

What Should History Learning in Practice Look Like? A Meta-Analysis Review

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ABSTRACT

History learning is always expressed in conceptualisation that is oriented towards memorising, remembering, memory and many others, so it is not uncommon to often become boring learning for students. Considering the development of information and communication technology that has currently occurred, the orientation of learning has changed, including on historical material. This study seeks to reveal how history learning should be done by teachers of the subject through a series of meta-analysis activities. Author collected various quantitative research results related to history learning solutions as an expression of empirical evidence of its successful implementation. The main conclusion is that history learning needs to emphasise (1) flipped learning in the classroom, (2) virtual reality, (3) instructional video, and (4) self-regulated learning. Therefore, this article can be used as an alternative reference in learning history.

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The acquisition of historical knowledge is a complex and multifaceted process that involves the development of discipline-specific skills and critical thinking abilities. It goes beyond mere memorization of dates and events, requiring a deep comprehension of context, causation, and interpretation. Graduate students in history engage in rigorous research, analyze primary sources, and participate in scholarly debates to refine their ability to critically evaluate historical narratives and form their own unique perspectives. A key aspect of historical intelligence lies in the capacity to identify bias, assess evidence, and consider alternative interpretations. This intelligence entails unraveling the intricacies of the past, comprehending how various factors shape historical events, and acknowledging the role of human agency. Furthermore, a comprehensive understanding of the study of history necessitates recognizing its interdisciplinary nature. History intersects with disciplines such as sociology, anthropology, economics, and political science.

The narrative of history is an ongoing expedition that is perceived as a recorded interaction of human existence. Acquiring knowledge about history entails recollecting past events and extracting valuable insights applicable to contemporary and future circumstances (Kuntowijoyo, 2005). The application of knowledge acquired from previous experiences can be utilized to make predictions about future occurrences (Anshori, 2016). The discipline of history plays a significant role in the realm of education, particularly within the domain of social studies, which centers on the study of past events and their impact on society (Afrina et al., 2021).

In secondary educational institutions, the teaching of history continues to adhere to conventional methods, with limited attention given to the cultivation of critical thinking abilities (Sarbaini et al., 2019). In the realm of history education, it is common for instructors to place a strong emphasis on rote memorization, particularly in regard to the identification of significant individuals, dates, and events. Nevertheless, this pedagogical approach often fails to engage students, as they encounter difficulty in ascribing significance to these isolated details. Consequently, students frequently experience difficulty in retaining the information they have acquired, including specific dates, years, and even the identities of notable historical figures (Anis et al., 2020). This disconnection hinders the students' ability to cultivate a genuine comprehension of history, instead encouraging them to merely mimic their instructors. Consequently, their passion for history becomes devoid of vitality and fails to appreciate the profound elements inherent in the discipline (Fatimah et al., 2021).

In light of the aforementioned rationale, it is imperative to elucidate the appropriate approach to history education. This is due to the fact that history holds paramount importance as a subject, as it plays a strategic role in shaping the character and civilization of a dignified nation, as well as fostering a sense of national identity and patriotism among Indonesian students. The content of history curriculum is intricately linked to the cultivation of norms and values that are essential for personal development and are applicable to real-life contexts, thereby facilitating practical application (Maulani et al., 2021). Character education, which

aims to cultivate students' intellect and moral character, should be implemented through various educational approaches, including informal, formal, and non-formal education (Sutimin, 2015).

METHOD

We conducted a comprehensive review of the existing literature using a meta-analysis methodology. According to Gurevitch et al (2018), meta-analysis is a rigorous and systematic approach to synthesizing research findings in a quantitative manner. In the context of prospective meta-analysis, specific criteria for study selection, hypotheses, and analytical methods are established prior to the availability of results from studies relevant to the research question at hand. This proactive approach helps mitigate several challenges commonly encountered in traditional retrospective meta-analysis (Seidler et al., 2019). A meta-analysis review is a rigorous and systematic approach to evaluating the findings of multiple independent studies on a specific subject. This method involves the synthesis of data from various sources in order to draw meaningful conclusions and make informed decisions. In recent years, this research approach has gained considerable popularity due to its ability to provide a more comprehensive understanding of a topic by combining the results of multiple studies. By pooling data from different sources, meta-analysis reviews offer a more comprehensive and accurate assessment of a subject. This method enhances statistical power, addresses limitations, resolves conflicts, and identifies gaps in research, making it an invaluable tool for evidence-based decision-making and the advancement of knowledge in various fields. For this article, we selected research articles with quantitative approaches as reference materials because these approaches typically involve the measurement of a finding, thus containing well-defined scientific constructs. As stated by Creswell (2014), that quantitative strategies encompass intricate experiments that incorporate numerous variables and treatments, such as factorial designs and repeated measures designs.

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Related to the History Learning topic	Unrelated to the History learning topic
Published between 2018 to 2023 (the last five years)	Published outside 2018 to 2023 (not the last five years)
Research articles	Not research articles
Scientific papers	Unscientific papers
Ranked in the top 20 in each database	Not ranked in the top 20 in each database
Using English	Outside English
Using quantitative	Outside quantitative

The criteria used to evaluate the acquisition of historical knowledge are applicable to the development of skills necessary in the 21st century (World Economic Forum, 2015). The meta-analysis procedure encompasses several key components, namely the establishment of inclusion criteria, identification of data sources, implementation of quality assurance measures, extraction of relevant data, and subsequent statistical analysis (Fadhli et al., 2020). The specific description of the topic is provided in Figure 1. Subsequently, a selection of five research articles has been made to serve as the primary material for this meta-analysis study. These articles are as follows (1) effects of self-regulated learning prompts in a flipped history classroom (Alten et al., 2020a); (2) understanding Indonesian History, Interest in Learning History and National Insight with Nationalism Attitude (Setiawan et al., 2020); (3) learning about history in immersive virtual reality: does immersion facilitate learning? (Parong & Mayer, 2021); (4) effects of the self-regulated strategy within the context of spherical video-based virtual reality on students' learning performances in an art history class (Wu et al., 2023); (5) epistemic beliefs about the value of integrating information across multiple documents in history (Wiley et al., 2020).

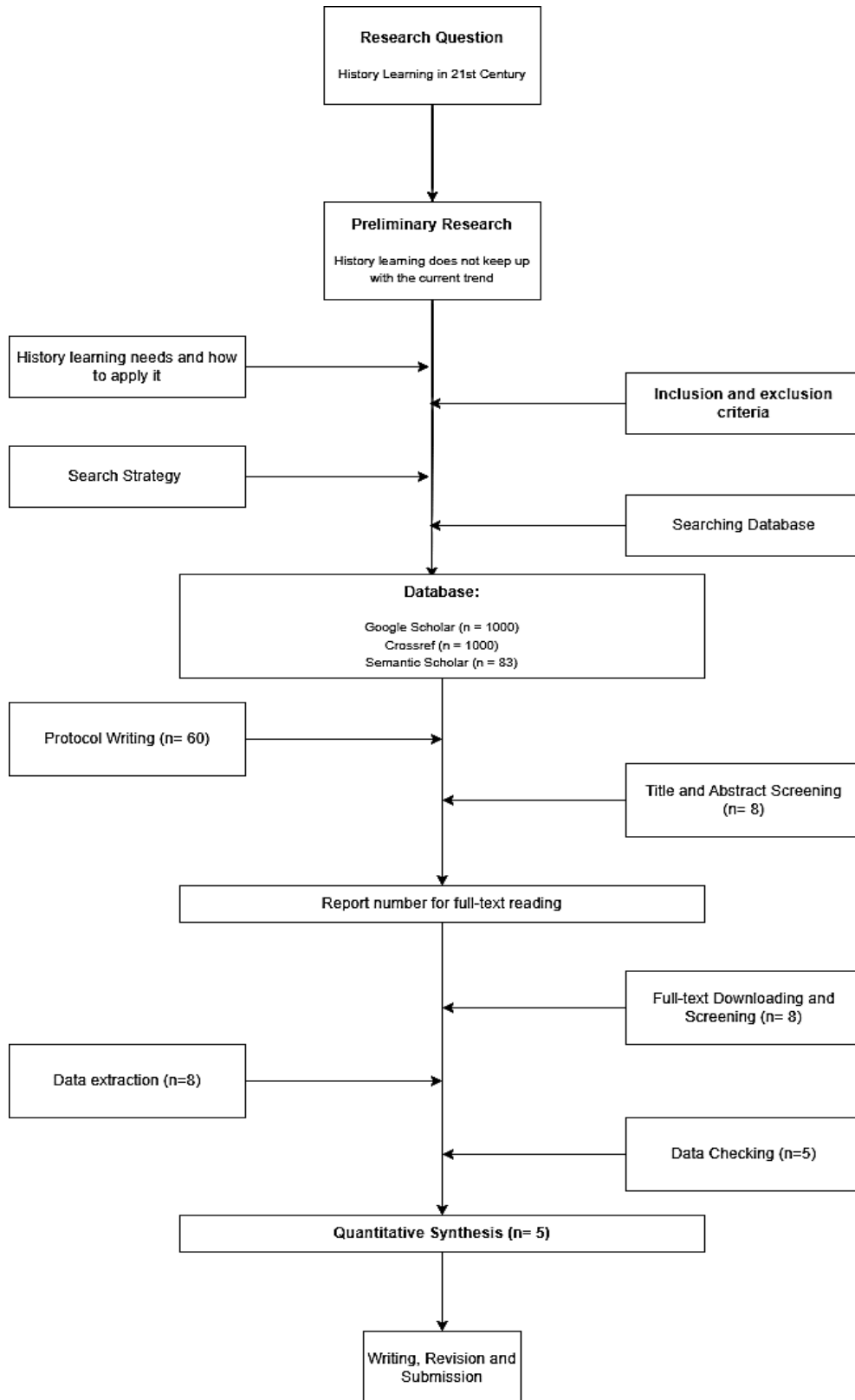


Figure 1. Meta-Analysis Review Steps (adapted from Tawfik et al., 2019)

In order to examine the data, we employed the qualitative research analysis technique proposed by Miles & Huberman (1994). The qualitative research methods devised by Miles and Huberman offer a comprehensive framework for researchers to undertake and analyze qualitative research. Their approach emphasizes the cultivation of a profound comprehension of experiences and perspectives, as well as the exploration of the contextual and social factors that influence these experiences.

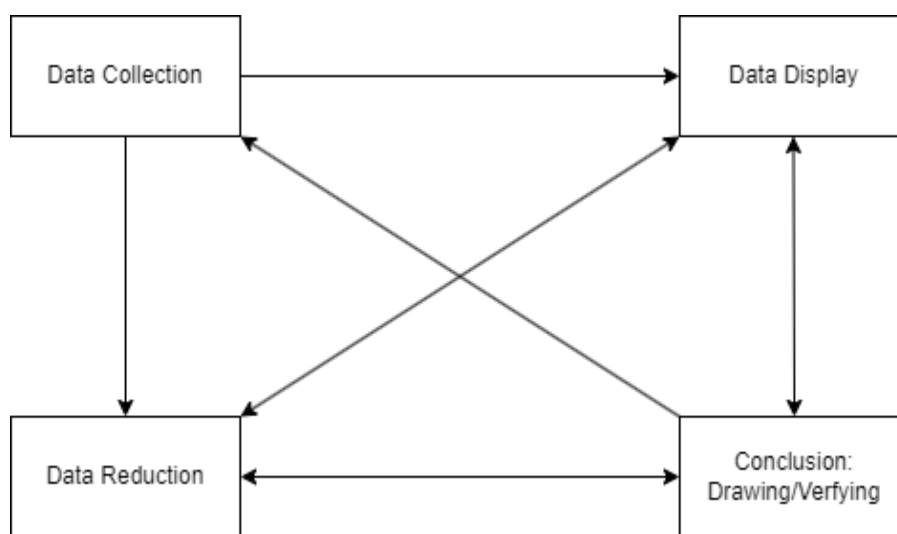


Figure 2. Miles and Huberman Analysis

Miles and Huberman's approach to qualitative data analysis is characterized by the utilization of coding techniques and data analysis methods. The authors assert that coding involves the systematic categorization and organization of data in order to identify recurring themes, patterns, and relationships. This process enables researchers to comprehend the extensive amount of qualitative data they have collected. By closely examining these themes and patterns, researchers can identify overarching concepts and theories that emerge from the data, thereby offering valuable insights into the research topic. Additionally, Miles and Huberman emphasize the importance of theory building within qualitative research. They contend that qualitative research should not solely aim to describe and explain phenomena, but should also strive to generate novel theories or modify existing ones. Through a rigorous process of data analysis and interpretation, researchers can develop a theoretical framework that provides a deeper understanding of the research problem. By incorporating theory building into their qualitative research, Miles and Huberman provide researchers with a means to contribute to the advancement of knowledge in their respective fields.

RESULTS

Meta-analyses yield dependable estimations of the overall effect size and significance of associations between variables, thereby serving as a valuable instrument in evidence-based decision-making. Consequently, a more resilient and trustworthy estimation of the genuine effect size is obtained, thereby mitigating the influence of chance variations or erroneous outcomes.

According to a study conducted by Alten et al (2020), it was found that flipped interventions tend to encourage students to engage in self-directed learning activities while watching educational videos. Additionally, the study also observed that the use of prompts for self-directed learning had an impact on the number of videos completed by students. These findings suggest that media plays a significant role in shaping students' learning experiences. This aligns with the assertion made by Sumantri & Rachmadtullah (2016) that instructional media can facilitate effective learning activities..

According to a study conducted by Setiawan et al (2020), there exists a noteworthy and positive correlation between comprehension of Indonesian history, enthusiasm for history education, and nationalistic awareness with attitudes of nationalism. To ensure that students grasp the significance of studying history, it is imperative for educators to cultivate their interest in the subject matter, thereby fostering their engagement in history lessons. In order to achieve this, teachers must collaborate and devise captivating history learning experiences within the classroom environment (Setiawan et al., 2020).

According to a study conducted by Parong & Mayer (2021), it has been found that immersive environments have the potential to elicit intense positive emotions. However, these heightened emotions can serve as a distraction from the cognitive processes that are necessary for effective learning during a lesson. Consequently, this distraction can have an impact on the performance of students in subsequent history learning outcome assessments. The high emotional arousal induced by the immersive environment can be considered as a tantalizing detail, which refers to an interesting but irrelevant stimulus that does not align with the instructional objectives of the lesson. As a result, students may be diverted from engaging in the appropriate cognitive processing of the information presented in the lesson (Plass & Kalyuga, 2019).

According to a study conducted by Wu et al (2023), the self-regulated strategy-based spherical video-based virtual reality approach was found to have more positive effects compared to the non-self-regulated strategy-based spherical video-based virtual reality approach in terms of learning achievement, self-regulation, meta-cognitive awareness, and learners' self-efficacy. The continuous development and innovation of information technology have led to the increasing importance of virtual reality (VR) in educational technology. VR is not only utilized in various industries but also employed by educators for educational purposes, as it offers students an immersive learning experience that enhances their learning effectiveness and motivation (Chang et al., 2020).

According to a study conducted by Wiley et al (2020), students who hold epistemic beliefs that align with the task at hand are more likely to view the process of investigating multiple documents as an opportunity to corroborate information, seek coherence, and find evidence to support their claims. On the other hand, students with less appropriate epistemic beliefs may perceive the goal as simply locating the "correct" answer word-for-word within the documents. This belief system has the potential to foster the development of argumentation skills. This is supported by the findings of Noroozi & Hatami (2019), who discovered that providing argumentative peer feedback enhances students' ability to write argumentative essays and promotes domain-specific learning.

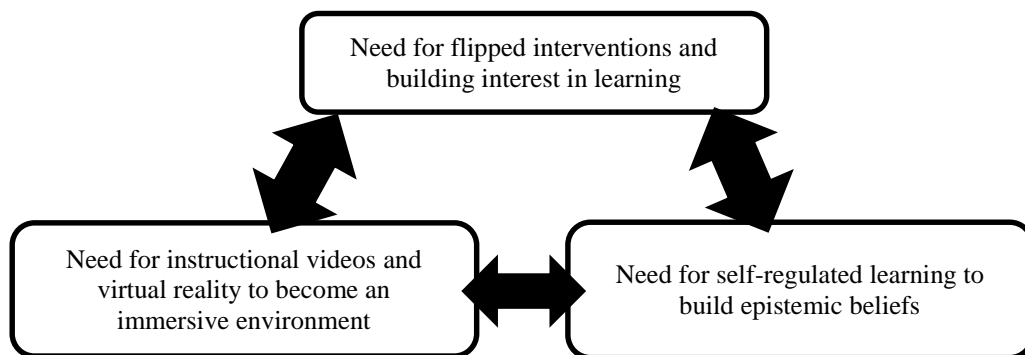


Figure 3. Display Data

Then, we can derive a theoretical framework from the preceding research inquiry. Consequently, the process of acquiring historical knowledge ought to encompass contemporary elements, namely, (1) the implementation of flipped learning within the classroom setting, (2) the integration of virtual reality technology, (3) the utilization of instructional videos, and (4) the promotion of self-regulated learning strategies.

DISCUSSION

Flipped Learning History in the Classroom

Flipped learning is an educational methodology that challenges the traditional model of classroom instruction by encouraging students to engage with the course material prior to attending class. This approach aims to optimize in-class time by fostering peer discussions and teacher-guided problem-solving activities, which serve to enhance students' comprehension and mastery of the subject matter (Miedany, 2019). The central tenet of the flipped learning approach is that students are exposed to essential course material prior to attending class, allowing for the exploration of more advanced cognitive processes during in-person sessions (O'Flaherty & Phillips, 2015). In their extensive examination of prior studies on flipped learning in higher education, Bishop & Verleger (2013) challenge a broad interpretation of flipped learning that encompasses pre-class readings and in-class group discussions as flipped learning approaches. Instead, they define the 'flipped classroom' as a teaching method that incorporates interactive group learning activities within the classroom, while utilizing computer-based direct individual instruction, such as video lectures, outside of the classroom (Tomas et al., 2019). In the educational setting, students are directed to participate in instructional exercises wherein they employ their acquired knowledge with the assistance of either the teacher or their fellow classmates (Hwang et al., 2019).

Research conducted by Jdaitawi (2020) demonstrated that the group utilizing the flipped mode approach exhibited higher average scores in terms of learning emotions compared to the traditional group. Furthermore, the study observed an increase in average scores of learning emotions over the duration of the research period. Similarly, Winter (2018) conducted research that revealed the motivational benefits of flipped learning for students, particularly when implemented effectively with age-appropriate strategies such as differentiated learning. This model approach is particularly advantageous for secondary schools, where student success relies on differentiation and addressing significant gaps in knowledge. Additionally, Zou et al (2020) found that flipped learning environments offer students increased opportunities for collaboration and interaction within the classroom, thereby providing more time and space for active learning.

The implementation of flipped learning offers several advantages, including the cultivation of positive emotions, the motivation of student learning, and the provision of opportunities for active interaction and collaboration. In traditional classroom settings, history lessons typically consist of teacher lectures, with students passively taking notes. However, with flipped learning, students arrive in class already equipped with foundational knowledge, enabling teachers to concentrate on higher-order thinking skills. In-class activities can involve the analysis of primary sources, engaging in debates, or collaborating on projects. Through active participation in these activities, students develop a more profound comprehension of historical events and are better prepared to apply their knowledge to real-world scenarios. This approach allows students to learn at their own pace and fosters active engagement and critical thinking abilities. By shifting the emphasis from passive note-taking to collaborative activities, students acquire a deeper understanding and appreciation of the subject matter. Moreover, the ability to customize lessons and resources to suit the individual needs of students has the potential to revolutionize the teaching of history in the classroom.

Virtual Reality in Learning History

The terms "virtual environment" and "virtual world" are commonly used within the field of virtual reality (VR). Virtual environments are software representations that depict real or imagined agents, objects, and processes. They also include human-computer interfaces that enable users to view and interact with these models (Barfield et al., 1995). On the other hand, virtual worlds are a specific type of virtual environment that allows multiple users to inhabit and shape a shared simulated space through the use of avatars (Girvan, 2018). The ability to customize avatars and engage in multi-user interaction has traditionally been used to differentiate virtual worlds from other VR experiences. However, there are currently limited options available on the market that enable users to create and personalize individual avatars in multi-user VR applications. It is important to note that virtual environments and virtual worlds can encompass software that operates on hardware that may or may not be VR-based (Wohlgenannt et al., 2020).

Presenting educational content in a three-dimensional (3D) format can offer significant advantages, especially for subjects that necessitate the visualization of learning material, such as history lessons. Although the ability to visualize is a prominent benefit of virtual reality (VR), this can also be accomplished through conventional videos. However, videos are passive learning tools, whereas VR enables direct engagement with the virtual environment. The inclusion of interactivity and feedback in VR experiences can be advantageous across all subjects, as interactive learning promotes active engagement rather than passive reception of information (Allcoat & Mühlenen, 2018).

According to a study conducted by Albus et al (2021), virtual reality (VR) has the potential to enhance the visual complexity of learning materials by introducing spatial orientation challenges for learners. This is attributed to the altered perspective and increased field of view provided by VR technology, although the extent of this change is relatively limited. Furthermore, Shen et al (2019) found that VR can adapt to different learning styles, thereby catering to individual preferences and needs. Additionally, Parong & Mayer (2018) suggest that VR has the capacity to enhance motivation, interest, and engagement among learners. Lastly, Domingo & Bradley (2018) discovered that VR can facilitate meaningful social interactions and alleviate social anxiety.

The utilization of virtual reality (VR) in educational settings offers several advantages. Firstly, VR allows for the presentation of more intricate and sophisticated material. Additionally, it accommodates different learning styles, enhances motivation and interest, fosters engagement, promotes social interaction, and reduces social anxiety. The application of VR in history education is an innovative approach that enables students to engage in an immersive and interactive experience, enabling them to transport themselves back in time and develop a deeper comprehension of historical events. This hands-on encounter facilitated by VR enhances engagement and encourages active learning, enabling students to establish a personal connection with history in a memorable and meaningful manner. Historical events often possess multiple perspectives, and VR provides students with the opportunity to explore these diverse viewpoints. By immersing themselves in historical reenactments, students can acquire a more comprehensive understanding of the intricacies and repercussions of past events. This immersive learning experience challenges students to analyze various historical accounts, establish connections, and formulate their own interpretations, thereby refining their analytical thinking abilities.

Instructional Video for Learning History

Instructional video refers to a form of multimedia instruction that incorporates moving images captured by a camera and speech and background sounds recorded by a microphone (Mayer, 2009). An example of instructional video would be a recorded lecture from a college chemistry class, a demonstration on constructing a complex electrical circuit, or a segment from a wildlife documentary set in Antarctica. The design of these instructional videos plays a crucial role in facilitating effective learning (Mayer et al., 2020). Educators are increasingly utilizing videos in their teaching practices for various purposes, such as enhancing students' conceptual understanding and fostering their interest. The educational videos available encompass a wide range of genres, including instructional videos and fictional films, each possessing distinct characteristics in terms of information quantity, structure, and audio-visual presentation (Wijnker et al., 2019).

According to a study conducted by Expósito et al (2020), the use of instructional videos has been found to significantly enhance cognitive learning outcomes, leading to improved test scores. Similarly, Tseng (2021) found that instructional videos foster a positive relationship between student engagement and teacher explanations, as indicated by annotations. Furthermore,

Ferdig & Kosko (2020) discovered that the incorporation of spherical videos, specifically 360-degree videos, in educational settings tends to enhance immersion, attendance, and evaluation of learning experiences. Additionally, Devi et al (2019) found that videos are effective in aiding the memorization of procedural steps.

Hence, instructional videos offer several advantages in the realm of education, including enhancing cognitive learning outcomes, fostering student engagement, facilitating teacher annotation, promoting immersion, increasing attendance and evaluation in learning, and aiding procedural memorization. Particularly in the context of complex subjects like history, well-structured instructional videos can prove to be highly beneficial for students. These videos not only provide a visually stimulating and engaging mode of learning, but also enable students to comprehend historical events and concepts more effectively. A key advantage of utilizing instructional videos for history education lies in their capacity to bring the past to life. History is often perceived as dull and uninteresting, with names and dates that are difficult to remember. However, a meticulously crafted video has the potential to recreate the historical backdrop and immerse learners in past events. By incorporating images, animation, and expert narration, these videos assist students in visualizing historical events and comprehending their significance. For instance, a video on the French Revolution may feature relevant reenactments and paintings, thereby facilitating students' understanding of the intricacies of that period. Furthermore, instructional videos afford learners the opportunity to absorb information at their own pace. In contrast to conventional classroom instruction, the utilization of videos offers distinct advantages for students. One notable benefit is the ability to pause and replay the video content, enabling students to revisit and reinforce their understanding of complex concepts. Additionally, videos can accommodate diverse learning styles by employing a range of pedagogical strategies, including demonstrations, case studies, and interactive quizzes. This visually stimulating and interactive approach to learning fosters active engagement among students, resulting in enhanced retention and comprehension of historical information.

Self-Regulation in Learning History

The field of self-regulated learning research aims to enhance learning ability by investigating cognitive and metacognitive processes, which encompass various internal and external factors (Matcha et al., 2020). Self-regulated learners possess the capacity and motivation to reflect on how, what, and why they learn (i.e., metacognition), enabling them to regulate their learning behavior (i.e., self-regulation) (Alten et al., 2020b). The concept of self-regulated learning is conceptualized as a cyclical model, wherein the learning process unfolds in a sequential manner, involving a planning phase (e.g., task analysis), an execution phase (e.g., self-control and monitoring), and a self-reflection phase (e.g., self-assessment and adjustment of behavior) during the learning process (Zimmerman & Moylan, 2009). The components of self-regulated learning encompass (1) time management, (2) goals, (3) plans, and (4) metacognition (Pelikan et al., 2021).

According to a study conducted by Viberg et al (2020), the implementation of self-regulated learning strategies has been found to enhance overall learning outcomes and promote greater support for both learning and teaching. Additionally, self-regulated learning facilitates the examination of online learning approaches, offers systematic guidance, monitors student engagement, and provides assistance to families (Junior et al., 2020). Furthermore, research conducted by Granberg et al (2021) demonstrated a significant improvement in students' self-regulated learning behavior within the traditional classroom setting.

The advantages of self-regulated learning for students encompass various aspects, including enhancing learning outcomes, providing instructional and procedural support, monitoring engagement, supporting family involvement, and fostering independence. Self-regulation is a crucial component of the learning process in history education, as it entails students' ability to engage in self-monitoring, self-evaluation, and self-reflection, thereby assuming responsibility for their own learning experiences. Given the intricate nature of historical subject matter, self-regulation skills are particularly significant in empowering students to become active and autonomous learners in history. By taking ownership of their learning, students can establish goals, plan their learning activities, and monitor their progress. Moreover, self-regulation facilitates the cultivation of critical thinking skills and the capacity to reflect on historical events. Ultimately, self-regulated learners in history possess the necessary tools to navigate the complexities of the subject, leading to a deeper comprehension and appreciation of the past. They can establish connections between different historical periods, identify patterns, and comprehend the cause-and-effect relationships of specific events. Additionally, self-regulated learners are encouraged to reflect on their learning strategies, discerning what is effective and what requires improvement. This metacognitive process enables students to continuously enhance their understanding and develop a lifelong interest in history.

CONCLUSION

In conclusion, it is imperative for history education to prioritize several contemporary dimensions, namely flipped learning in the classroom, virtual reality, instructional video, and self-regulated learning. Flipped learning in the classroom offers numerous benefits in history education, including the cultivation of positive emotions, increased student motivation, and opportunities for active interaction and collaboration. Virtual reality, on the other hand, enhances history learning by introducing more complex material, accommodating different learning styles, boosting motivation and interest, fostering engagement, facilitating social interaction, and reducing social anxiety. Instructional video, as another effective tool, improves cognitive learning outcomes, enhances student engagement, enables teacher annotation, enhances immersion, increases attendance and evaluation in learning, and aids in the memorization process. Lastly, self-regulated learning contributes to improved learning outcomes, enhanced instructional support, assistance in the learning process, procedural support, monitoring of student engagement, support for

students' families, and the development of independence. Therefore, it is recommended that educators incorporate these approaches into their teaching and learning practices in the classroom.

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