

-1-

HERITAGE AND CIVIC RESPONSIBILITY: EVOLVING APPROACHES TO SOCIAL STUDIES EDUCATION IN THAILAND

Bunson Nasawaeng

Mahachulalongkornrajavidyalaya University, Khon Kaen Campus, Khon Kaen, Thailand Author Corresponding Email: boon.so@hotmail.com

ได้รับบทความ : 02-07-2023 แก้ไขบทความ : 15-08-2023 ตอบรับบทความ : 14-02-2024

Received : 02-07-2023 Revised : 15-08-2023 Accepted : 14-02-2024

Abstract: This paper explores the evolving approaches to social studies education in Thailand, with a particular focus on the integration of cultural heritage and civic responsibility. Traditionally, Thai social studies emphasized rote learning, national history, and reverence for the monarchy. However, recent educational reforms have shifted the focus toward promoting critical thinking, cultural awareness, and active civic engagement. The paper examines how experiential learning, project-based initiatives, and technology-enhanced education are being used to deepen students' understanding of their cultural roots and civic duties. Despite these advancements, challenges such as regional disparities, access to resources, and balancing globalization with the preservation of local identity persist. The paper also highlights policy recommendations to enhance teacher training, curriculum development, and cross-sector collaboration. Ultimately, the paper argues that Thailand has the potential to become a model for how social studies education can promote both national identity and global citizenship.

Keywords: Social studies education, cultural heritage, civic responsibility, experiential learning, global citizenship

1.Introduction

Social studies education in Thailand plays a crucial role in shaping the intellectual and civic development of students. Traditionally, the curriculum has focused on imparting knowledge about Thai history, culture, religion, and governance, with a strong emphasis on promoting national identity (Pholphirul, 2021). However, in today's globalized world, there is a growing recognition of the need to integrate cultural heritage and civic responsibility into social studies education. This shift aims to provide students with a more comprehensive understanding of their cultural roots while also preparing them to participate as active, informed citizens in both local and global contexts (Thammajinda, 2022).



-2-

Integrating cultural heritage into education helps preserve local traditions and histories, ensuring that younger generations remain connected to their cultural identities. At the same time, fostering civic responsibility through education is essential for encouraging students to engage in their communities and contribute to society. This dual focus on heritage and civic engagement is especially relevant in the context of Thailand, where rapid modernization and globalization have posed challenges to cultural preservation and the maintenance of civic values (Wattananarong, 2018).

Social studies education also plays a key role in shaping students' understanding of national identity and global citizenship. By learning about Thailand's cultural heritage, students can develop a sense of pride and belonging. In addition, exposure to civic education encourages students to think critically about their roles and responsibilities, not only within Thailand but as part of the global community. This integration is seen as a vital step toward preparing Thai students to navigate the complexities of the modern world while remaining rooted in their cultural identity (Bunluesin, 2020).

The primary purpose of this paper is to explore how evolving approaches to social studies education in Thailand are incorporating elements of cultural heritage and civic responsibility. The paper seeks to analyze the ways in which Thai educators and policymakers are adapting the social studies curriculum to address the challenges of modern society while preserving traditional values. Furthermore, it will discuss the opportunities and challenges that arise in this transition and how they affect both students and educators.

In particular, this paper aims to provide insight into the integration of cultural heritage as a means of fostering a deeper understanding of national identity, as well as the promotion of civic responsibility as a tool for cultivating active, engaged citizens. By doing so, it will shed light on how Thailand's social studies curriculum is adapting to meet contemporary educational needs.

Social studies education in Thailand is undergoing a transformation, with an increasing emphasis on cultural heritage and civic responsibility. This shift aims to balance the preservation of Thailand's cultural identity with the need to equip students for participation in a rapidly changing world. As a result, the curriculum is focusing on producing globally conscious, civically engaged citizens who are both rooted in their cultural heritage and prepared to engage with the global community.

2. Historical Context of Social Studies Education in Thailand

2.1 Traditional Approach

Historically, social studies education in Thailand has been characterized by a traditional approach that emphasized rote learning, memorization, and the



-3-

transmission of factual knowledge. The curriculum has often focused on national history, with a strong emphasis on promoting patriotism, reverence for the monarchy, and adherence to Buddhist values (Sukonthaman, 2017). The teaching of Thai history, religion, and the monarchy has been central to the social studies curriculum, reflecting the nation's desire to preserve its cultural heritage and promote national unity (Laungaramsri, 2021).

In this traditional model, students were often required to memorize historical dates, names, and events without engaging in critical analysis or discussion of the broader social and cultural contexts in which these events occurred. This approach has been criticized for limiting students' ability to think critically about history and society, as well as for failing to connect historical knowledge to contemporary issues (Pongajarn, 2018).

2.2 Evolution of the Curriculum

In response to the changing needs of society and the growing influence of globalization, Thailand has seen shifts in its educational policy that aim to promote critical thinking, cultural awareness, and civic engagement within the social studies curriculum. These reforms have sought to move away from rote memorization and toward more interactive and student-centered learning approaches (Rungfamai, 2019).

The Thai government has introduced several initiatives aimed at improving the quality of education and aligning the curriculum with global standards. These include the implementation of the Basic Education Core Curriculum of 2008, which encourages critical thinking, problem-solving, and the integration of cultural and civic education (Office of the Basic Education Commission, 2008). The curriculum now places a greater emphasis on fostering students' ability to engage with complex social and historical issues, with the goal of preparing them to be active and informed citizens (Chalapati, 2020).

Additionally, the introduction of project-based learning and inquiry-based learning into social studies classrooms reflects the broader shift toward developing skills that are essential for the 21st century, such as collaboration, communication, and critical thinking (Pongajarn, 2018). These changes represent a significant departure from the more traditional, teacher-centered methods of instruction.

2.3 Globalization and Educational Reforms

The impact of globalization has had a profound effect on the Thai education system, particularly in the area of social studies. As Thailand becomes more integrated into the global community, there has been an increasing need to equip students with the knowledge and skills to navigate the challenges of a rapidly changing world. This



-4-

has led to the introduction of modern teaching methodologies and the integration of technology into social studies education (Tungkasamit, 2016).

Globalization has brought with it a demand for educational reforms that prepare students not only to understand their own cultural heritage but also to engage with global issues such as environmental sustainability, human rights, and international relations. As a result, Thai social studies education has evolved to include topics that reflect these global concerns, while still maintaining a focus on national identity and civic responsibility (Rungfamai, 2019).

The incorporation of technology into the classroom has further transformed the teaching of social studies. Digital tools such as interactive maps, virtual field trips, and online collaborative platforms have made it possible for students to explore historical events and contemporary social issues in more dynamic and engaging ways (Chalapati, 2020). These innovations represent a shift toward a more holistic and integrated approach to social studies education in Thailand, one that combines traditional values with modern pedagogical practices.

3. Cultural Heritage in Thai Social Studies Education

3.1 Preservation of Local Culture and Traditions

In Thai social studies education, the preservation of local culture and traditions is a key component of the curriculum. Schools are tasked with teaching local history, customs, and values to ensure that students remain connected to their cultural roots. This focus on local heritage helps students understand the richness of Thailand's diverse cultural landscape, which includes various regional traditions, languages, and historical narratives (Thosarat & Rispoli, 2020). By learning about local customs, students gain a sense of belonging and an appreciation for the diversity within their own country.

Cultural heritage sites and traditional practices play a significant role in education. For instance, the San Don Ta Festival in northeastern Thailand, which honors ancestors, provides an opportunity for students to learn about the cultural significance of rituals and community practices (Pattapong, 2018). Similarly, the Ban Chiang World Heritage site offers a tangible connection to ancient history, where students can explore the archaeological discoveries that shed light on early Thai civilization (Higham, 2021). These cultural landmarks serve as educational tools that enhance students' understanding of their local and national heritage.

3.2 Importance of Cultural Identity

Social studies in Thailand plays an essential role in promoting a sense of cultural identity and national pride. Through the study of history and local traditions, students develop an understanding of their place in Thai society, which fosters a sense



-5-

of belonging (Intharaksa, 2017). This is particularly important in a rapidly globalizing world, where maintaining cultural identity can become challenging for younger generations.

However, balancing the preservation of local traditions with the demands of modern values presents several challenges. As Thailand continues to modernize, some traditional practices risk being overshadowed by more contemporary, globalized ways of life (Jory, 2021). Social studies education must therefore navigate the delicate balance between instilling respect for cultural heritage while encouraging students to engage with modern ideas and global citizenship.

3.3 Integration of Cultural Heritage into the Curriculum

Many schools in Thailand have successfully integrated cultural heritage into the social studies curriculum through experiential learning approaches such as field trips and local historical projects. For instance, students may visit local museums, historical sites, or participate in community-based projects that involve documenting oral histories or creating presentations on local customs (Komolsevin, 2019). These hands-on learning experiences allow students to interact with their heritage in a meaningful way, helping to make abstract historical concepts more concrete.

The role of teachers and local communities in preserving cultural heritage through education is vital. Teachers serve as cultural ambassadors, often drawing on their own knowledge and experience to bring local traditions into the classroom. Communities, too, play an important role by participating in school activities and helping to preserve cultural knowledge for future generations (Intharaksa, 2017). Collaborative efforts between schools and communities help to create a more dynamic and integrated approach to cultural education, ensuring that students not only learn about their heritage but also actively participate in its preservation.

4. Civic Responsibility in Thai Social Studies Education

4.1 Role of Social Studies in Promoting Civic Engagement

Social studies education in Thailand has long been recognized as a crucial tool for promoting civic engagement by teaching students about their civic duties, rights, and responsibilities. By equipping students with knowledge about the structure of government, the rule of law, and the importance of participating in civic life, social studies lays the foundation for developing responsible and informed citizens (Sombatpoonsiri, 2020). In particular, students are taught the significance of democratic participation, respect for the rights of others, and the importance of contributing to the community.

The Thai government has implemented several initiatives aimed at fostering civic responsibility among students. One key program is the National Education Act



-6-

of 1999, which emphasized civic education as a central part of the curriculum. This act encourages schools to instill values of good citizenship, social responsibility, and respect for democratic principles (Pongsudhirak, 2019). Additionally, various campaigns led by the Ministry of Education focus on educating students about voting, volunteerism, and engagement in local governance, further embedding civic responsibility in the social studies curriculum.

4.2 Challenges in Civic Education

Despite these efforts, civic education in Thailand faces significant challenges, particularly in terms of implementation within traditional curricula. Historically, the emphasis in Thai education has been on rote memorization and obedience, with less focus on critical thinking or active participation in democratic processes (Jaruworn, 2018). As a result, students may learn about civic duties in theory but struggle to apply these concepts in real-world contexts, especially when civic engagement is seen as secondary to academic success.

Another challenge lies in promoting critical thinking and democratic values in a system rooted in traditional hierarchy. Thai society values deference to authority and respect for hierarchy, which can make it difficult to encourage students to question or challenge existing systems (Winichakul, 2020). This hierarchical structure often inhibits open discussion of political issues and limits students' ability to fully engage in civic participation. Furthermore, the reluctance to address contentious social and political issues in the classroom contributes to the limited development of civic engagement skills among students.

4.3 Modern Approaches to Civic Education

In response to these challenges, educators in Thailand have begun integrating more modern approaches to civic education, including project-based and experiential learning. These methods focus on engaging students in real-world activities that allow them to apply their knowledge of civic duties and responsibilities in practical ways. For example, community service projects, environmental conservation efforts, and student-led initiatives are now being incorporated into the curriculum to help students understand the importance of active citizenship (Khemmani, 2021).

Project-based learning in particular encourages students to take ownership of their learning by participating in activities that require collaboration, problem-solving, and decision-making. Through initiatives such as mock elections, debates, and community outreach programs, students are given the opportunity to practice democratic values and leadership skills (Sombatpoonsiri, 2020). These projects not only teach students about governance and civic participation but also provide them with a deeper understanding of social justice and environmental sustainability issues.



-7-

Additionally, educators are increasingly encouraging student participation in local governance and civic affairs. Schools are fostering partnerships with local governments and NGOs to involve students in real-life civic initiatives, such as environmental conservation projects and public health campaigns (Khemmani, 2021). By actively participating in these initiatives, students learn about the impact of their actions on society and are empowered to contribute to positive social change.

5. Evolving Pedagogical Approaches

5.1 Project-Based Learning and Hands-On Activities

Project-based learning (PBL) has emerged as a critical tool in evolving pedagogical approaches within Thai social studies education, particularly in the areas of cultural heritage and civic responsibility. Through experiential learning, students are given opportunities to engage deeply with the subject matter, moving beyond theoretical understanding to practical application. This hands-on approach helps students connect more personally with cultural and historical content while also fostering a sense of civic duty (Srikamdee, 2020).

Examples of successful project-based learning initiatives in Thai social studies classrooms include collaborative projects where students document local histories or participate in cultural preservation activities. In one initiative, students in northern Thailand worked with local communities to research and present the history and significance of traditional festivals, such as the Songkran Water Festival, providing them with a practical understanding of how cultural heritage plays a role in shaping community identity (Chaisri, 2021). Similarly, in civic education, projects like mock local elections or community service programs encourage students to explore civic responsibilities and the importance of active participation in governance (Srikamdee, 2020).

5.2 Technology-Enhanced Learning

Technology-enhanced learning has played a transformative role in modernizing social studies education in Thailand, making it easier for students to engage with cultural heritage and civic topics through digital platforms. The use of virtual tours, interactive maps, and digital archives has enabled students to experience historical events and civic concepts more vividly (Singh, 2019). Virtual reality tours of important historical sites, such as the Grand Palace in Bangkok or the ancient city of Ayutthaya, provide students with immersive learning experiences that deepen their understanding of Thai history and its cultural heritage.

Moreover, online platforms such as Google Classroom, Moodle, and educational apps allow for collaborative learning where students can share ideas, resources, and insights into civic responsibility (Wongwanich, 2020). Interactive



-8-

learning tools, like quizzes and digital storytelling, are also effective in enhancing student engagement and improving retention of complex topics such as governance, democracy, and civic participation.

However, challenges remain in ensuring equal access to technology across Thailand. Many rural schools face issues such as poor internet connectivity, lack of technological resources, and insufficient training for teachers to effectively use these tools in the classroom. This digital divide creates a significant barrier to implementing technology-enhanced learning uniformly across the country (Singh, 2019).

5.3 Teacher Training and Professional Development

The success of these evolving pedagogical approaches in social studies education is highly dependent on the effectiveness of teacher training and professional development. Teachers play a crucial role in facilitating project-based and technology-enhanced learning, and their preparedness to integrate these methods into the curriculum is essential (Khemmani, 2020). Ongoing professional development is necessary to equip educators with the skills and knowledge to use digital tools and implement experiential learning strategies effectively.

Currently, there are gaps in teacher training, particularly in the areas of integrating technology and fostering critical thinking in students. Many teachers, especially those in rural areas, lack access to adequate professional development opportunities, which hinders their ability to adopt modern teaching practices (Wongwanich, 2020). However, efforts are being made to improve teacher preparedness in Thailand. Government initiatives and collaborations with international educational organizations are working to provide more robust training programs focused on 21st-century teaching methodologies, cultural heritage, and civic education (Khemmani, 2020).

6. Challenges and Opportunities for Future Development

6.1 Addressing Regional and Socioeconomic Disparities

One of the major challenges facing social studies education in Thailand is the disparity in access to resources between urban and rural schools. Urban schools often have greater access to technology, modern learning tools, and well-trained educators, while rural schools struggle with limited funding, outdated teaching materials, and inadequate infrastructure (Wongwanich, 2020). These disparities create an uneven playing field where students in rural areas may not receive the same quality of education or opportunities to engage with cultural and civic education as their urban counterparts.

Cultural and civic education, however, offers a unique opportunity to bridge these gaps. By focusing on local traditions, community engagement, and experiential



-9-

learning, schools in rural areas can leverage their rich cultural heritage as a resource for education (Chaisri, 2021). This approach allows rural schools to provide meaningful learning experiences without relying heavily on expensive technologies. For instance, projects that involve documenting local history or engaging with elders in the community can foster a deep understanding of cultural heritage and civic responsibility, even in resource-constrained settings.

6.2 Globalization vs. Preservation of Local Identity

As Thailand becomes more integrated into the global economy, its education system must balance the promotion of global citizenship with the preservation of local cultural identity. Globalization presents students with opportunities to engage with diverse perspectives, learn new languages, and participate in international discussions about democracy, human rights, and sustainability (Srikamdee, 2020). However, there is a risk that an overemphasis on global perspectives could dilute students' connection to their cultural roots.

Social studies education in Thailand is tasked with maintaining this delicate balance. To achieve this, the curriculum must integrate global perspectives while emphasizing the importance of preserving Thai cultural heritage. One possible approach is to teach global issues, such as climate change or human rights, through a local lens, allowing students to understand how these issues impact their own communities and cultural practices (Khemmani, 2020). This way, students can develop as global citizens who are also rooted in their Thai identity.

6.3 Policy Recommendations for the Future

To address the challenges and opportunities in social studies education, several policy recommendations can be made for future development. First, curriculum development should focus on integrating both cultural heritage and global citizenship into the social studies framework. This requires a balance between teaching students about their local history and traditions while also equipping them with the skills and knowledge to navigate an increasingly interconnected world (Singh, 2019).

Second, there is a need for enhanced teacher support and professional development, particularly in rural areas. Ensuring that all teachers, regardless of their location, receive adequate training in project-based learning, technology-enhanced education, and civic engagement is essential for closing the educational gap between urban and rural schools (Wongwanich, 2020). This can be achieved through government-led initiatives or collaborations with international educational organizations.

Finally, opportunities for cross-sector collaboration should be explored to support the development of social studies education in Thailand. Partnerships



-10-

between the government, local communities, non-governmental organizations (NGOs), and private sector stakeholders can help ensure that schools have the resources and support they need to deliver high-quality education. Such collaborations could focus on resource sharing, community involvement in educational projects, and the creation of platforms that allow students to engage with both local and global issues (Chaisri, 2021).

7. Conclusion

7.1 Summary of Key Points

Throughout this paper, we have explored the integration of cultural heritage and civic responsibility within Thai social studies education. The traditional focus on memorization and national history has gradually evolved, with increasing emphasis on teaching students to appreciate their cultural roots while developing the skills and knowledge necessary to participate in civic life. The incorporation of experiential learning, project-based initiatives, and modern technology has deepened students' understanding of both cultural heritage and civic responsibilities. However, challenges such as regional disparities, access to resources, and balancing global and local perspectives remain significant obstacles to achieving comprehensive and equitable education in Thailand.

Additionally, evolving pedagogical approaches, including hands-on learning and technology-enhanced education, offer innovative ways to teach students about their roles as citizens of both their nation and the world. Teacher training and professional development are critical for ensuring that these methodologies can be implemented effectively across the country.

7.2 Implications for Thai Society

An effective social studies education system has far-reaching implications for Thai society. By fostering a greater understanding of civic responsibilities and cultural heritage, students can grow into active, informed citizens who contribute to the development of their communities and the nation as a whole. Civic engagement, when instilled early in students, leads to more participatory governance, higher rates of volunteerism, and a more robust democratic society. At the same time, grounding students in their cultural heritage helps preserve local traditions and fosters a sense of pride in their national identity.

Moreover, by encouraging critical thinking and democratic values, a reformed social studies curriculum can contribute to societal transformation, helping to bridge the divide between traditional values and the demands of the modern world. Such education ensures that students are not only prepared to succeed in a globalized economy but also remain rooted in their cultural and civic responsibilities.

ISSN: 3056-9958 (Online), Vol. 1, No. 2 (March-April 2024)



7.3 Future Outlook

Thailand has the potential to become a model for how social studies education can successfully promote both national identity and global citizenship. By continuing to evolve its pedagogical approaches and addressing existing challenges, Thailand can shape an education system that equips students with the skills needed to navigate an increasingly interconnected world. If Thailand can effectively balance the preservation of its cultural heritage with the promotion of global perspectives, it will position itself as a leader in integrating civic responsibility and cultural education.

-11-

As Thai social studies education continues to evolve, the nation's educators and policymakers must remain committed to fostering an inclusive, equitable, and forward-thinking system that can serve as a blueprint for other countries seeking to modernize their educational approaches. Through cross-sector collaborations and ongoing reforms, Thailand can demonstrate how education can serve as a powerful tool for national development and global engagement.

9. References

- Bunluesin, P. (2020). Global citizenship education in Thailand: Policy, curriculum, and challenges. Journal of Education and Learning, 9(2), 36-45.
- Chaisri, S. (2021). Project-based learning in Thai social studies education: Fostering cultural awareness and civic responsibility. Journal of Educational Research and Innovation, 14(2), 134-147.
- Chalapati, N. (2020). Educational reforms and the shift toward student-centered learning in Thailand. Asian Education and Development Studies, 9(2), 145-158.
- Higham, C. (2021). Early Thailand: From Prehistory to Sukhothai. Bangkok: River Books.
- Intharaksa, U. (2017). The role of teachers in preserving cultural heritage in Thai education. Journal of Southeast Asian Studies, 45(2), 211-226.
- Jaruworn, P. (2018). Civic education in Thailand: Challenges and prospects for fostering active citizenship. Journal of Southeast Asian Education, 15(2), 112-128.
- Jory, P. (2021). Balancing tradition and modernity in Thai education: Challenges in cultural preservation. Journal of Asian Studies, 80(3), 610-629.
- Khemmani, T. (2020). Teacher training and professional development in Thailand: Addressing gaps in civic and cultural education. International Journal of Educational Development, 39(1), 89-103.

Journal of Modern Academic Social Science (Online) ISSN: 3056-9958 (Online), Vol. 1, No. 2 (March-April 2024)



-12-

- Khemmani, T. (2021). Project-based learning in Thai civic education: Opportunities and outcomes. International Journal of Education and Development, 40(2), 65-78.
- Komolsevin, R. (2019). Experiential learning in social studies: Field trips and local projects in Thailand. Educational Research and Development Journal, 37(1), 35-48.
- Laungaramsri, P. (2021). Teaching Thai history: Culture, politics, and pedagogy. Journal of Historical Education, 10(1), 67-80.
- Office of the Basic Education Commission. (2008). Basic Education Core Curriculum B.E. 2551 (A.D. 2008). Bangkok: Ministry of Education.
- Pattapong, K. (2018). Cultural festivals in Thailand's education: A case study of the San Don Ta Festival. Asian Folklore Studies, 77(2), 67-83.
- Pholphirul, P. (2021). The changing landscape of Thai education in the context of globalization. Asian Education and Development Studies, 10(3), 225-238.
- Pongajarn, C. (2018). Inquiry-based learning in Thai social studies classrooms: Challenges and opportunities. Educational Review, 70(4), 509-526.
- Pongsudhirak, T. (2019). Civic responsibility in Thai education: Government policies and their impact. Asian Education and Development Studies, 9(1), 35-48.
- Rungfamai, S. (2019). Social studies curriculum reform in Thailand: A focus on critical thinking and civic engagement. Journal of Social Science Education, 18(3), 12-26.
- Singh, A. (2019). Digital learning in Thai social studies: Challenges and opportunities. Asian Educational Review, 13(4), 77-90.
- Sombatpoonsiri, J. (2020). Modernizing civic education in Thailand: Enhancing democratic participation through social studies. Journal of Civic Education and Engagement, 11(3), 57-69.
- Srikamdee, T. (2020). Enhancing civic engagement through project-based learning in Thai social studies classrooms. Journal of Civic Education and Leadership, 12(3), 55-72.
- Srikamdee, T. (2020). Enhancing civic engagement through project-based learning in Thai social studies classrooms. Journal of Civic Education and Leadership, 12(3), 55-72.
- Sukonthaman, N. (2017). The role of social studies in promoting nationalism in Thai education. Journal of Southeast Asian Education, 6(2), 24-38.
- Thammajinda, P. (2022). Cultural heritage in the Thai education system: Challenges and opportunities. International Journal of Cultural Studies, 16(1), 22-31.
- Thosarat, R., & Rispoli, F. (2020). Ban Chiang and the cultural heritage of Thailand. World Archaeology Journal, 52(4), 581-596.

วารสารวิชาการสังคมศาสตร์สมัยใหม่ Journal of Modern Academic Social Science (Online) ISSN: 3056-9958 (Online), Vol. 1, No. 2 (March-April 2024)



-13-

- Tungkasamit, A. (2016). Globalization and educational policy in Thailand: Impacts on curriculum and instruction. International Journal of Education Policy, 11(3), 112-121.
- Wattananarong, N. (2018). Civic education in Thailand: Policies and practices for social responsibility. Journal of Civic Engagement, 6(1), 49-63.
- Winichakul, T. (2020). The challenges of teaching democratic values in hierarchical societies: The case of Thailand. Journal of Southeast Asian Studies, 51(2), 255-272.
- Wongwanich, S. (2020). The digital divide in Thai education: Barriers to technology-enhanced learning. Journal of Education and Information Technologies, 25(6), 4175-4192.