepts. Lee (2023) argues that digital-based tools facilitate the implementation of inquiry-based learning. Digital tools can enable students to more easily access historical sources through

online portals, while also creating avenues for students to work collaboratively with their peers on research projects. Lee (2023, p. 78) goes as far as to argue that digital tools have the potential to "revolutionise history education." It is clear that digital tools are becoming increasingly pivotal in the history teacher's arsenal to address two key problems that have emerged in teaching history — a lack of engagement and a struggle to effectively communicate historical concepts. Digital tools help history teachers bring the subject to life — examples include access to primary source archives, and the opportunity to incorporate multimedia use, showing interviews with historical figures.

While Seixas and Morton (2013) cover many key historical thinking concepts, including significance, for the context of this article's case study, the literature review will focus on causation. Scholars of history education, such as Shemilt (1983), have identified that students tend to struggle with understanding causation beyond a superficial level. Shemilt proposed a four-stage progression model to illustrate students' increasing understanding of the historical concept of causation. In Shemilt's study, a plurality of interviewed students attained a Stage 2 understanding of causation, where "historical narrative is seen to obey a simple and iron necessity." (Shemilt, 1983, p.14). This is in contrast to Shemilt's Stages 3 and 4, where a student can understand the complexities and multifaceted nature of causation, eventually developing a cognisance of historiography. It is clear that the goal of a history teacher is not to get all students to Stage 4, but an understanding that history is not as binary as it appears in Stage 2 is conceptually important. Nonetheless, teachers such as Woodcock (2005) have attempted to implement new frameworks, such as providing students with an expanded vocabulary, in order to facilitate students' understanding of causation building on Shemilt's model. Chapman (2003) goes further by demonstrating the possibility of using educational technology to teach conceptual frameworks such as the diamond nine. Chapman's work is particularly relevant to this article's application of Canva in a causation activity, where we adapt, modify, and extend his use of the diamond nine framework. Canva does not replace Woodcock's and Chapman's conceptual tools but rather evolves them — making the most of the advances that digital technology has to offer. Digital technologies like Canva can offer real-time collaboration, the integration of media such as primary sources, and allow teachers to track their students' work at a glance — elevating traditional teaching strategies.

Several history educators have documented the use of Canva in history education. These studies have shown that not only does Canva increase student engagement with history lessons, but it also facilitates more creativity in students' thinking and expression. Virgawati, Sinaga, and Istiawati (2024) argued that compared to a control class without the use of Canva, a class that used Canva demonstrated a greater interest in learning history through project-based learning. Similarly, Susilo, Wiyanarti, Mulyana, and Darmawan (2025, p.358) demonstrated that the use of Canva in lessons "can enhance students' fluency, flexibility, originality, and elaboration in creative thinking." The numerous studies on Canva's use in history classrooms confirms its potential as a valuable teaching tool. However, there is a risk that educational technology provides engagement and flexibility at the cost of actual conceptual development and understanding. The existing research primarily focuses on Canva's aesthetics and ability to foster deeper engagement. While Canva's use in education in itself is not

groundbreaking, in this article we will demonstrate that Canva can be further harnessed in the teaching of historical concepts, using causation as an example. While engagement and creativity are admirable qualities, ultimately, Canva can help our students to achieve a deeper understanding of historical concepts.

Canva Whiteboard

Many teachers and students in Singapore are familiar with Canva as a design tool used for creating slides, infographics, and posters. Beyond these functions, Canva also offers a digital collaborative workspace known as Whiteboard, which provides an open and flexible canvas for users to work together in real-time. Launched in August 2022 and available for all users, Whiteboard remains an underutilised educational tool. However, we argue that it holds significant potential for supporting History educators in the classroom. This section of the article explores how Canva whiteboard can support inquiry-based learning and promote historical understanding, using a single, double-period lesson on the causes of the Korean War as a case study.

Our case study explores the origins of the Korean War, by examining the inquiry question "Who caused the Korean War?". This lesson is designed to serve as the students' initial introduction to the Korean War and is structured as a historical inquiry. In the gathering-evidence stage of the inquiry, students are provided with five sources, each exploring how North Korea, the USA, the USSR or South Korea may have contributed to the outbreak of the conflict. Using the sources provided, the key objective of the lesson is for students to explain the motivation behind the key actors involved and assess their relative responsibility for the conflict. Finally, students will deepen their conceptual understanding of causation by reflecting on its interpretive nature, as different explanations can be equally valid depending on the criteria used to assess them. The lesson also serves to reiterate other aspects of causation, such as multiple causes and intercausal relationships that students have previously encountered in earlier units.

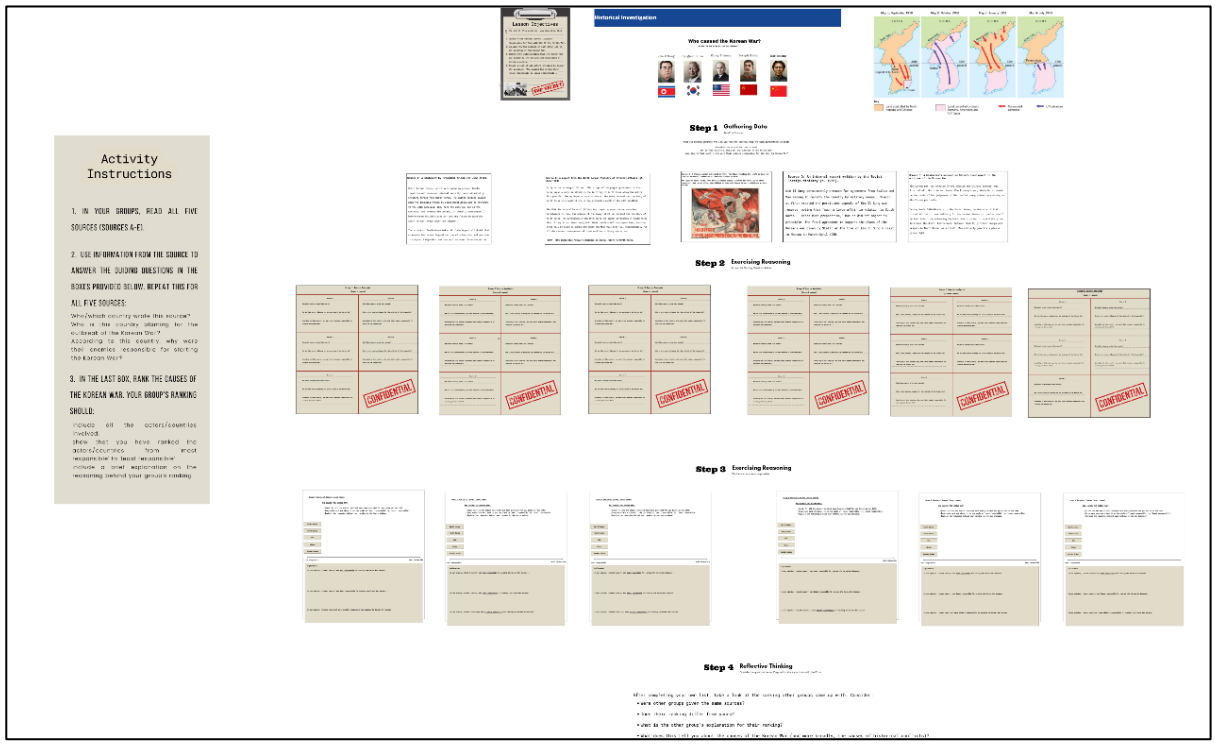
Figure 1. Outline of the IBL

Step	Description
Step One	Students examine sources and explore the actions of various historical actors.
Step Two	Students answer guiding questions to gather evidence to respond to the inquiry question "Who caused the Korean War?"
Step Three	Students make a judgment on who was most and least responsible by ranking the actors along a 'Zone of Relevance.'
Step Four	Students reflect on the process and consider the reasons behind differing interpretations of who caused the conflict.

1. *Affordances of Whiteboard*

So far, the lesson follows the structure of a typical IBL lesson. What makes this lesson novel, however, is that it is conducted entirely on the Canva Whiteboard. Students examine curated sources, respond to guiding questions, and construct their arguments within a single, navigable workspace (Figure 2). We will begin by outlining how Whiteboard makes inquiry-based learning and collaboration more feasible in the classroom compared to traditional pen-and-paper methods, before exploring how this ICT approach can foster deeper intellectual engagement with disciplinary concepts. As this section demonstrates, our application of the Whiteboard can be adapted and modified to support a wide range of lessons focused on either deepening historical understanding, or inquiry-based learning.

Figure 2. Visual Overview of the Inquiry Activity

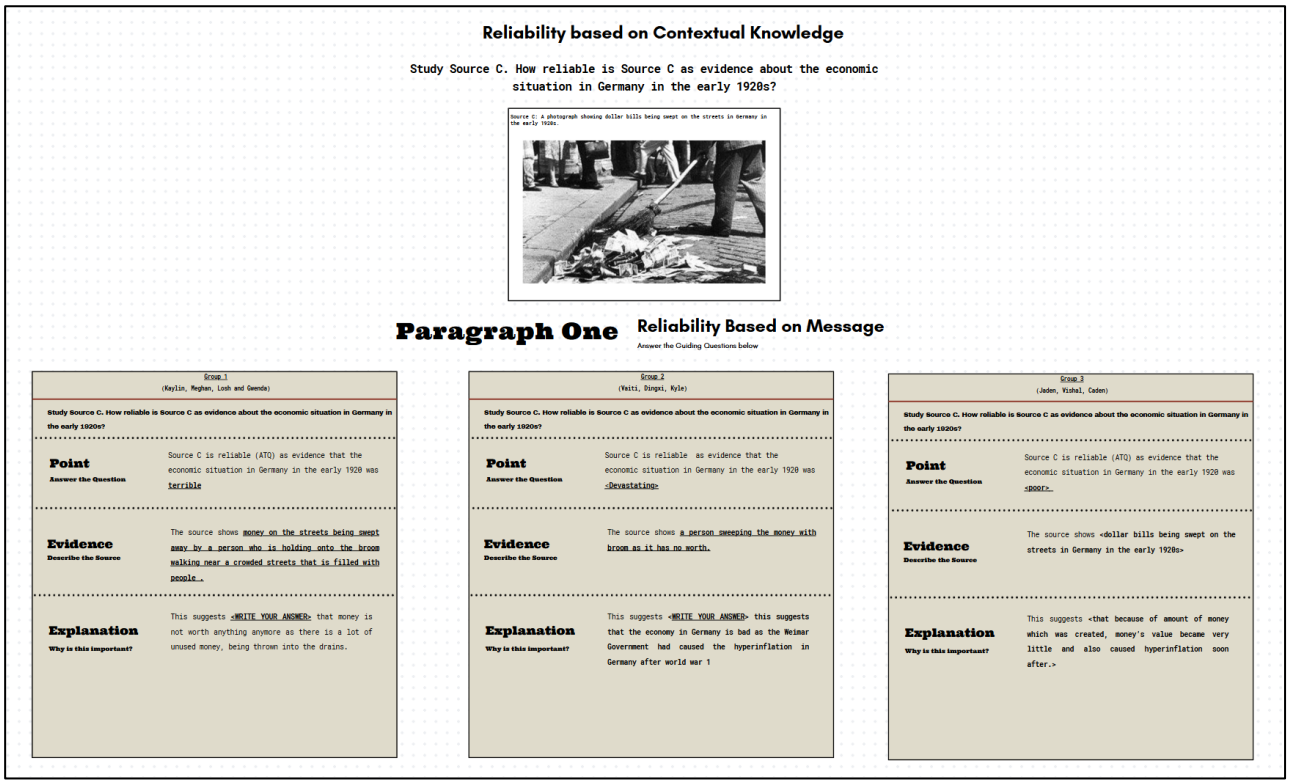


A persistent challenge confronting teachers during IBL is ensuring that their students can follow the various stages both efficiently and independently. Without strong instructional scaffolding, students often struggle to locate or refer to the appropriate materials, particularly when multiple sources, platforms, and pages are involved. Teacher modelling can also become unnecessarily burdensome and time-consuming, as frequent pauses are needed to ensure students are on the right page both literally and figuratively. These realities disrupt the flow of the inquiry cycle, fragmenting the teaching and learning experience. To address these issues, the whiteboard has been designed to be an all-encompassing experience. Students can view instructions, sources, and work on their responses all within a single scrollable canvas (Figure 2). Each stage of the inquiry is labelled with instructions to guide students through the tasks. This design helps reduce students' cognitive load by removing the need to switch between worksheets, tabs, or different platforms to access materials to complete each stage of the inquiry. More importantly, students can focus on the

interpretative and analytical tasks at hand. Once the inquiry is completed, the Whiteboard can be exported and printed for students' reference.

Another key benefit is the way it facilitates students' collaboration in ways that traditional pen-and-paper methods cannot. With Canva Whiteboard, students can co-construct their responses in real time – drafting, editing, and organizing their work collectively, much like how they would in a shared Google Doc. This format promotes student participation, as all members are able to contribute and shape their group's final product. In contrast, platforms such as Padlet, Mentimeter, or ClassPoint allow only isolated inputs from individual members. This functionality also supports teacher facilitation and instruction. As students build their responses, the teacher can view their progress in real time, placing them in a better position to check for understanding and prepare targeted prompts to address misconceptions or prompt deeper analysis. Beyond IBL, these collaborative features make Canva Whiteboard a suitable ICT platform for lessons aimed at developing students' analytical skills and answering techniques. Below is a screenshot of a lesson conducted to introduce students to the concept of reliability (Figure 3).

Figure 3. Screenshot of Student Work: Analysing Source Reliability



Notably, one distinctive feature of Whiteboard is that it allows students to move, design and annotate elements within the workspace. This affords them greater agency and opportunities in how they would like to organise and present their ideas. We will return to these features later in our discussion on how Whiteboard can be used to support activities that deepen students' historical understanding.

Whiteboard as a Platform for Conceptual Teaching

Beyond its collaborative affordances, we argue that with thoughtful planning and design, Canva Whiteboard can be a useful ed-tech tool to promote disciplinary understanding and reflection. A central objective of IBL is to help students grasp the disciplinary nature of History, especially regarding how historical knowledge is constructed, adjudicated, and contested (Afandi & Baildon, 2015). This understanding emerges most effectively when students perform tasks that mirror the work of historians, such as analysing sources, constructing arguments, and debating interpretations. However, students often approach these steps in isolation, without understanding how they might fit into the bigger picture. This is unsurprising, as performing inquiry and constructing historical claims rarely comes intuitively to students. This issue is further compounded by assessment-driven expectations, which condition students to seek fixed answers rather than approach inquiry with an open mind to consider multiple perspectives (Afandi & Baildon, 2024, p.14). In this context, it becomes essential for teachers to develop students' metacognitive awareness, helping them understand how each task fits into the broader inquiry process. However, two key challenges confront teachers: First, supporting students in navigating the stages of the inquiry process with clarity and purpose, and second, encouraging them to engage meaningfully with the tasks rather than rely on model answers.

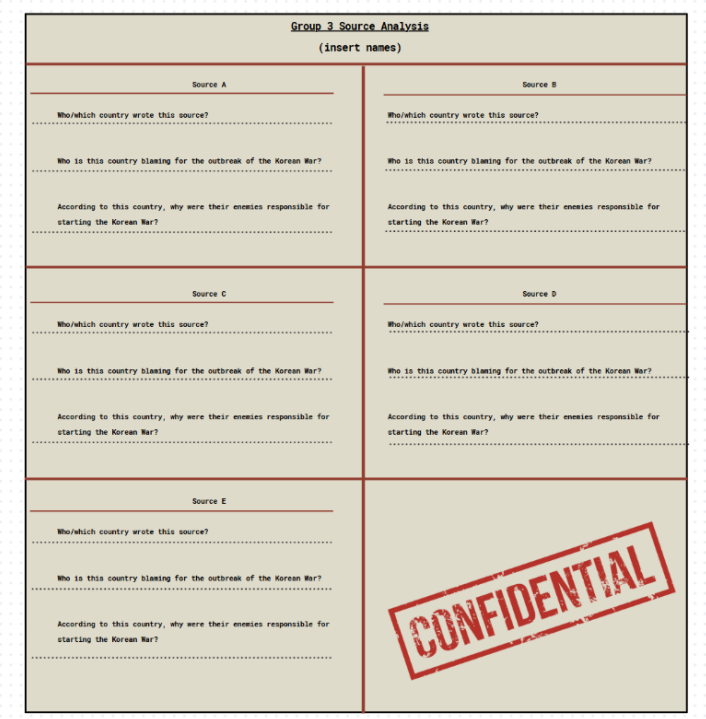
While teacher modelling and clear instructions help, some students will still lose sight of how their earlier steps should inform subsequent stages. A well-structured Canva Whiteboard can address this by making the entire process visible throughout the enquiry. For this lesson, the whole inquiry is mapped out from top to bottom, with instructions prompting students to scroll up to refer to their earlier interpretations (Figure 2). When students adjust the zoom level, they gain a bird's-eye view of the entire interpretive process. Such actions allow students to recognise how each task contributes to the larger process of constructing a well-supported historical argument – an understanding often lost when students undertake an inquiry spread across multiple pages in a worksheet. For this reason, the tasks are also kept deliberately bite-sized so that students can better appreciate the process and progress to the next stage with only the required information.

Given the prevailing culture of exam pressures, students might be misled into crafting formulaic responses using examination answering techniques. The usage of smaller, focused questions counters this by encouraging students to concentrate on their own thinking and interpretation. For instance, students in Step 2 are only required to identify: (1) the country that produced the source, (2) who it blames for the outbreak of the Korean War, and (3) the reasons it gives for holding its enemies responsible (Figure 4).

This provides them with enough information to make reasoned judgements in Step 3.

In Step 3, or the "exercise reasoning" stage of the inquiry, we used the Zone of Relevance to get students to decide who was most responsible for causing the Korean War using the information they gathered in Step 2. This process required each group to deliberate amongst themselves to reach a coherent position. Students then justified their rankings by forming arguments about who they saw as most and least responsible by positioning the culpability of each historical actor along a continuum of responsibility (Figure 5). Typically, each group will produce its own justification that

Figure 4. Exercising Reasoning Task in Step Two

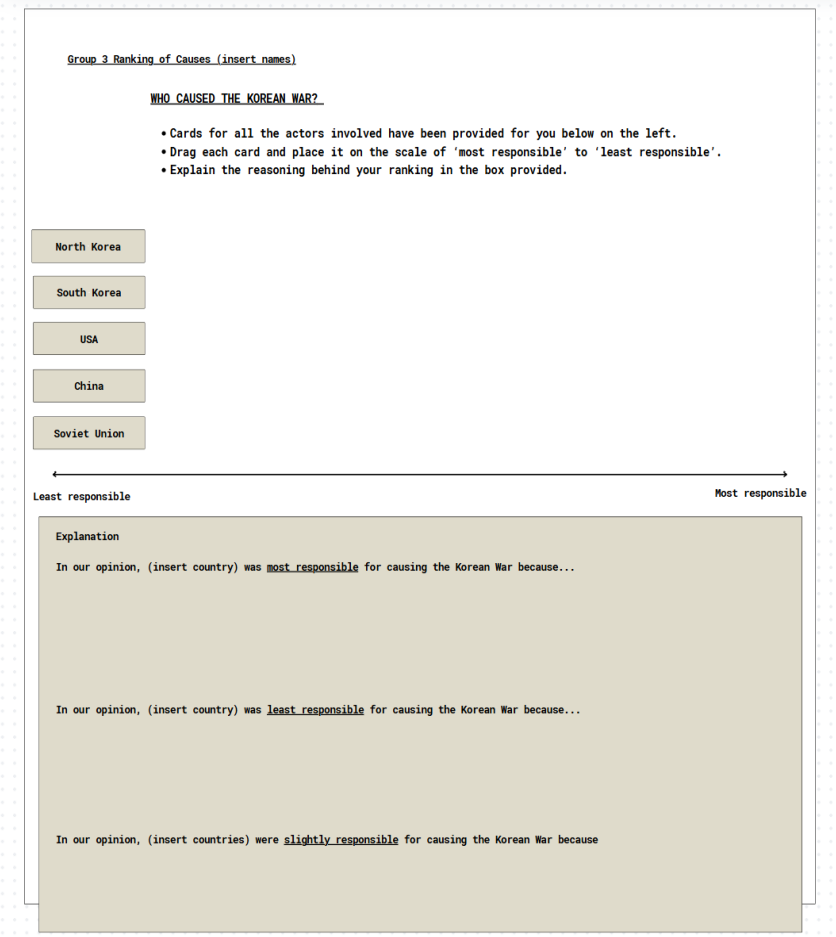


ranges from superpower empowerment to "layers of causation". Importantly, conducting the activity on the Whiteboard allows the class to view and compare each group's selection, making the range of interpretations formed from the same set of sources visible.

The inquiry concludes with a teacher-led reflection that prompts students to recognise how historians can construct different accounts even when working with the same sources. Using the Whiteboard as a reference, the teacher can affirm students' responses and pose reflective questions that draw upon their arguments to highlight the interpretive nature of the discipline. These questions include "Were each group given the same sources?", "How does their ranking differ from yours?", "What is the other group's explanation for their ranking?" and "What does this tell you about the causes of the Korean War?". Additionally, the teacher can directly engage with students' ideas by annotating and highlighting their work in real time. In a typical pen-and-paper IBL setting, this level of interaction would have been impossible or unnecessarily time-consuming. It would have required students to prepare separate presentations following the inquiry to share their findings and arguments. Even then, it makes it difficult for the teacher to connect the different presentations to illuminate the interpretive nature of historical knowledge. With Whiteboard, this process becomes more efficient and integrated within the inquiry, allowing the reflective process to occur without disrupting the flow of the lesson.

This activity draws upon the visual organisers and comparative tasks that have been previously proposed to develop students' understanding of historical causation. Chapman (2003) argues that students often struggle with causal reasoning because they bring everyday ideas into the classroom that conflict with disciplinary ways of thinking, and they are rarely given structured opportunities to weigh, relate, and prioritise causes. To address this, he proposes lesson

Figure 5. Exercising Reasoning Step



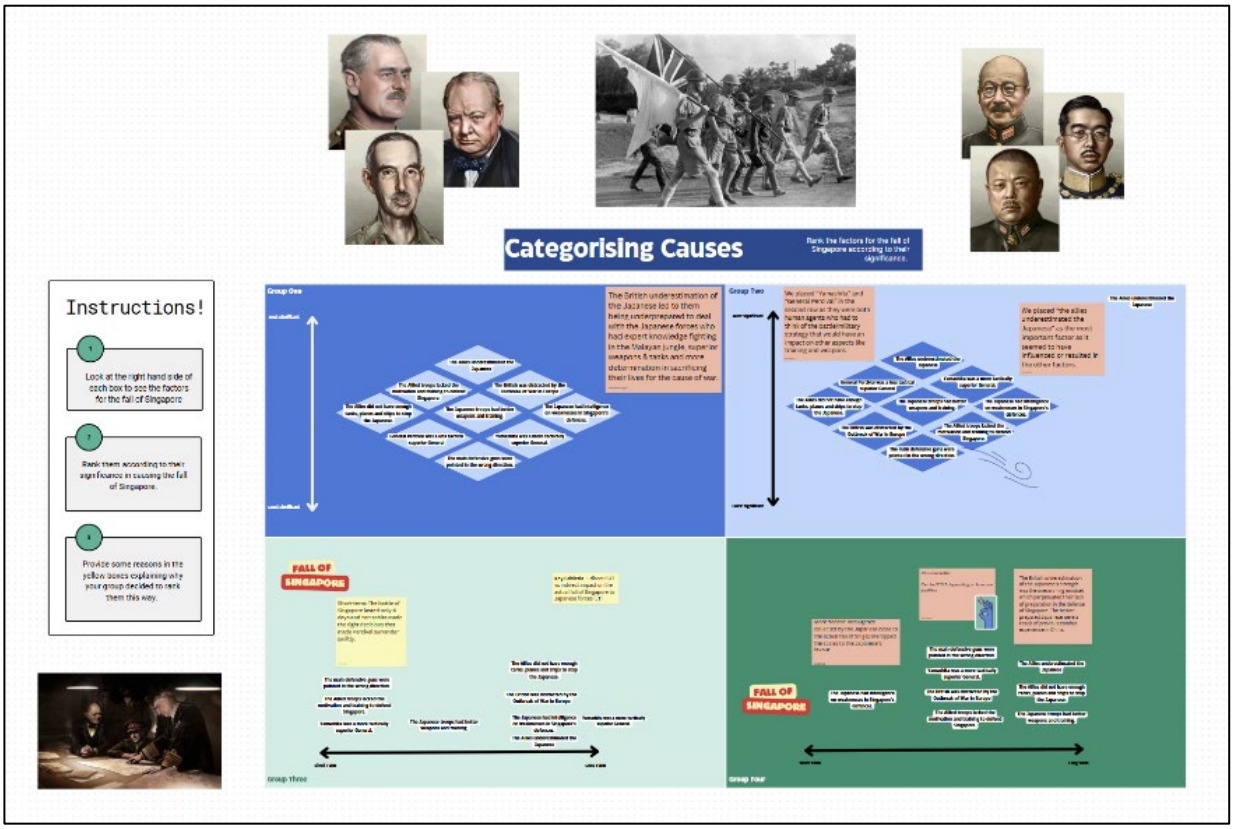
activities like the "Diamond Nine" framework and the "Zone of Relevance" to help students move beyond linear, monocausal explanations and instead engage in more analytical judgements about relative significance. With Whiteboard, these activities can be seamlessly integrated into the inquiry process, allowing students to engage with historical concepts in more interactive and collaborative ways. While the core nature of the activity remains unchanged, the Whiteboard enhances its pedagogical potential by allowing students to arrange, refine and annotate their selections collectively. Crucially, it allows students to categorise and label the causes using different colours or borders - an activity that promotes comparison, evaluation and structured reasoning. Students can use text boxes to justify their selections and view their peers' reasoning, allowing the teacher to draw upon their thoughts during the reflective stage.

As the whiteboard shares a familiar interface with other Canva tools, most students would have no problem navigating their way around the canvas. Likewise, preparing the lesson becomes less time-consuming, with the teacher simply required to create movable boxes representing various factors for students to manipulate. Importantly, such activities offer a useful and engaging way for students to consolidate their content knowledge and deepen their understanding of causation. For these reasons, digital visual organisers could be useful stand-alone activities that teachers could

incorporate in their practice outside of IBL. A sample Whiteboard activity asking students to rank the causes of the Fall of Singapore is shown in Figure 6.

This process of drawing attention to divergent responses can be applied to a wide range of other lessons covering different historical concepts. In a lesson on evidence, for instance, students can analyse sources that lend themselves to multiple interpretations, or write contrasting accounts based on different sets of sources provided to each group. Using Canva Whiteboard in this way can help reinforce the idea that History is an interpretive, argumentative discipline.

Figure 6. A Sample Causation Activity for Causes of the Fall of Singapore



While evaluating factors is not formally assessed at this stage of the History curriculum, these activities serve as a valuable introduction to inter-causal reasoning for Secondary One students. To support this process, scaffolds such as sentence stems can be embedded within the Whiteboard to help students express and justify their claims. This is especially important given that many students lack the disciplinary vocabulary to explain causation clearly (Woodcock, 2005). More importantly, this activity allows the teacher to facilitate classroom discussions that build upon students ideas and interpretations, guiding them towards more complex and nuanced ways of thinking.

Acknowledging classroom realities — educational technologies do not make the History educator

We have thus far, in our capacity as history educators, made the case to fellow practitioners for the pedagogical benefits and opportunities that platforms like Canva hold for our classrooms. Equally, given this capacity, we would be remiss if we failed to

acknowledge the wariness educators have towards introducing such educational technologies into the history classroom. This section addresses three sites of concern which we believe contribute to this wariness — classroom management, the longevity of technology-mediated lessons and their learning with regards to assessment and the seeming tensions between such technologies and conventional pedagogies. While affirming these justified concerns, this section also offers what we hope are productive mitigating strategies and mindsets. That the winds of change are blowing firmly need not mean we get swept up by them. Our substance as history educators — our training, our knowledge, our love for the discipline, our raw instinct and discretion — still matters. We believe that this substance can, indeed, should ground us in our leveraging of educational technologies for the history classroom. With this in mind, the presence and use of educational technologies in the classroom, something we believe teachers should have autonomy over in any case, appears more feasible and, importantly, sustainable.

1. *Classroom management*

We acknowledge that the incorporation of educational technologies into our classrooms alters the delicate calculus of classroom management. This alteration, however, need not necessarily be viewed as threatening. If we accept that technology is a staple of the Singaporean education landscape, the question is not how to park it at the door in the interest of controlling our classrooms. Instead, we should be thinking about how best to incorporate, and indeed manage, the incorporation of these technologies without compromising our control, autonomy, and personal flair, which we educators come to and ground ourselves in through much trial and error.

While managing learners within the classroom environment constitutes our 'bread and butter', our experience and work as educators in establishing rules, routines, and accepted norms extend well beyond the confines of the classroom, be it in co-curricular activities, learning journeys, or our day-to-day interactions with students in the corridors. This perspective could prove productive in addressing the emergence of educational technologies. Such technologies should not be viewed as some amorphous mass that dictates our jobs. In other words, educational technologies are not an uncontrollable force that overshadows or compromises our authority as teachers. On the contrary, we educators should dictate its place in our classrooms, and our experience with managing learners across their manifold learning environments should give us confidence in doing so.

'Teacher-talk', establishing usage norms and guiding students through each aspect of the Canva whiteboard were ever-present considerations in our crafting of this particular technology-mediated activity. Such examples include the replication of Lesson Objectives and guiding questions to mirror and reinforce the teacher's verbal instruction and provisioned time for the teacher to establish group norms for the activity (e.g. appropriateness of responses, no tampering with other groups' work, accountability in providing responses). Granted, there are likely cases where such norms fail and disruptive or transgressive behaviours surface. In such instances, logical consequences would be imposed by the teacher, just as they would for any other lesson, whether technology-mediated or not.

We should also recognise the cumulative benefits of establishing such rules, norms, and routines. Just as most students become increasingly accustomed to routines of

punctuality, work submission, and behaviour, we believe it possible for students to become capable of adhering to classroom norms towards the use of educational technologies in the classroom. Establishing these norms and getting students acquainted with them holds a dual benefit. First, we expand students' understanding and familiarity with rules and routines by establishing them across varied domains. More importantly, doing so greatly increases the feasibility of, and the teacher's confidence in, utilising such technologies when the need arises. Taken together, educational technologies should be viewed as but another tool in our pedagogical repertoire, which we can and will manage, rather than something which subsumes and overshadows our autonomy.

2. *Educational technologies as one mean to an end*

The relative importance placed on formal summative assessments at the school or national levels is a deeply rooted reality of the Singaporean education culture and system. These assessments, in turn, are a salient and sobering factor for educators when choosing their pedagogy and pedagogical approaches. Given this landscape, the reservations educators hold towards substantially and regularly incorporating educational technologies into their teaching are understandable. So, what if we have 'cool' technology-mediated lessons? Are students actually learning? How can we be sure of that? How can we remain accountable to our stakeholders and provide evidence that we are doing our jobs? These questions are fair and justified. Having grappled with these questions ourselves, the authors believe that a technology-mediated lesson need not mean exclusive reliance on these technologies.

This technology-mediated activity incorporates several conventional pedagogical features. Students' thinking is operationalised through the requirement of discussing and recording their group's responses in the spaces provided (Steps 2 and 3). Canva's interactive nature also allows teachers to monitor student responses in real-time and provide group-specific feedback while the activity is in progress. Additionally, it is feasible and desirable for the teacher to consolidate each activity segment before proceeding to the next, which allows misconceptions to be addressed promptly within the lesson. In this sense, time-tested pedagogical practices such as modelling, scaffolding, and checks for understanding continue to undergird the crafting and enactment of technology-mediated lessons.

Educational technologies are a platform for learning, but not the only platform — they cannot be. Instead, they should be viewed as but one means to an end, even if that end is formal summative assessment. For instance, it is certainly possible for this Canva activity to be accompanied by a hard copy handout for individual notetaking and consolidation. This ensures the longevity of this lesson's learning for the purposes of revision. Things like exit tickets remain important, where students might be directed to independently construct a paragraph in response to the lesson's inquiry question ("Who caused the Korean War"?). In the same vein, the enactment of such activities need not be mutually exclusive with frontal teaching. For instance, this Canva activity might be followed up by a consolidatory, primarily teacher-led lesson. To be clear, this is not to say that we would re-teach the chapter from scratch in subsequent lessons — this defeats the purpose of the activity and, more broadly, of incorporating educational technologies into the classroom. Rather, subsequent frontal teaching would ideally focus on consolidating learning and plugging gaps in understanding identified through this activity.

In fact, enacting such activities could help economise our teaching within already limited lesson time. For the unit on the Korean War, knowledge of key players and broad-brushed understandings of their motivations and roles in the conflict would have already been established through the Canva activity. In this way, the volume of direct content delivery can be streamlined, creating greater room for maneuver for teachers.

Such activities do not need to be enacted every lesson or every chapter. Given the varied content and concepts across the syllabus, it is unrealistic and perhaps even counterproductive to set a schedule for incorporating any type of educational technology into our schemes of work. We do, however, believe in the productively complementary role between educational technology and conventional pedagogies. In particular, we believe in the continued importance of the latter even in the realm of the former.

3. *Crafting technology-mediated activities for learners and learning*

We have explored the feasibility and benefits of enacting this Canva activity in the history classroom. This final segment looks at the constituent elements of the activity and the pedagogical considerations behind their crafting. In doing so, we hope to demonstrate how such activities, which utilise educational technologies, are not just about the 'bells and whistles'. Beyond considerations of aesthetics and engagement, crafting student-centric and user-friendly interfaces support history learners and facilitates history teaching and learning.

The activity is scaffolded into step-by-step sections to manage the cognitive load on students. Step 1 invites students to read the sources. Step 2 requires students to record information from the source. This rests mainly at the level of identifying and lifting material from the sources. In Step 3, students use their findings to rank various countries in order of increasing responsibility in causing the Korean War. Finally, Step 4 directs students to consider if and why their rankings differ from other groups. We see from here that Steps 1-4 were deliberately crafted and arranged in order of increasing complexity, beginning from source comprehension and working gradually towards reflective and historiographical thinking. The crafting of these gradated steps supports learners by creating cognitive momentum for them as they progress through the activity, which would likely translate into greater confidence and buy-in.

Within each step, guiding questions are explicit and straightforward. This helps keep students focused, thus mitigating potential distractions that may arise from the use of PLDs and online platforms. More importantly, these crafted questions aid in students' source comprehension by prompting them to salient and relevant information in the source. Additionally, Step 3, which requires more complex thinking, has built-in question stems to jumpstart students' thinking. In this way, the cognitive load of the lesson remains manageable for students. This opens space for students to be engaged in utilising this information to create their causation rankings, and in higher order thinking of why different groups might have different responses for Step 3.

More broadly, the sources chosen for this activity were deliberately similar to those which students might encounter in their source-based assessments. We also deliberately formatted the sources (text within a box with borders, source title, captions) in a similar fashion to what students

would eventually see on their question papers. These decisions were guided by the recognition that source comprehension and analysis is as much about form as it is about content. Exposing students to this format of source reading early creates familiarity and builds confidence. Thus, while this Canva activity works towards procedural understandings of causation, not explicitly tested in exams, there is room and opportunity to use such activities to expose students to components of formal summative assessment. From this, we hope to have shown that the teacher remains a crucial arbiter of the value educational technologies hold for our students. If crafted with students and their learning in mind, technology-mediated activities and lessons hold the potential to simultaneously engage students, cultivate confidence, introduce assessment components and open space for discussion and thinking of second-order historical concepts.

Conclusion

In this article, we have argued for the use of Canva in the history classroom. We first demonstrated that existing literature on education has shown the effectiveness of education technology in facilitating increased engagement in the classroom, while also enhancing the teaching of historical concepts. We then demonstrated an example of how a Canva activity might be carried out in the classroom. The activity was focused on the historical concept of causation, examining the causes of the Korean War. Through the use of Canva, students were able to peruse sources and construct their own interpretations of what caused the Korean War. We then acknowledged that the use of education technology in the classroom is not without its challenges. However, we also argued that these challenges could be mitigated through pedagogical approaches that demonstrate the teacher's understanding of the learning gaps their students face. The flexibility of Canva is such that activities can be easily edited. For example, a teacher can adjust the level of scaffolding provided or change the modality of an exit activity designed to check for a student's understanding. The article has thus demonstrated the potential utility of Canva as an engaging yet effective tool for a history teacher to use when teaching historical concepts.

It must be noted that the recommendations in this article are not prescriptive in nature — every teacher, classroom, student, and curriculum is different — and that must also factor into a teacher's consideration when deciding how to plan their lessons. Education technology is not the only way for a history teacher to be pedagogically effective in fostering engagement or communicating historical concepts — but we believe that the addition of Canva to the history teacher's arsenal would pay dividends both for students and teachers alike. It is not enough for a teacher to simply use Canva — its use must be carefully considered and tailored to the relevant student profiles and their academic readiness. Canva is not the only answer — but we firmly believe that if implemented well, Canva can help to facilitate students' understandings of second-order historical concepts beyond a superficial level. We therefore encourage history teachers to at least consider using Canva in their lessons — a valuable addition to their teaching toolkit.

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Reimagining and Transforming Cold War Education: Virtual Field Trips and the Berlin Wall Experience

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Abstract

Virtual Field Trips (VFTs) are increasingly recognized as effective tools for engaging students with challenging and complex historical content. This exploratory case study demonstrates how a VFT focused on the Berlin Wall was implemented in a Singapore upper secondary history classroom. Drawing on studies in experiential learning, student motivation, and distributed cognition, this paper demonstrates how VFTs can promote deeper historical thinking, inquiry, and authentic engagement, particularly in teaching Cold War content, such as the Berlin Wall.

Introduction

Field trips offer students the opportunity to draw connections between abstract historical narratives and tangible sites and experiences. An everyday staple in Singapore, physical field trips are typically employed and carried out as part of the lower secondary history curriculum; however, their use in upper secondary classes focused on modern world history—such as the Cold War—is rare due to logistical constraints. It is seemingly impossible, barring overseas trips, for students to come into close contact with the spaces they read about in Europe and other parts of the world. This paper examines how virtual field trips (VFTs) can fill that gap and perhaps bring the world to the doorsteps of our classrooms.

VFTs enable students to engage meaningfully with historical sites and content without leaving the classroom, utilising multimedia resources such as 360° virtual tours, museum archives, artifacts, and digital storytelling. With the Ministry of Education's emphasis on e-pedagogy and blended learning (MOE, 2023), VFTs are timely tools for expanding pedagogical moves and strategies. COVID-19 restrictions between 2020 and 2021 further reinforced the need to bring the world closer to each student, where teachers can facilitate learning journeys without the need to bring students out.

Designing VFTs for the History Classroom

Effective VFTs are grounded in three pedagogical principles: experiential learning, student motivation, and distributed cognition.

- **Experiential learning** involves students engaging in authentic, reflective tasks that mirror real-world experiences (Kolb, 1984). Lessons involving experiential learning require teachers to design authentic tasks and experiences that stimulate higher-order thinking skills within real-world

contexts focused on historical concepts. Experiential learning approaches enable students to find meaning and relevance in their learning through the development of new knowledge and/or the correction of prior misconceptions about the nature of history. In the long run, the desired goal is for students to be able to apply these approaches across various contexts of historical learning.

- **Student motivation** is enhanced through multisensory and personally relevant tasks (Lepper, 1988). As a pedagogical tool, Virtual Field Trips can significantly improve motivation in a few ways. Firstly, it enhances autonomy and choice by allowing students to explore different topics or places at their own pace. This is also timely given the implementation of home-based learning and student-initiated learning. VFTs can serve to provide students with learning experiences and autonomy as part of these curriculum initiatives. It can also foster curiosity and relevance by closing the distance and space. Students can reach far-flung places within the confines of their device and help spark curiosity. VFTs can be used in pairs or groups, prompting peer discussions, inquiry, and joint discovery, fostering relatedness.

- **Distributed cognition** recognises that cognitive processes are not located solely in an individual's mind, but are also being distributed across people, objects, and the environment that people engage and interact with (Paul, 2021). It emphasizes social learning, where knowledge is co-constructed among students and mediated by tools, artifacts, and environments (Hutchins, 2000). It is through interactions involving thought, experience, the senses, and discussions that knowledge is acquired. Distributed cognition is important and connected to VFT-based lessons due to its emphasis on the role of external resources and social interactions in cognitive processes. Enhanced access to online resources in the form of virtual environments, multimedia materials, and online databases is used to support student learning. Inherent in distributed cognition is the importance of social interactions. Social interactions in distributed cognition involve designing learning experiences for students to collaborate with peers, share perspectives, and collectively make sense of the VFT-based lesson. As such cognitive load is distributed as students use discussion-based pedagogies, joint negotiation of meaning, and construction of shared understanding as ways to engage in higher-order thinking skills.

Beyond the three key principles outlined above, the VFT examined in this article is also based on five design principles for the Singapore history classroom that were developed as part of the 2022 Outstanding Educator in Consultation (OEIC) program, organised by the Academy of Singapore Teachers. As part of the OEIC program, Stoddard worked with two local teachers to shape these principles. Furthermore, the VFT is also designed with reference to the elements of authentic field trips that were outlined by Stoddard (2009), as outlined in Figure 1 below: 1654-1762.

Figure 1. VFT Design Framework (adapted from Stoddard, 2009)

This includes virtual maps, physical classroom redesigns, curated museum resources, and dialogic teaching. Inquiry questions fronted the lessons. Example inquiry questions such as "Where is the Berlin Wall?" and "What is its significance today?" helped structure each lesson.

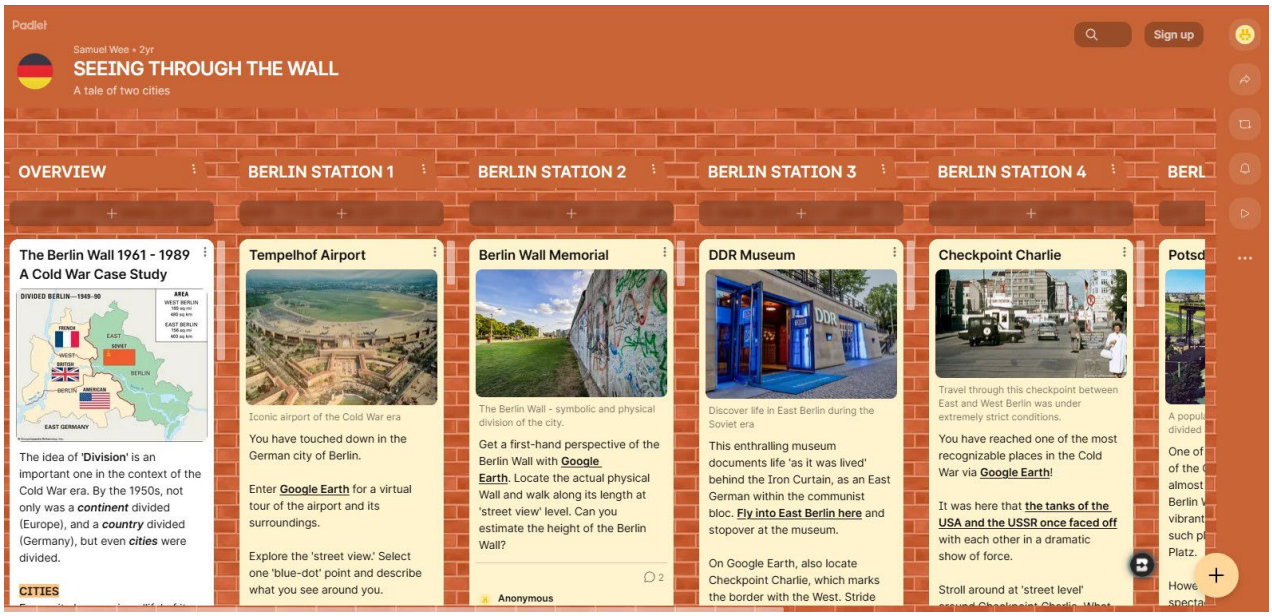
The following sections will explore a VFT designed with these principles in mind and examine some of the student responses and outcomes from such a lesson.

Methodology

In the context of the VFT presented in this article, it was implemented in a classroom of four upper secondary students by one teacher. The process of implementation was then documented through the following means:

a. **Classroom Observations**: As per the table above, three classroom observations were carried out to examine teaching methods, student engagement, and classroom dynamics. Each session lasted 90 minutes and was video recorded for later analysis. Observations focused on instructional techniques, teacher-student interactions, and the overall learning environment. Detailed field notes were taken to capture significant moments and interactions.

b. **Student Responses and Artifacts**: Student-generated responses and artifacts were collected via a Padlet wall, offering insights into their learning processes. These materials served as valuable evidence, complementing the observational data and deepening the understanding of student learning outcomes.



c. **Teacher Interviews**: Semi-structured interviews were conducted individually with teachers to explore their instructional approaches, pedagogical beliefs, and classroom experiences. These interviews provided space for teachers to reflect on their decision-making, share perspectives, and discuss both the challenges and successes encountered during virtual field trip (VFT)-based lessons.

A Virtual Field Trip to the Berlin Wall

By applying the principles discussed in the previous sections, a VFT to the Berlin Wall was designed. The table below summarises the key lesson decisions that were taken:

Table 1. Summary of key VFT design decisions and objectives

Title	**Seeing through the Wall: A tale of two cities: How the "West" and the "East" viewed each other**
Inquiry question	Where is the Berlin Wall?
Topic	The Berlin Wall in the context of the Cold War (Unit 3/Article 1)
Precis	Situated in an authentic historically imagined environment, students will learn how citizens of East and West Berlin perceived Berlin as a divided city during the Cold War.
Big idea(s)	1. Cities often have a culture of their own that emerges from their history. There are aspects of a city that people enjoy and regard as valuable and important. 2. This life is seen in the city's structure, architecture/walls, and museums. 3. People living in the cities have agency, choice, options, actions, thoughts. 4. During the Cold War, Berlin became a divided city between 1948 and 1989. 5. People are resilient. The people of East and West Berlin found ways to "cope" and deal with living in a "divided city" (i.e., choices, options, actions, thoughts). This was on both sides of the Wall. How can this be seen? 6. How were the city cultures different between 1948 and 1989? 7. How do Germans remember Berlin today?

This VFT was intended to be a set of three lessons that would provide students with enough room and time to explore and grapple with the big ideas outlined above.

Table 2: Classroom activities and observations in research case study

	Lesson 1	Lesson 2	Lesson 3
Duration	1.5 hours	1.5 hours	1.5 hours
Place of VFT visit/topic	**Berlin:** Temperhof Airport and Berlin Wall Memorial	**Berlin:** DDR Museum and Checkpoint Charlie	**Berlin:** Potsdamer Platz and interview with a Berliner through online conferencing Reflection on learning

Site Selection: Inquiry-Based Learning in Contested Spaces

While there are many sites within Berlin that are relevant or meaningful towards understanding the Berlin Wall and its role during the Cold War, the VFT narrows down on the notion of contested or "contentious spaces" to deepen students' historical imagination (Ahonen, 2011). The Berlin Wall, as an icon of ideological conflict, was explored through both official narratives and alternative perspectives. The sites that were selected as part of this VFT were intended to further encourage students to grapple with the idea of "contentious spaces" as part of the Cold War. Here is the list of key virtual locations included in the VFT:

- Tempelhof Airport
- Berlin Wall Memorial
- DDR Museum
- Checkpoint Charlie
- Potsdamer Platz
- Brandenburg Gate

The range of sites that can be included in a VFT further provides opportunities for differentiation and gives students greater autonomy over the sites they may choose to visit and how they may interact with these virtual sites. Each of these sites offers unique opportunities for various activities and can provide a distinct perspective on life in Berlin during the Cold War. The table below summarises the activities that accompany each site.

Table 3. Learning activities at each VFT site

Location	Activity Description	Objective
Tempelhof Airport	Virtual arrival with greetings in German (students can learn short phrases in German)	Build situational interest
DDR Museum	Analyze East vs. West artifacts and music	Explore differing ideologies and lifestyles, while considering the objectives of the DDR Museum.
Berlin Wall Memorial	Interpret graffiti and wall structures via the use of colours and materials	Examine symbolic significance
Checkpoint Charlie	Translate signs and explore checkpoint photos using Google Translate	Understand Cold War tensions

Creating Multisensory and Authentic Experiences

The classroom was rearranged to simulate how Berlin was divided at the time. Students were allowed to engage with various objects, including replica artifacts and music from both East and West Germany, and they completed a guided reflection. They also assumed historical personas, such as West German tour guides in 1961. These aimed to enhance students' understanding and retention while making the entire learning experience enjoyable.

Figure 2. Classroom arrangement

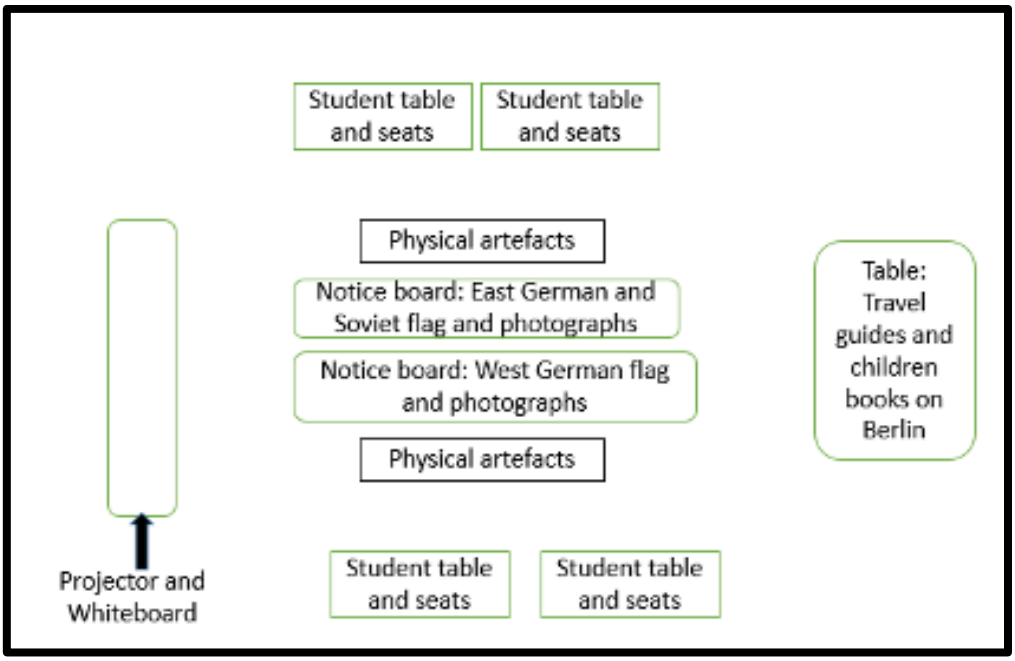


Figure 3: Student Learning Station Layout

This immersive and authentic experience helped students understand the psychological and physical impact of the Wall. One student wrote: "We West Berliners were shell-shocked when we woke up to this new reality", a strong example of historical empathy at play.

Dialogic Talk and Historical Thinking

As part of this VFT, assessment for learning (AfL) ideas were promoted through dialogic teaching, moving beyond the initiate-response-evaluate (IRE) sequence to co-construct understanding.

Dialogic exchange can encourage historical empathy and complex reasoning (Bakhtin, 1986; Vygotsky, 1978). Building on the virtual field experience that students underwent, the teacher facilitated discussions that revealed nuanced reasoning from the students. Teachers can consider asking questions that encourage dialogue, open conversations, and provide students with opportunities to engage with historical thinking and reasoning. Some examples of such questions are:

Table 4: Typology of Questions Posed to Students During VFT

Theme	Example Questions
Life in Divided Germany	What was it like living in Berlin at the time?
Reunification	How did people feel when Germany reunited?
Education and Propaganda	What did they teach you in East Germany?

The following conversation between the teacher and two students demonstrates some of the questions and dialogue moves that the teacher made to encourage students to think about the Berlin Wall and the past in a disciplinary manner.

Table 5. Transcript of dialogue between the teacher and Students A and B

Transcript	Commentary
Teacher: Read the portion on Corporal Hans Konrad Schumann. I hope it answers the question that we asked at the start of the lesson: How does the division of a city affect a country, a city, families, and even an individual? [silence]	Shared discussable topic/object of learning
Teacher: When did Schumann jump the wire? What is the date? **Student A:** August 15 **Teacher:** How many days after the building of the Berlin Wall was this? **Student A:** Two days after the Berlin Wall was set up.	Use of place, chronology, and character
Teacher: Did he make it? **Student B:** Yes. He went on to live in West Germany. **Teacher:** Read on. Did he live happily ever after?	Opening up spaces for discussion and cross-boundary learning Creating “gaps” for discussion

Student B: He left his family behind in the East and started a new family.	between what a teacher wants students to be talking about and what is of vital interest to students (i.e., the fate of Schumann)
Teacher: And how did it end? **Student C:** Oh no! He becomes an alcoholic and dies by taking his own life. It says, "he never escaped living his life in fear, fear of the *stasi*, the secret police." **Teacher:** From his one act, he is seen in the West as a …? **Student A:** Hero **Teacher:** In the East, he is seen as a …? **Student B:** Traitor **Teacher:** So, what is he? Hero or traitor? **Student A:** He is just a human. He made the choice to be free, and he couldn't live with the fact that he abandoned his family. He could have been happy with his choice; he had his own family, but he left his mother and sister behind. He had mixed emotions and couldn't live with his choice.	In order to give students space for new thinking, the third evaluative turn was opened up by using the following approaches: (a) recognizing and supporting students' attempts to deepen their reasoning on historical perspective, and (b) encouraging the class to think together to consolidate and negotiate a joint voiced meaning to the new perspective.
Teacher: So, can the division of a city affect a country, a city, families, and even an individual? What happened to him? This is the deep impact of the Berlin Wall. Was it worth the jump? Would you make the leap over the wire if you were him? [There is a chorus of responses] **Teacher:** Sometimes an instinctive decision that you make can change your whole life for the better or for the worse. That's the impact of the Cold War and the Berlin Wall.	Using another evaluative turn to encourage the class to think together, to ask more questions, and to consolidate and negotiate a joint voiced meaning to the new perspective Students cross the boundaries of their own original thinking and use their own voiced positions to gain a deeper understanding of historical perspectives.

In this other conversation between two teachers and two students, a dialogic approach encourages students not only to make knowledge claims about the past (such as stating that the Berlin Wall was built to prevent border crossing between East and West Berlin), but also to interrogate the disciplinary basis of those claims and to co-construct interpretations behind the reasons and purpose for the construction of the Berlin Wall. This process of knowledge construction further adds an authentic dimension to the VFT as students constantly engage with history as discipline.

Table 6. Transcript of Interview 2 between two teachers and Students A, B, and C

Transcript	Commentary
Student A: The primary and essential purpose of the Berlin Wall was to prevent people from crossing the border from the West to influence the East.	Student A makes an initial knowledge claim about the past.
Teacher A: How do you know?	Question posed to encourage students to consider the evidential basis of the knowledge claim they are making about the past (the purpose of the Berlin Wall).
Student B: This is because you can see from the picture that the East was scared to be influenced into the democratic way of living. One feature is that there are barbed wires on top of the wall to prevent people from climbing over.	Student B made his/her own thinking visible by explicitly pointing to historical sources and explains his/her interpretation of that source. The process of interrogating the source encourages students to consider issues of historical evidence.
Student C: It says here that from 1945 to 1961, 40 percent of the East German population fled to the West.	Participation of Student B and C in the conversation provides further opportunities for the co-construction of knowledge between peers.
Teacher A: And who was the Soviet leader?	Question posed to encourage students to contextualize the source that has been cited and make connections with prior knowledge (e.g. Khrushchev and his policies).

Student A: Oh. It's Khrushchev. He was the Soviet leader who gave the East German government permission to close its borders with the West.	Through contextualisation, Student A was able to consider the motivations behind the construction of the Berlin Wall beyond the immediate East-West German relationship and to factor in the broader Cold War context. By accounting for the broader context, Student A is also engaging in causal reasoning.
Teacher B: And so what?	Question posed to encourage students to further consider the implications of Khrushchev's decision (and the construction of the Berlin Wall) on the broader geopolitical conflict that was ongoing.
Student A: This resulted in Berlin being physically divided into two sections led by different countries with two different ideologies: West Germany with US democratic influence and East Germany with Soviet Communist influence. (historical significance)	Student A was able to relate to a localised event, such as the construction of the Berlin Wall, to the wider first-order construct that is being studied (e.g the Cold War).

Student Outcomes and Reflections

Student responses to the use of Virtual Field Trips (VFTs) in history lessons demonstrated significant growth in historical thinking, particularly in understanding how museums present and interpret historical narratives. Through guided exploration of the DDR Museum's online resources, students developed deeper insights into life in East Germany during the Cold War. Their reflections revealed a shift from commonly held assumptions to a more balanced understanding that life in East Germany was not necessarily as dark as often portrayed in texts and media. This engagement showed students applying both factual recall and interpretative skills to reassess historical perspectives.

Using the four-phase model of interest development (Hidi & Renninger, 2006), students showed progression from situational to individual interest. Reflections from students also indicated emerging historical interpretation:

Student C: The DDR Museum shows that East Germans had a life too. The West might have exaggerated how bad it was."

Student A: The East Germans were not as opposed as we think them to have been."

In another example:

Teacher: So what is [Hans Schumann] – hero or traitor?

Student A: He is just human. He made the choice to be free, but he left his family behind. He couldn't live with that.

This recognition of multiple perspectives is foundational to historical understanding (Seixas, 1994).

Additionally, the opportunity to interact with a Berliner via Zoom added an authentic, human element to the learning experience. Students actively participated, posing a range of thoughtful and open-ended questions—some historically focused, others more personal and cultural. This interaction sparked curiosity and increased engagement, helping students connect past and present while fostering cross-cultural awareness. The teacher emphasized that such authentic, informal learning experiences are rare but vital for making history feel alive and relevant. Overall, the students' responses suggest that VFTs can meaningfully enhance historical understanding, curiosity, and confidence in engaging with complex narratives.

Implications for Teaching and Learning

This case study highlights the promising potential of VFTs in enhancing student engagement and fostering deep historical thinking in upper secondary history classrooms. While designing VFT-based lessons presents certain challenges, the outcomes suggest that meaningful and impactful learning can occur when lessons are carefully structured around sound pedagogical principles. Three key learning theories—experiential learning, student motivation, and distributed cognition—emerged as foundational to the design and implementation of these lessons.

Focusing on the Cold War, the concept of divided spaces, such as the Berlin Wall or the Korean Demilitarized Zone, offers a powerful thematic anchor for VFTs. These locations serve not only as historically rich content areas but also as avenues for exploring historical thinking concepts such as perspective-taking and the significance of events and places. Teachers are encouraged to select sites that are both symbolic and historically significant. These may include transport hubs, border checkpoints, memorials, and museums as focal points for VFTs. These help to provide space and an avenue for students to explore and think.

One of the most impactful design choices is treating VFT-based lessons as informal and authentic learning environments, just as you would if you were to organise actual field trips or museum visits. To simulate and recreate the experiences, teachers can modify classroom layouts, incorporate physical artifacts and documents, and even employ interactive digital resources, tapping into the myriad tech tools available. These adjustments help teachers bridge the gap between the formal structure of traditional classrooms and the immersive nature of field-based learning. In doing so, VFTs can even offer students a more engaging and realistic learning experience.

Inquiry-based learning proves to be a particularly effective approach for VFTs. By framing lessons around compelling

historical questions and linking these to specific locations, students are prompted to actively explore and make sense of the past. This method is especially powerful when used to examine how physical spaces are tied to public memory, historical narratives, and contemporary relevance. The integration of "mini-inquiries" across various sites ensures that curiosity is sustained throughout, while facilitating a discursive environment, all the while ensuring that important knowledge and know-how are acquired.

Another key learning point is that we need to maximize the learning potential of VFTs; therefore, lesson sequences should be deliberately structured to spark and sustain student interest. For instance, beginning a lesson at a significant transportation hub (such as Tempelhof Airport or Checkpoint Charlie) can generate immediate intrigue. This entry point can then be followed by visits to other curated locations, such as the DDR Museum or the Brandenburg Gate, each paired with targeted learning activities. These may include historical role-play, visual analysis, and reflection prompts designed to promote deeper engagement with historical thinking.

World Building to complement VFTs

There are numerous other avenues and affordances that teachers can leverage to further enrich Virtual Field Trips (VFTs). Multisensory engagement has shown promising results thus far. Visual input, being the most immediate and accessible, enables students to observe historically accurate environments. However, educators can also consider incorporating other senses. For instance, haptic feedback in simulators, ambient soundscapes featuring authentic historical audio, the simulation of smells, and even the use of temperature and wind controls can all contribute to enhancing the realism of VFTs. One emerging area of interest is sensory history, which is defined as an attempt to understand the past not only as something seen or read about, but also as something felt, heard, smelled, and tasted (Smith, 2007).

Conclusion

The Berlin Wall VFT showcased how digital and ICT affordances can change the way the Cold War can be taught. While VFTs are currently underutilized in classrooms, they present a compelling opportunity to reimagine the teaching of history. When we stay rooted in strong learning frameworks while carefully planning instructions and activities, such approaches can only serve to better the teaching and learning environment, facilitate greater student agency, and deepen understanding of the topic at hand. With growing teacher familiarity and intentional design, VFTs may become a transformative tool in the history classroom, helping students connect with the past in dynamic and meaningful ways.

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Developing Source Analysis Skills in Upper Secondary History Students: Incorporating RCC and IPSS into Structured Academic Controversy

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Abstract

This paper proposes an integrated approach to strengthen source analysis skills among upper secondary history students by leveraging Structured Academic Controversy. It synthesises principles from humanities education with two key frameworks from the learning sciences: the Information Processing and SEEKING System (IPSS) and the Readiness, Coherent Construction, and Consolidation (RCC) framework. This synergy is designed to deepen students' skills in analysing sources and enhance their appreciation for the real-world relevance of interpreting historical sources. The author argues that this approach fosters sustainable learning experiences by tapping into intrinsic motivation and structuring cognitive processes, leading to the development of durable and transferable critical thinking abilities.

Introduction

This paper proposes integrating the Readiness, Coherent Construction, and Consolidation (RCC) framework with the Information Processing and SEEKING System (IPSS) to create a revised structured academic controversy approach, enhancing source analysis skills in upper secondary history education through the use of the upper secondary history textbook.

Students often struggle to apply effective source analysis skills in their academic studies and daily lives. This is compounded by a motivational issue where students develop scepticism about the relevance of History in their lives due to 'History not widely regarded as a subject that fosters the high-level thinking that is necessary to function or compete in a knowledge-based economy' (Afandi & Lim, 2022).

Teachers and students are concerned about this because source analysis skills tie in strongly with assessment, comprising 70% of the final grade for the GCE 'O' level History examination (SEAB, 2023). However, the use of primary sources for the teaching of upper secondary History in Singapore may serve mostly to prepare students for school-based assessments and national examinations in many History classrooms because 'accountability and pragmatic concerns over academic performance remained important considerations in determining pedagogical decisions History teachers make in their classrooms' (Afandi & Lim, 2022). This exam-centric approach in teaching students source analysis skills may have the

unintended consequence of causing students to associate historical sources only with examination questions, reducing their ability to think critically about sources beyond answering examination questions. This contradicts the upper secondary History syllabus's objective of developing within students an 'inquisitive mind' with the ability to 'ask relevant questions about the past and examine a range of sources critically in their historical context to reach substantiated judgements about the past' (SEAB, 2023). Although the short-term objective of students doing well in the GCE 'O' level examination may be achieved, students who are exposed to an exam-centric approach to learning source analysis skills may eventually forget the skills due to a lack of practice and appreciation of their relevance to their daily lives after completing their national examination.

At the community and national levels, students need to be able to critically evaluate the sources of information they encounter, especially in this digital age, where they have access to a wide variety of unregulated sources. There is a rapid uptake in the use of artificial intelligence (AI) technology to synthesise information available online to provide quick answers. Individuals are utilising AI chatbots like ChatGPT to assist them with personal and professional queries. However, these AI chatbots can draw upon unreliable sources of information when producing responses (Tham et al., 2023). Disinformation researchers also cautioned that conspiracy theorists can use AI chatbots to create more convincing 'conspiracy theories and misleading narratives' (Hsu & Thompson, 2023). Hence, it is crucial for teachers and students to intentionally develop source analysis skills in using the History textbook in this age of disinformation.

Literature Review

This review pulls together academic discourse from the fields of Learning Sciences and Humanities Education. It can be categorised into three areas: teachers' challenges and strategies for teaching source analysis, curiosity as a motivation for developing source analysis skills, and considerations for the proposed approach.

Teachers' Challenges and Strategies to Teach Source Analysis

In 'Reflecting on Assessment of the Humanities for Better Classroom Practices', Aljunied shared that History teachers struggle with juggling the teaching of skills and content in class because of limited time. Teachers also experience difficulty providing specific and targeted feedback for each student's work due to the large number of students under their care across multiple classes. She called for teachers to set clear learning targets and outcomes, share success criteria with students, and provide meaningful feedback for classroom assessments (Aljunied, 2016). This highlights a tension where the development of critical thinking skills in students may conflict with the constraints of curriculum coverage and large class sizes.

In 'Guiding students in Singapore to investigate historical controversy using a disciplinary approach', Baildon, Afandi, Bott, and Rajah acknowledged that the 'examination-driven focus in History classrooms' caused a 'pedagogic culture of teacher-centred classroom practice that emphasises, with few exceptions, the transmission of knowledge and procedures for exam success, rather than conceptual understanding, classroom discussion and knowledge building'. They argued that to understand the historical controversy, students had to develop source analysis skills to understand sources as they engage

with ‘competing or contradictory historical accounts.’ (Baildon et al., 2018)

Curiosity as Motivation to Develop Source Analysis Skills

In ‘Primary Sources in History: Breaking through the Myths’, Barton argued that discussions about the use of primary sources in the teaching of History reveal the value of their use in the classroom to enable students to become curious about History (Barton, 2005). This is supported by Gregory and Kaufeldt’s claim in ‘The Motivated Brain: Understanding and Activating Your Brain's Desire to Learn’ that curiosity is crucial in motivating students. They shared that classroom norms, group work, agendas, and movement are important in creating a classroom environment that facilitates the ‘information processing and SEEKING system,’ which enhances student motivation to learn (Gregory & Kaufeldt, 2015).

Considerations

Jensen and McConchie (2020) in ‘Brain-based learning: Teaching the Way Students Really Learn’ claimed that ‘a thought-provoking inquiry question’ provided to students at the start of the lesson can enhance readiness and increase the possibility of change in students’ brains. The controversy posed by the inquiry question can trigger suspense and anticipation in students, which can emotionally invest them in the classroom activity and improve their focus, learning, and achievement by enabling the amygdala to embed the memory of their knowledge with meaning. When students are emotionally connected to a question or problem, their brains are primed and more receptive to learning. This aligns with Gregory and Kaufeldt’s claim that motivation can be actively cultivated by designing learning experiences that tap into students’ natural “SEEKING” system. This concept would be further elaborated in the following section.

Understanding the Frameworks: RCC and IPSS

The ‘Information Processing and SEEKING System’ **(**IPSS) framework, as described by Gregory and Kaufeldt (2015), is grounded in affective neuroscience to explain how the brain processes information and how intrinsic motivation, particularly the "SEEKING" system, drives learning. The IPSS is organised into three hierarchical levels as shown in the table below.

Table 1. Organisation of IPSS

Level	Description
Primary SEEKING	This foundational level of the “SEEKING” system is activated by novel, relevant, meaningful, thought-provoking, discrepant, or puzzling stimuli. It taps students' innate curiosity and emotional responses, creating an initial drive to explore and investigate. When students encounter something that sparks their interest or challenges their existing understanding, their primary “SEEKING” system is engaged, making them more attentive and motivated to learn.
Secondary SEEKING	After primary “SEEKING” is activated, the brain moves into secondary

	"SEEKING", which involves more deliberate and elaborative processing. This includes making connections to other learning, finding personal meaning in the information, engaging in cooperative learning situations, and utilising multiple intelligences. It also encompasses rote repetition for foundational knowledge. This phase is about actively working with information to deepen understanding and make it more memorable.
Tertiary SEEKING	This highest level of the "SEEKING" system involves complex cognitive processes such as creative and critical thinking, problem-solving, decision-making, project- and problem-based learning, and metacognition. At this stage, learners are not just processing information but are actively manipulating it, generating new ideas, evaluating different perspectives, and reflecting on their own learning processes. This level represents deep, transferable learning.

The 'Readiness, Coherent Construction, and Consolidation' (RCC) framework outlines three critical stages for ensuring that new learning is durable and transferable (Jensen & McConchie, 2020). It provides a cognitive structure for the child's learning experience, as illustrated in the following table:

Table 2. Overview of RCC Framework

Stage	Description
Readiness	This initial phase focuses on preparing the learner's brain for new information. It involves activating prior knowledge, setting clear learning goals, and generating curiosity or a sense of need for the upcoming content. The aim is to create an optimal mental state where students are receptive and motivated to engage. This can be achieved through pre-exposure to concepts, thought-provoking questions, or connecting new learning to students' existing experiences.
Coherent Construction	In this phase, students actively engage with the new information, making sense of it and integrating it into their existing knowledge structures. This is where active learning strategies come into play, such as discussions, problem-solving, hands-on activities, and collaborative work. The emphasis is on deep processing, meaning making, and building a coherent understanding rather than rote memorisation. Students are encouraged to connect new ideas, elaborate on concepts, and construct their own

	meaning.
Consolidation	This stage is essential for transferring learning from short-term to long-term memory. Consolidation involves deliberate practice, reflection, and the gradual application of new skills or knowledge over time. Strategies include spaced practice, relevant transfer activities where students apply the skill in a new context, and metacognitive reflection to strengthen neural pathways and ensure long-term retention.

Synergy of IPSS and RCC

IPSS and RCC complement each other in the design and enactment of lessons. IPSS provides the motivational 'why' for learning by tapping students' innate curiosity, while RCC provides the structured 'how' for making that learning stick. IPSS ensures students are emotionally and intellectually engaged through the "SEEKING" drive, while RCC provides the sense-making process to guide students towards deep and sustainable understanding. Structured Academic Controversy activates the "SEEKING" system in IPSS through a compelling historical question that makes students receptive to the learning process. The Structured Academic Controversy activity provides a platform for active investigation and argument building, as seen in "Secondary SEEKING" and "Coherent Construction". Follow-up activities designed to apply and reflect on the skills they have learnt ensure long-term retention and transfer through the "Tertiary SEEKING" and "Consolidation" processes.

Proposed Approach

The proposed learning design incorporates the RCC framework and IPSS to enable students to form opinions based on the sources presented in the History textbook. These frameworks, derived from the science of learning, address student motivation and structure the learning process to ensure sustainability in learning. Figure 1 summarises how the discussion points brought up in the literature review will be incorporated into structured academy controversy.

Figure 1. Incorporation of Discussion Points

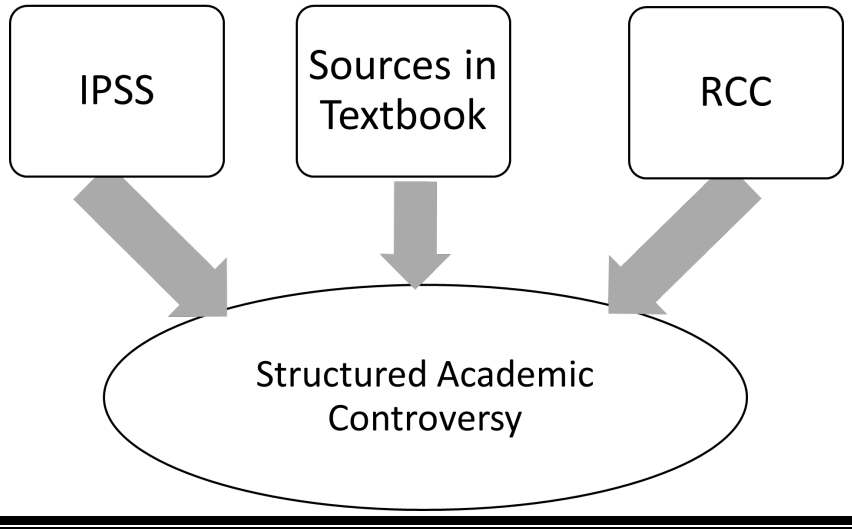
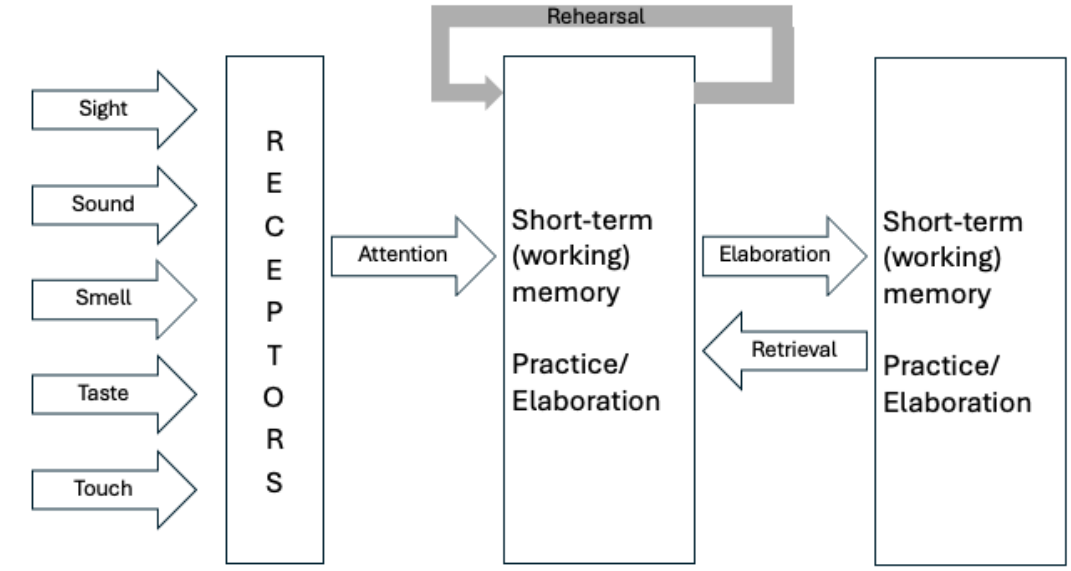


Figure 2. Information Processing and SEEKING System (Gregory and Kaufeldt, 2015)



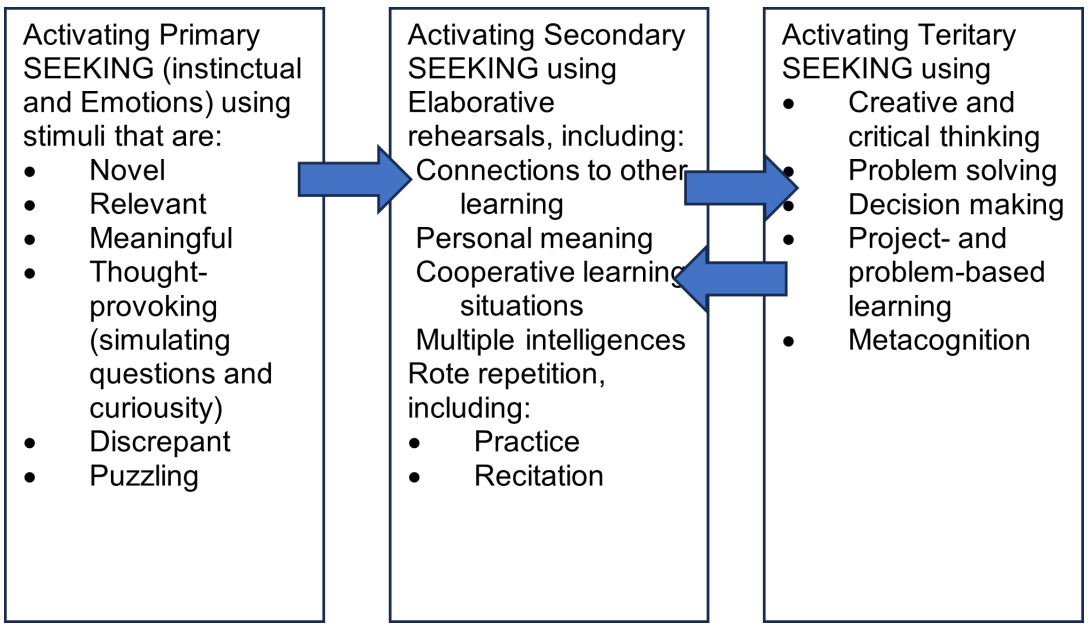
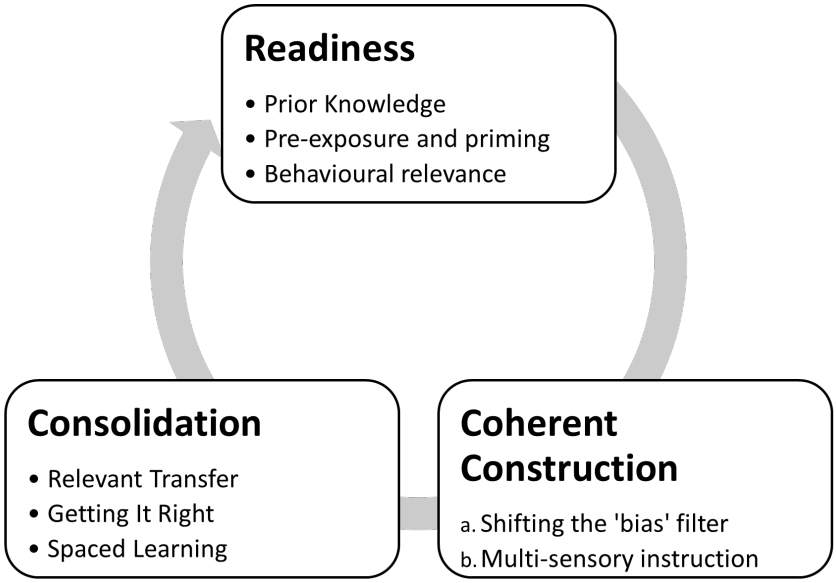


Figure 3. Readiness, Coherent Construction, and Consolidation (RCC) Framework

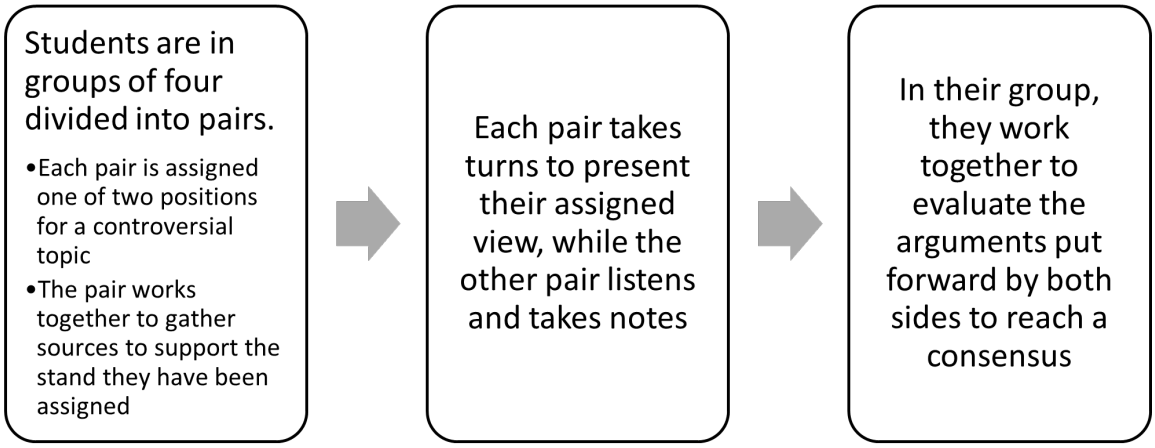


The approach will bring students through the activation of primary, secondary, and tertiary "SEEKING" illustrated in Figure 2 above. The approach will guide students through the RCC framework, as illustrated in Figure 3.

Existing Practice

Structured academic controversy is a cooperative learning teaching strategy. First, students take turns sharing their findings with group members, which they have gathered by evaluating sources from their assigned perspective. Next, they will work together to consider the merits of the arguments from both sides to reach a group consensus. Figure 4 summarises the key stages in a traditional structured academic controversy lesson.

Figure 4. Traditional Structured Academic Controversy Lesson



Contribution of the Approach

When structured academic controversy is conducted in the classroom, it is typically one-off and limited to the topic being taught. Teachers may revert to teaching source analysis skills using the drill-and-practice method to prepare students for examinations, which may cause students to overlook the connection between this learning approach and their acquisition of essential source analysis skills for examinations. The proposed approach aims to enhance sustainability and boost student motivation by providing a framework for teachers to incorporate relevant topics into the upper secondary History syllabus, utilising the textbook to develop students' source analysis skills in conjunction with the teaching of content knowledge. It is designed with mixed-ability classes in mind and can be further adapted to the learning profile of the class.

Structure of Lessons

Lesson	Activity	Elements of RCC	Elements of IPSS
Pre-Lesson	• Teacher shares a Google Site used for the lesson package. • Students complete self-assessment. • At the end of the lesson, the teacher fosters anticipation within students by putting up sources providing differing perspectives surrounding the controversial issue on Google Site and the class notice board.	Readiness **Prior Knowledge** **Pre-exposure and priming**	Primary SEEKING **Relevant, meaningful**
Lesson 1	• Teacher introduces students to the controversial question and briefs the class. • Teacher assigns students into groups of 4. • Each pair within the group is assigned a stand they	**Behavioural** **Relevance**	Secondary SEEKING

<table>
<tr><th>Lesson</th><th>Activity</th><th>Elements of RCC</th><th>Elements of IPSS</th></tr>
<tr><td></td><td>need to support by individually searching for relevant sources from the Textbook.
• Students are provided with a graphic organiser to record the main arguments of the author of their chosen source in response to questions guiding students to make inferences from the source, discern its purpose, and evaluate its reliability.</td><td></td><td>Cooperative learning situations</td></tr>
<tr><td>Lesson 2</td><td>• Students will be seated in their group next to the partner who is working on the same stand as them, as illustrated in the seating arrangement below.
<table><tr><td>Student A (Support)</td><td>Student B (Support)</td></tr><tr><td>Student C (Against)</td><td>Student D (Against)</td></tr></table>• With reference to their completed graphic organiser, each student takes turns to share their findings with their partner, while their partner takes</td><td><u>Coherent Construction</u>

Multi-sensory Instruction</td><td><u>Tertiary SEEKING</u></td></tr>
</table>

Lesson	Activity	Elements of RCC	Elements of IPSS
	notes. Each pair agrees on the main arguments to be presented to the other pair using the Inference + Evidence + Explain framework. In their presentation, they will discuss possible reasons for the sources to be biased. • Each pair takes turns presenting to the other pair the main arguments they have chosen, while the other pair takes notes. • After both pairs have presented their responses, they will work together as a group to deliberate on a group consensus. After agreeing on the consensus, they will display it on a Padlet page embedded in the Google Site, explaining the reason for their choice through a critical analysis of the sources they have evaluated.	Visual: Graphic Organiser Auditory: Listening to a classmate's presentation Motor: Note-taking **Shifting the 'bias' filter**	**Decision making**
Lesson 3	• Each group presents their answers in class and answers questions posed		

Lesson	Activity	Elements of RCC	Elements of IPSS
	by classmates and the teacher. Classmates are invited to provide suggestions to improve each group's analysis. • Each group is tasked to design a propaganda poster to convince the audience to support the stand they have agreed on. They are to create a source-based question and develop the rubrics for the question based on the poster they have designed.	Consolidation **Relevant Transfer**	**Creative and critical thinking**
Lesson 4	• Each group swaps its poster and accompanying question with another group. They will work as a group to write out the answer to the question they have received. • Students engage in peer marking where the response of each group will be marked by the group that assigned the question using their designed rubrics. • Each group presents the response they have marked and the rationale for awarding the mark, and	**Getting It Right**	Secondary SEEKING **Rote repetition**

Lesson	Activity	Elements of RCC	Elements of IPSS
	the teacher will address any misconceptions or add to the explanation if necessary.		
Lesson 5	• Students complete a source-based practice on the topic covered and feedback is provided by the teacher.		
Post-Lesson Test	• Students are assigned a test to assess their understanding. • Based on the results of the test, groups can be reallocated by the teacher to ensure a mix of student ability within each group for subsequent structured academic controversy lessons. • After receiving their test results, students will review their areas for improvement with their teacher. • Students will complete a Google Form with their response emailed to them and their teacher to reflect on their learning and possible areas for growth.	**Spaced Learning**	Tertiary SEEKING **Metacognition**

Discussion

The synergy between elements of the RCC framework and IPSS in the lesson structure above enables an enhancement of students' appreciation for source analysis skills in the real world and fosters sustainable learning experiences for students. RCC and IPSS complement each other in the teaching of source analysis skills in the Humanities because they holistically address both the structured cognitive processes necessary for skill acquisition (RCC) and the intrinsic motivational drivers essential for deep, sustained student engagement with historical inquiry (IPSS). This enables students to develop source analysis skills while engaging with and learning from the historical content presented in the sources. Such an approach can potentially result in a more efficient use of classroom time, as it reduces the need for separate lessons that focus solely on skills or content.

Enhancing Real-World Appreciation of Source Analysis Skills

A common challenge faced in the teaching of source analysis skills is students' inability to see the applicability of source analysis to their everyday lives. The IPSS addresses this by tapping into the brain's innate "SEEKING" system, which is the drive to explore, investigate, and acquire knowledge. In the Readiness phase of RCC, the teacher introduces a thought-provoking inquiry question, which is designed to activate this primary "SEEKING" drive. This initial emotional connection is important because curiosity drives motivation. As Jensen and McConchie (2020) suggest, such a question can trigger suspense and anticipation, thereby fostering an emotional connection in students with the material being taught in class. This emotional connection is crucial because it primes the brain for learning and helps students see the immediate relevance of the task. When students are intrinsically motivated to resolve a historical controversy that they find compelling, they begin to understand that the skills of dissecting arguments, evaluating evidence, and identifying bias are not just academic exercises, but skills that apply to their daily lives.

Instead of a factual recall question like "What was the social impact of Hitler's rule?", the teacher could first show the class two contrasting historical sources for Lesson 1 – one a propaganda poster depicting happy, healthy Aryan families benefiting from Nazi policies, and another a personal account from a Jewish citizen describing how their lives became worse under the Nazi regime. The inquiry question could be: "Did Hitler's rule improve the lives of people living in Nazi Germany?" The conflicting narratives, presented to students as a trigger, would activate their primary "SEEKING" system. This would make them intrinsically motivated to reconcile this contradiction. In doing so, students would appreciate how evaluating evidence from sources is an essential skill that helps them navigate conflicting information in daily life.

Creating Sustainable Learning Experiences

The "Coherent Construction" phase of RCC, where students actively work with sources, discuss, and build arguments, aligns with the secondary and tertiary SEEKING aspects of IPSS. This phase is not about passively receiving information but instead involves actively making meaning. Students engage in "elaborative rehearsals" and make "connections to other learning" and "personal meaning" (Gregory & Kaufeldt, 2015). The Structured Academic Controversy structure itself, which requires students to argue from different perspectives before reaching a consensus, prompts them to engage in deeper cognitive processing, decision-making, and metacognition. This active,

constructive process leads to more robust and durable learning compared to rote memorisation. In Lesson 2, as students share their findings with their partner and then present to the opposing pair, they are actively engaging in secondary "SEEKING". One pair might argue that life improved for many Germans, citing sources such as accounts of the success of the 'Strength Through Joy' initiative. The opposing pair might argue that lives worsened for many, using sources like descriptions of how the Gestapo's activities resulted in limited freedom for people living in Germany. The act of explaining their reasoning using the Inference + Evidence + Explain framework forces them to make connections between the source content and their interpretation, deepening their understanding. Furthermore, when the entire group deliberates to reach a consensus on whether Hitler's rule improved the lives of Germans, they are engaging in tertiary "SEEKING" through decision-making and critical thinking.

The consolidation phase of RCC is explicitly designed for long-term retention and transfer. Activities like designing propaganda posters, creating source-based questions, peer marking, and post-lesson tests with reflection in Lessons 3, 4, and 5 serve as "relevant transfer" and "spaced learning" opportunities. This repeated retrieval and application strengthen neural pathways, making learning more sustainable. In Lesson 3, tasking groups to design a propaganda poster either celebrating or critiquing the social impact of Hitler's rule requires them to apply the conclusion that their group has arrived at to a real-world challenge of convincing others of their group's stance. This requires students to select and adapt visual elements within their poster to support their stand, deepening their understanding of how historical narratives can be constructed and manipulated. For example, a group arguing that lives worsened under Hitler's rule might design a poster highlighting the stark contrast between Nazi promises and the reality of persecution, drawing on specific details from personal testimonies they came across. Conversely, a group presenting a balanced view might incorporate elements that superficially appear favorable but subtly hint at underlying control or exclusion, reflecting the complexities of the period. The subsequent task of designing a source-based question and rubrics for their poster, followed by attempting each other's questions and peer marking in Lesson 4, allows students to undergo spaced learning and retrieval practice processes in a novel way. They will be able to metacognitively think about question design and answers they would expect, helping them become more familiar with assessment in History. This iterative process of creation, evaluation, and feedback, followed by a final source-based practice and test in Lesson 5, ensures that the skills are not only learned but also deeply embedded and accessible for future use, allowing for long-term retention of content and source-based skills.

Conclusion

This paper proposes a method for integrating the RCC framework, IPSS, and textbook content into Structured Academic Controversy to teach upper secondary history students source analysis skills. This approach offers a practical solution to the challenge of limited time experienced by teachers for discussing historical controversies in class. It enhances history students' motivation in developing source analysis skills by enabling them to appreciate its relevance to their daily lives. It could also encourage students to become more familiar with and think more critically about the sources available within the textbook. Teachers could consider adopting this approach to equip students with the source analysis skills essential for navigating the age of disinformation accelerated by AI technology.

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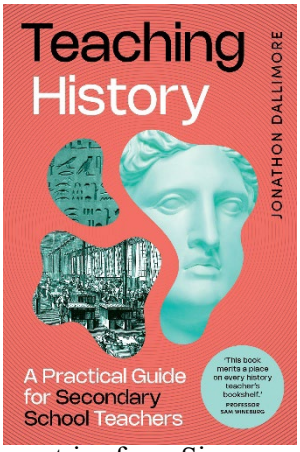
Book Review
Teaching History: A Practical Guide for Secondary School Teachers

Jonathon Dallimore, Melbourne: Amba Press, 2025. 210 pages. ISBN 9781923215481 (paperback; also available as e-book).



Beginning history teachers often don't see the relevance of the key concepts of history education and historical understanding. They regularly – and naturally – just want practical tips on how to teach. The idea of understanding the broader notions and concepts of historical understanding that are global and explain much of what their profession does seems lost on many entering history teaching. This book makes it clearer why these concepts and ideas are important to understand and can be seen in what they are supposed to teach and how they teach history.

This guide reflects how the teaching of history in schools has changed in the last few decades to focus on the teaching of the historical skills of historians to students so that they can become their own historians. They learn critical thinking skills about the past as well as the present. In many countries from Singapore to the United Kingdom, students study not just the history of the past, but historical thinking about how the past is constructed by historians. These historical thinking skills that are learned in history classrooms around the world include: significance, causation, change and continuity, perspectives, sources and evidence, and interpretations. These are reviewed in chapter 5 of Dallimore's book.

Dallimore writes that historical thinking skills have 'the potential to help students even if they are not planning on engaging with history beyond school' because the 'disciplinary aspects of history can equip students with ways of thinking that can help them navigate historical representations in the wider world. This includes thinking critically about the narratives they are confronted with in public life on a regular basis' (p. 49). In everyday life, he adds, the students later as adults will travel and visit historic sites, read history books, watch historical films, and generally encounter the construction of history in different mediums. When the students become citizens 'they will be confronted with stories about the past claiming to justify all kinds of political decisions that they may need to respond to through voting and other civic activity'. Thus, he concludes, 'helping students understand and appreciate this is a powerful aspect of teaching history'. (p. 51)

The book is a marvellous synthesis of theory and practice that helps beginning history teachers by providing many useful tips for teaching, but also by explaining simply many concepts, which are illustrated by being applied to practice. The author draws upon Bob Bain for his approach. He writes on page 1 and repeats it again on the last page (p. 210): 'If there is an overall argument of this book it is to stress what Bob Bain suggested when he wrote that secondary history teachers must remain "bifocal" by pursuing both *historical* and *instructional* lines of thinking'. Dallimore argues that 'sole emphasis on the "historical" might provide the teacher with a sound scholarly basis for the content and the ideas they foreground in the classes, but it may not translate into time well spent in class.' Alternatively, 'a myopic focus on the "instructional" might, on the other hand, make for efficient classes in which students develop shallow or misleading ideas.' (p. 2) The book is to be commended because of its successful integration of the ideas of historical thinking with the day-to-day realities of teaching history in secondary schools.

The first part of the book called 'Setting the Foundations' covers the key concepts of historical

understanding in the classroom. The second part of the book called 'Planning – Year Levels and Topics' is a practical guide to history lesson planning. The third part of the book, 'Sequences and Lessons' focuses on individual lessons and analyses what goes on in the history classroom. The book is broken down into very short chapters that are meant to be easy for teachers to digest and apply in their work. At the end of every chapter there are key questions that are asked of the history teachers, and a list of readings of the works of key thinkers in history education whose work is relevant to the ideas discussed in the chapter. Dallimore thoughtfully provides teachers with a clear and concise summary of each of these readings.

Dallimore focuses the book on not just the experiences of the history teachers but those of the students they are teaching. He writes that 'part of the argument of this book is that, to understand history, students need to become more comfortable with a degree of debate and open-endedness that lies at the subject's heart' (p. 210). In chapters 4 and 14, he explores critically inquiry-based learning in history, assessing how students react to it in class and how it can go wrong if students are just left by themselves to figure out problems without any guidance from the teacher.

This guide to history teaching has been very well put together and reflects over 20 years of experience of the author in the history teaching profession as well as his years at university teaching beginning history teachers their craft. The book is a valuable addition to not only the professional libraries of history teachers, but to the list of readings that can be provided to beginning history teachers in teacher training classes at universities around the world.

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