

A Forward-Looking Vision for Developing Social Studies Curricula in Light of Digital Health

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Citation: Athamnah, W. M. M. (2025). A Forward-Looking Vision for Developing Social Studies Curricula in Light of Digital Health. *Journal of Cultural Analysis and Social Change*, 10(3), 1916–1920. <https://doi.org/10.64753/jcasc.v10i3.2691>

Published: December 02, 2025

ABSTRACT

The study aimed to formulate a forward-looking vision for developing social studies curricula in Jordan to integrate digital health concepts. It also aimed to identify the core themes, knowledge, skills, and values that should be included in the curriculum, and to propose a methodological and pedagogical model for integrating digital health content appropriate to different educational levels. This was achieved through a systematic literature review of local and international sources on digital health, health education themes, and social studies curricula. Expert foresight was also conducted: gathering the opinions of experts from the Ministry of Education, the Ministry of Health, and academics in education and society. It also analyzed current social studies curriculum textbooks in Jordan to identify gaps and possibilities for integration. The study sample consisted of 25 experts from the aforementioned entities, (10) geographically distributed schools (cities, villages, and desert) to test the proposed curricula, and (420) male and female students to measure the impact of the tested curricular module on awareness and skills. The results indicated a strong consensus among experts on the need to integrate digital health into social studies curricula, with teacher training a priority. Students also demonstrated significant improvements in knowledge, awareness, and attitudes after implementing the pilot module. Interactive activities (rather than indoctrination) are most effective. The study recommends developing a digital health unit/center within the social studies curriculum for each level (elementary, intermediate, and secondary) in flexible formats (classroom hours, activities via the national platform). Teachers should also be trained through an intensive, ongoing national program to prepare them to use digital health resources and lead ethical dialogues around health data.

Keywords: Social Studies, Curricula, Digital Health.

INTRODUCTION

The digital transformation in healthcare not only impacts the healthcare system but also reshapes concepts of citizenship, privacy, equity of access, and community identity. Social studies curricula, as subjects that shape students' understanding of society, politics, economics, and culture, are the natural framework for instilling awareness of digital health as a socio-ethical-political dimension, rather than a purely medical subject. Educational institutions also emphasize the need to rethink the role of technology within citizenship and social learning curricula.

Healthcare systems and knowledge acquisition are rapidly shifting toward digitalization, from electronic patient records and telemedicine to self-health applications and health data analytics. This transformation necessitates the development of general education curricula to enable students to understand the dimensions of digital health and its social, economic, and ethical impact. In Jordan, national digital health strategies and digital transformation policies have been launched, indicating a clear government direction toward adopting digital solutions in the healthcare sector (National Digital Health Strategy, 2024).

Social studies curricula in the context of digital health focus on promoting health equity through the fair and equitable design, development, and implementation of digital health technologies, taking into account the social and cultural factors that influence access to and use of these technologies (Farisi, 2016). These curricula aim to improve access to digital health information, raise digital health literacy, and ensure the safe and responsible use of technology in the health sector for all segments of society, especially marginalized groups (Seidel, 2023).

Social studies curricula also incorporate fundamental concepts in the context of digital health, such as digital health equity, which means ensuring the fair design, development, and deployment of digital health technologies and reducing disparities in access to healthcare through digital tools (Miguel-Revilla et al, 2020). Digital citizenship, which includes practices for the safe and responsible use of digital tools, understanding their risks, and protecting the rights of others in the digital space, includes promoting digital health literacy (Car et al, 2025).

Social studies also contributes to digital health curricula by analyzing social factors that help understand the extent to which social determinants such as income, education, and environment affect access to and use of digital health technologies (Mukhtar et al, 2025). They work to find solutions to ensure that digital health technologies are not restricted to specific groups, but are available to all individuals, especially underrepresented and marginalized groups. They contribute to the development and implementation of equitable digital health tools by engaging diverse stakeholders (technology companies, regulatory bodies, patients) in the design, development, and evaluation processes, educating students and professionals about the social and ethical aspects of using digital technology in health, and promoting positive practices in dealing with them (Pala, 2023). They also help identify and prevent the potential negative effects of the inappropriate use of digital technology in health, such as exacerbating health inequalities or privacy concerns (Seidel et al, 2023).

The European Commission's Digital Education Action Plan (2021–2027) underscores the need to modernize educational ecosystems and strengthen digital competencies across all learning pathways. It explicitly identifies cybersecurity as a strategic priority and calls for curriculum reform and faculty training to address this need (Amanda & NIKLEKAJ, 2025). However, despite these policy directions, implementation remains patchy. OECD and UNESCO assessments suggest that integration is hindered by outdated teaching practices, a lack of interdisciplinary coordination, and insufficient institutional incentives (Suryani et al, 2021).

The problem of this study arises from the expansion of digital health services and their overlap with daily life (mobile apps, health information platforms, electronic medical records, health tracking tools), highlighting an urgent need to integrate digital health concepts into social studies curricula. Opportunities also lie in building a digital health future that supports those most in need of healthcare, through effective partnerships and ongoing research to develop standardized processes to mitigate digital health inequalities. Despite national interest in digital health transformation, social studies curricula in Jordanian schools lack structured content that introduces students to digital health concepts, such as reading digital health resources, evaluating information, privacy and health data, and the impact of technology on community health. This gap can leave students vulnerable to misinformation or unable to engage thoughtfully in community engagement on digital health issues. Therefore, this study proposes a forward-looking vision for developing social studies curricula in light of digital health, building digitally and health-conscious citizens who possess the skills to evaluate health information, understand the social dimensions of digital health, and are capable of informed community engagement in digital health policies.

METHODOLOGY

This research adopts a prospective, foundational, and applied approach consisting of three integrated axes: a systematic literature review of local and international sources on digital health, health education, and social studies curricula (using WHO databases, ministry reports, and Jordanian policy documents). Expert foresight: gathering the views of experts from the Ministry of Education, the Ministry of Health, educational and community academics, and digital health practitioners in two to three stages to reach consensus on educational goals and outcomes. Case study and content analysis: a written analysis of current social studies curricula in Jordan to identify gaps and integration opportunities, with pilot workshops implemented in a sample of schools to measure feasibility.

The study population includes curriculum officials at the Ministry of Education, digital health experts (from the Ministry of Health and the private sector), social studies teachers in public and private schools, and middle and high school students. The study sample consisted of (25) experts from the aforementioned entities. A sample of schools for the pilot application consisted of (10) geographically distributed schools (cities, villages, desert) to test the proposed curriculum units. A student sample consisted of (420) male and female students to measure the impact of the tested curriculum unit on awareness and skills.

The research aims to formulate a forward-looking vision for developing social studies curricula in Jordan to integrate digital health concepts, identify the main themes, knowledge, skills, and values that should be included in the curriculum, propose a methodological and pedagogical model for integrating digital health content that is appropriate for different academic levels, and provide practical recommendations to the Ministry, those

responsible for school curricula, and parents regarding methods of evaluation and training for teachers. The ethics of scientific research were also taken into account regarding the quasi-experimental application on the student sample. Research tools: electronic questionnaires, semi-structured interviews with experts, focus sessions with teachers and students, and documentary analysis of textbook contents.

RESULTS

After communicating with (25) experts from the Ministries of Education and Health, universities, and schools, the following findings were reached:

The Importance of Integrating Digital Health

- 88% considered integrating digital health into social studies curricula (very important).
- 12% considered it (important), and no one rejected the idea.

Main Challenges

- 72%: Lack of teacher training.
- 64%: Weak technological infrastructure in some schools.
- 48%: Lack of appropriate digital educational resources.
- 24%: Resistance to change from some educational institutions.

Most Important Topics (in average order)

- Privacy and security of health data (4.8/5).
- Evaluation of the credibility of online health information (4.7/5).
- The impact of technology on community health (4.5/5).
- Digital health applications (4.3/5).
- Ethical aspects (4.2/5).
- General definition of the concept of digital health (4.0/5).

Preferred Teaching Methods and Approaches

- 76%: Practical classroom activities (discussions, simulations).
- 68%: Interactive electronic resources.
- 52%: Group projects and research.
- Only 28% supported relying on traditional theoretical lessons.

Expert Recommendations

- Providing a dedicated teacher's guide (94% agreed).
- Mandatory teacher training before introducing new units.
- Linking the units to national digital health transformation initiatives.

Second: Student Results (Study sample of 420 students in 10 schools)

A pilot unit on "Digital Health" was implemented and the impact was measured via a pre/post questionnaire:

1. Knowledge

- Average knowledge of digital health increased from 38% before the lesson to 79% after.

2. Evaluation of Health Information Sources

- Only 21% were able to differentiate between true and false health information before the lesson, and the percentage increased to 67% after the lesson.

3. Attitudes and Values

- 84% of students emphasized the importance of digital privacy after the unit (compared to 46% before).
- 73% expressed a willingness to discuss digital health issues in their daily lives.

4. Student Opinions on the Teaching Method

- What they liked most: Interactive activities (short presentations + discussions).
- 65% preferred group activities rather than individual ones.
- 58% requested videos and local examples relevant to the Jordanian context.

5. Teacher Preparation and Professional Training Requirements

- Intensive training program: digital health concepts, educational tools, and data privacy management within schools.
- Resources: Teacher guides, activity bank, assessment forms, and a list of reliable online resources.
- Ongoing support: platforms for sharing expertise and educational networks with the health sector.

- Implementation roadmap and required resources (progressive proposal)
- Preparatory phase (6 months): Form a national committee (educators, digital health experts, and civil society), review the curriculum, and develop a model unit.
- Pilot phase (one year): Implement model units in a sample of schools (urban and rural), collect evaluation data.
- Expansion phase (two years): Modification based on results, development of a national guide, and extensive teacher training.
- Sustainability: Periodic updates every 2-3 years to keep pace with technology and digital health policies.
- Resources: Secure digital platforms, internet/computer devices for schools in need, funding for teacher training, and partnerships with health institutions.

6. Challenges, Risks, and How to Address Them

- Digital Access Gap: Providing non-digital activity alternatives or school access points.
- Poor Information and Privacy: Incorporating privacy guidelines and school data use agreements.
- Resistance to Change/Lack of Teacher Skills: Training incentive programs, ongoing technical support.
- Need for Continuous Update: A national mechanism for updating content and monitoring global trends.

DISCUSSION

There is a strong consensus among experts on the need to integrate digital health into social studies curricula, with teacher training a priority. Students demonstrated significant improvements in knowledge, awareness, and attitudes after implementing the pilot module. Interactive activities (not memorization) are the most effective. Privacy, data security, and information credibility are the top priorities. After consulting the opinions of experts and specialists in the field, implementing the modules in selected schools, collecting, analyzing, and tabulating the opinions of a sample of students, and presenting the results, the researcher found the following:

1. There are gaps in the current curricula: A content analysis of Jordanian social studies curricula reveals a systematic absence of digital health concepts such as digital privacy for health data, app-supported self-health, and the ability to assess the credibility of online health information.
2. Varying institutional readiness: While Jordan has national digital health strategies and visions for transforming health services digitally, readiness in schools (infrastructure, teacher training, digital resources) is inconsistent across governorates.
3. Developable student conceptual skills: Training workshops and international pilot studies show that short curriculum modules accompanied by teacher training improve students' "ability to evaluate digital health information" and practical skills.
4. The teacher's role is essential: The success of integration depends heavily on teacher training and supporting materials (teacher guides, classroom activities, secure electronic resources).
5. Suggested components of a developed curriculum: Topics such as digital health concepts, reliable information sources, health data ethics and privacy, the impact of technology on community health, critical thinking about digital health, and local case studies (e.g., the use of health monitoring apps, government health service platforms).

CONCLUSIONS

1. Integrating digital health into social studies curricula in Jordan is not a luxury, but rather an educational and societal necessity to address the challenges of health informatics and digitally empower citizens.
2. Jordan has a suitable foundation upon which to build (national strategies for digital transformation and digital health), but educational curriculum transformation requires a combination of structural, training, and legislative readiness.
3. The model for integrating digital health into social studies must be multidimensional: cognitive (concepts), skills (evaluating digital resources and skills), values (ethics and privacy), and community engagement (understanding the impacts of digital health policies).

RECOMMENDATIONS

1. Develop a digital health unit/theme within the social studies curriculum for each level (elementary, intermediate, secondary) in flexible formats (semester hours, activities via the national platform).
2. Formulate clear learning outcomes for each level: knowledge (what is digital health), skills (how to evaluate a health app or information source), and values (the importance of privacy and confidentiality).
3. Establish an intensive and ongoing national teacher training program to equip teachers with the skills to use digital health resources and lead ethical dialogues around health data.
4. Provide digital and printed support materials: teacher guides, classroom worksheets, local scenarios, and short interactive videos.
5. Partnership between the Ministries of Education and Health to provide accurate and up-to-date content and link to national digital health services (e.g., trusted platforms and references).
6. Assess school infrastructure to ensure safe internet access and appropriate digital tools, taking into account urban-rural divides.
7. Integrate data protection and privacy regulations as part of the content and as an operational requirement, in coordination with local legislation.

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