Cyber Science Education Meets Healthcare Technology: Article Review

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Introduction

This article is about the connection between healthcare and the possibilities that cyber science and technology can bring to the field. The author explains how telemedicine, electronic health records, and learning platforms created by technology have advanced the healthcare field, but also raises concerns that they need more people with knowledge of technology to operate such technologies. Though there are works on digital learning, there are very few that are solely to teach about the actually teachings of technology in the healthcare field, leaving there to be an educational gap.

Relation/ connection to social science principles

The article relates to social science principles because it shows how people, technology, education, and society all work together. Social sciences focus on how people, groups, societies, and economics work intertwined with each other. The study in this article focuses on how education, healthcare, and society all responded to technological advancements within the healthcare field. The study also highlights that access to high-quality internet and education is one of the main reasons why there is a disconnect in advancements. Through those disconnects, it proves that there is a divide in economic factors that then affects individuals' access to education and healthcare, making it harder to bring advancements with technology into the field. Knowing that these facts play a big role, the study helps us understand how society can change to adapt to technological advances.

Research question/ hypothesis/ independent variable/dependent variable

The research question I've formed from the article is how integrating cyber science into healthcare can improve digital learning, cyber literacy, and clinical advancements in this increasingly technological age.

Hypothesis: digital inequality negatively affects participation and success in cyber-health education.

Independent variable: internet availability, reliability, devices, learning programs, geographic areas

Dependent variable: student engagement, learning outcomes, overall effectiveness of cyber education

Types of research methods used

The project used a mix of quantitative and qualitative methods to conduct its research to better combine data with actual human responses. The use of questionnaires (Likert), multiple-choice, and open-ended questions was used to gather the data (Spencer, 2026, p.4). There were 350 participants: 200 undergrad and grad students, 100 teachers, and 50 IT and medical specialists who participated in this study (Spencer, 2026, p.4). They were selected from cities and towns to help understand the difficulties in curriculum development and digital equity. The questions on the surveys were: the effectiveness of digital learning platforms, dependency on cybersecurity systems, the incorporation of healthcare technologies (HIT) in cyber education, and the sufficiency of faculty training in digital education. In this, they used both survey research through face-to-face interviews and electronic surveys using secure video conferencing.

Types of data analysis used

The data from the surveys were summarised, and inferential tests were used to compare the results of the three participant categories. Thematic analysis was used to interpret the

interview data (Spencer, 2026, p.4). This was used to find trends within the interviews and identify themes within the data. Triangulation was used to compare the results from the quantitative and qualitative data. The results of the **findings are as follows**: Students(82%) and teachers (78%) strongly appreciate digital learning methods like interactive and self-paced learning and multimedia- rich learning (Spencer, 2026, p.5).

ANOVA results: residents of under- resourced areas had greater challenges with digital infrastructure and internet connection issues than those in well-funded areas(Spencer, 2026, p.6).

IT workers, educators, curriculum developers results: The respondents supported considering healthcare technology as part of the cyber science curriculum.

Connections to other course concepts

A main connection I made from class is how technology and society go hand in hand. Technological advancements are changing the way we live, work, and learn. This article shows that VR, EHR, and AR are changing how students learn in the healthcare field. The article makes a point that even though there may be advancements, there are still parts of the world that don't have access, making them useless to those who can't access them. Also, the advancements in technology bring concerns about cyber threats like malware, phishing, and deepfakes. These issues show that even though technology may be advancing, we still have to be aware of the complications that may come with it.

Connections to the concerns or contributions of marginalized groups

The study focused on an important group, which is the rual / under-served population. The digital disparities in these areas make it harder for students to be able to learn about technology, as it’s harder for them to even gain access to it or reliable internet. Due to this, students in rural areas have a barrier when it comes to learning bout cyber science and healthcare

technologies. The marginalized groups can benefit from improved access to the internet and digital education tools, which in turn will close the gap in education, healthcare, and technology.

Overall societal contributions of the study

The study highlights the need for interdisciplinary education that combines healthcare and technology into a category that students can use to better equip themselves in the field. It also makes a point about the need for more cyber learning to help protect patients' information and reduce cyber risks. The uses of VR, AR, and EHR in health care can advance students' experiences and help when in training. In all, the study gives recommendations to educators, policymakers, and officials to assist in technological advancements in struggling areas.

Conclusion

Angela Spencer's Cyber Science Education Meets Healthcare Technology provides a wide range of views on why technology needs to be advanced through the healthcare field from students, teachers, and IT personnel. The use of social sciences provides real data and informatics that can be used to show officials the real need for technological advancements and the hardships of digital inequality. The study gives contextual evidence and insights for public policy, education, and healthcare to collaborate for a more technologically inclusive future.

Reference

Spencer, A. (2026). Cyber Science Education Meets Healthcare Technology. *Journal of Cybersecurity Education, Research and Practice*, *2026*(1). https://doi.org/10.62915/2472-2707.1242