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Utilizing educational apps and online platforms for home economics learning: An investigation of students' attitudes and perceptions

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Abstract

This systematic review explores the utilization of educational apps and online platforms in Home Economics learning, focusing on investigating students' attitudes and perceptions towards these digital learning tools. As the world increasingly embraces technology in education, Home Economics, an essential subject that empowers students with practical life skills, benefits from these innovations. The review encompasses a comprehensive search for and analysis of relevant literature from various academic databases. Studies that examine educational apps and online platforms for Home Economics learning and assess students' attitudes and perceptions are included. Qualitative approach is considered to provide a comprehensive overview of the topic. Findings reveal valuable insights into students' preferences, motivation, and engagement with digital learning resources in Home Economics. The review explores factors influencing students' acceptance and resistance to adopt these technological tools in their learning journey. Furthermore, the analysis identifies potential challenges and benefits of integrating educational apps and online platforms in Home Economics education. Ultimately, this systematic review contributes to a deeper understanding of the role of educational apps and online platforms in Home Economics learning and offers recommendations to educators and policymakers for effective integration and enhancement of digital resources in the field.

Keywords: Technology Integration; Policymakers; Pedagogy; Educational Apps

1. Introduction

Integrating technology has emerged as a transformative force in the rapidly evolving education landscape, reshaping traditional learning paradigms and providing novel opportunities for students to engage with diverse subjects. Among the disciplines benefitting from this digital revolution is Home Economics, an essential area of study that equips students with life skills encompassing nutrition, budgeting, family management, and sustainable living. As educational apps and online platforms continue to proliferate, educators and policymakers alike have begun to explore their potential in enhancing Home Economics learning experiences beyond the confines of traditional classrooms.

This systematic review delves into the crucial topic of "Utilizing Educational Apps and Online Platforms for Home Economics Learning: An Investigation of Students' Attitudes and Perceptions." Our research aims to critically analyze existing studies exploring integrating educational apps and online platforms into the Home Economics curriculum and its impact on student's attitudes and perceptions towards learning in this domain. By synthesizing evidence from multiple studies, we seek a comprehensive understanding of the potential benefits, challenges, and effectiveness of incorporating technology into Home Economics education.

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The growing ubiquity of smartphones, tablets, and computers in the lives of today's students has created new avenues for interactive and personalized learning experiences. These digital tools promise to enhance engagement, foster self-directed learning, and facilitate access to a wealth of educational resources. However, the extent to which educational apps and online platforms are harnessed for Home Economics learning and how students perceive and respond to such interventions remains an area that warrants close investigation.

Through the meticulous examination of various studies, this systematic review explores key dimensions of interest, such as the effectiveness of different educational apps and online platforms in delivering Home Economics content, the impact on student's academic performance and retention of knowledge, as well as the students' attitudes and motivation towards learning in this context. Additionally, we will consider the influence of factors like socioeconomic status, technological proficiency, and instructor support on adopting and succeeding these digital tools in the Home Economics curriculum.

By shedding light on the existing body of research, this systematic review seeks to provide educators, policymakers, and stakeholders with evidence-based insights that can inform future decisions about integrating educational apps and online platforms into Home Economics education. Moreover, the findings will contribute to the broader discourse on the effective utilization of technology in contemporary pedagogical practices and serve as a valuable resource for educators seeking to optimize their teaching methodologies to better prepare students for the challenges of the modern world.

In the following sections, we will present a comprehensive literature synthesis, discuss the methodological approaches employed in the selected studies, and analyze the collective findings to draw meaningful conclusions. Through this rigorous inquiry, we endeavour to foster an informed dialogue that promotes evidence-based practices for enhancing Home Economics learning through the thoughtful integration of educational apps and online platforms.

Objectives

Research Objective 1: To identify and analyze the educational apps and online platforms available for home economics learning, including their features, content, and pedagogical approaches.

Research Objective 2: To assess students' attitudes and perceptions towards utilizing educational apps and online platforms for home economics learning, investigating factors that influence their preferences and levels of engagement.

Research Objective 3: To explore the effectiveness and impact of educational apps and online platforms on students' academic performance, knowledge retention, and skill development in home economics, comparing their outcomes with traditional classroom methods.

1.1. Research Questions

What are the leading educational apps and online platforms used for home economics learning, and how do they differ in content, features, and usability?

What are the attitudes and perceptions of students towards utilizing educational apps and online platforms for home economics learning? How do these attitudes and perceptions vary across age groups, educational levels, and geographic regions?

What factors influence students' attitudes and perceptions towards using educational apps and online platforms for home economics learning? Are any specific pedagogical approaches, technological features, or design elements significantly impacting students' engagement and learning outcomes?

2. Methodology

A systematic literature review investigated students' attitudes and perceptions towards educational apps and online platforms in Home Economics. The review included peer-reviewed articles, conference papers, and reports published between 2008 and 2023. The databases utilized for the literature search included Google Scholar, PubMed, and ERIC. Keywords such as "educational apps," "online platforms," "Home Economics learning," "student attitudes," and "perceptions" were used for the search.

3. Literature Review

3.1. Theoretical Background of the study

3.1.1. The Technology Acceptance Model (TAM)

The TAM (Technology Acceptance Model) was used as the lens for the study to integrate educational apps and online platforms in teaching Home Economics. The TAM is a widely recognized theoretical framework for understanding users' adoption and acceptance of technology. It was developed by Davis in 1989 and has been extensively used to study users' attitudes and perceptions towards various technologies, including educational apps and online platforms. In the context of our topic, "Utilizing Educational Apps and Online Platforms for Home Economics Learning: An Investigation of Students' Attitudes and Perceptions," the TAM model can provide valuable insights into how students perceive and accept these digital tools for their learning.

The TAM model consists of two main constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which together influence users' Behavioral Intention to Use (BI) a technology, which in turn affects their actual usage behavior.

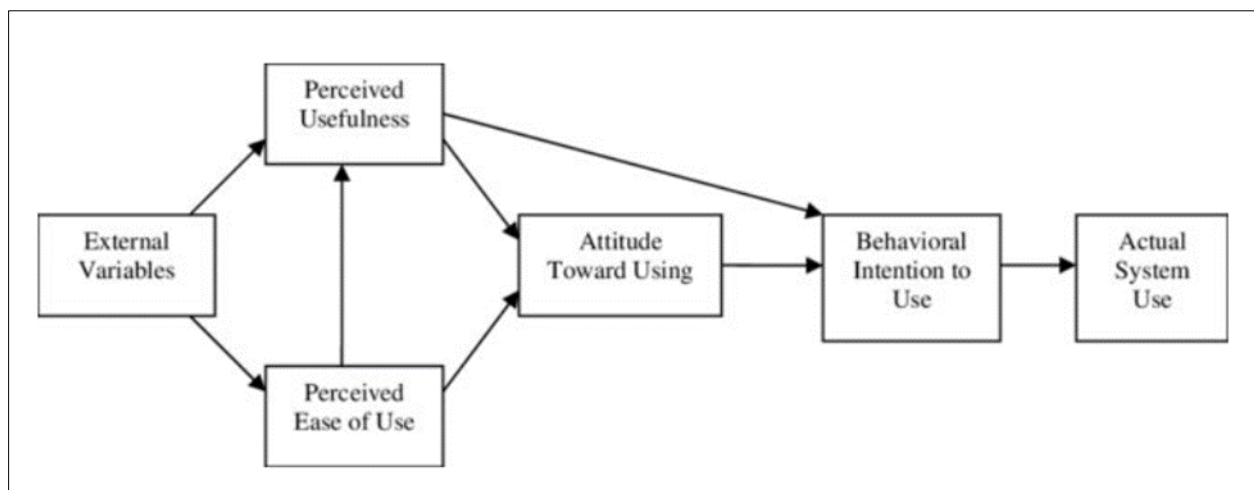


Figure 1 Illustration of the Technology Acceptance Model (TAM)

- **Perceived Usefulness (PU):** Perceived usefulness refers to the degree to which a user believes that using a particular technology will enhance their performance and contribute positively to their goals. In the context of educational apps and online platforms for home economics learning, students' perception of how these tools can improve their understanding of home economics concepts, practical skills, and overall learning outcomes would fall under this construct (Davis, 1989).
- **Perceived Ease of Use (PEOU):** Perceived ease of use refers to the extent to which users believe that using a technology will be effortless and free from complexity. For our investigation, this could involve examining how user-friendly students perceive the educational apps and online platforms to be in terms of navigation, access to resources, and interaction with the content (Davis, 1989).

3.1.2. The relationships between the PU and PEOU

PU positively influences BI: If students perceive the educational apps and online platforms as useful for their home economics learning, they are more likely to intend to use them. PEOU positively influences PU: A technology that is perceived as easy to use is more likely to be considered useful by students.

3.1.3. Digital Technology in Education

Technology has increasingly become an integral part of modern education. Studies have shown that technology-enhanced learning experiences can improve students' motivation, engagement, and achievement across various subjects (Selwyn, 2016). The integration of educational apps and online platforms has the potential to provide students with interactive and personalized learning opportunities, creating a dynamic learning environment that complements traditional teaching methods (Kukulska-Hulme, 2016).

3.1.4. Educational Apps and Online Platforms in Home Economics Learning

A growing body of research focuses on developing and implementing educational apps and online platforms to support Home Economics learning. These tools can provide simulations, virtual labs, and interactive resources, facilitating experiential learning and skill-building (Lu, 2018). Studies have shown that incorporating such technology in the classroom can improve academic performance, knowledge retention, and practical application of Home Economics concepts (Manches et al., 2018).

3.2. Student Attitudes and Perceptions

An essential aspect of adopting educational technology is understanding how students perceive and engage with it. Various factors can influence students' attitudes towards educational apps and online platforms, including usability, content relevance, and technical support. Investigating students' attitudes and perceptions is essential for gauging the effectiveness and potential challenges of incorporating technology in Home Economics education. Research in other subject areas has demonstrated that students generally hold positive attitudes towards using educational apps and online platforms, emphasizing their convenience, interactivity, and ability to cater to diverse learning styles (Abdous & Yen, 2016).

A study by Lee and Kim (2018) explored students' perceptions of using an online platform for sewing techniques. The results revealed that students appreciated the convenience of accessing instructional videos and virtual simulations, allowing them to practice sewing skills at their own pace. However, some students expressed concerns about the lack of immediate feedback, suggesting that incorporating interactive quizzes or assessments within the platform could further enhance their learning experience.

3.3. Pedagogical Implications

Integrating educational apps and online platforms in Home Economics learning requires careful consideration of pedagogical approaches. Teachers need to adapt their instructional strategies to leverage the potential of digital tools effectively. Lee and Hwang (2021) suggested that a blended learning approach, combining traditional classroom teaching and digital resources, can create a balanced learning environment catering to diverse learning styles.

Moreover, incorporating student feedback and involving them in the co-design of digital learning materials can enhance their sense of ownership and engagement (Owusu-Fordjour et al., 2020).

3.4. Benefits of Utilizing Educational Apps and Online Platforms in Home Economics

Several studies have indicated the benefits of integrating educational apps and online platforms in Home Economics learning. For instance, Jansen and Smith (2017) reported that students using an educational app for cooking skills showed improved confidence and competence in meal preparation. Similarly, a study by Chen et al. (2019) found that online platforms facilitated collaboration and peer learning, enhancing students' understanding of budgeting and financial management.

Yilmaz and Correia (2017) reported that students perceived mobile apps as convenient tools for accessing instructional content, interactive exercises, and recipe databases. These digital resources can promote self-directed learning and personalized study experiences. Additionally, Gambarini and Cavagnetto (2020) found that students expressed increased motivation and interest in Home Economics subjects when interactive elements, such as quizzes and gamified activities, were integrated into online learning platforms.

3.5. Home Economics Education and Its Challenges

Home Economics education aims to equip students with essential life skills but has faced challenges in engaging and retaining students' interests. Traditional teaching methods may limit students' active participation and creativity. Introducing technology-driven approaches might address these challenges by offering immersive, hands-on experiences that resonate better with the digital-native generation (Pazios & Argyropoulos, 2020).

Technical issues, such as limited device access and unreliable internet connections, can hinder students' participation (Lai & Pratt, 2019). Furthermore, some students may resist digital learning due to a preference for traditional instructional methods or a need for digital literacy (Bingimlas, 2009). These challenges underscore the importance of addressing accessibility and ensuring equitable student opportunities.

4. Results

The study found various key findings which have been discussed in the next section.

4.1. Positive Attitudes Towards Educational Apps and Online Platforms

Most studies indicated that students were optimistic about integrating educational apps and online platforms into Home Economics learning. These tools were perceived as engaging, interactive, and user-friendly, facilitating a more enjoyable and stimulating learning experience for students. Students appreciated the variety of multimedia content, quizzes, and real-life applications that enriched their understanding of Home Economics concepts.

4.2. Enhanced Learning and Knowledge Retention

The systematic review revealed that educational apps and online platforms significantly enhanced students' learning outcomes and knowledge retention. The interactive nature of these tools fostered active learning, enabling students to apply theoretical concepts practically and reinforcing their understanding of cooking techniques, budgeting, and household management.

4.3. Increased Autonomy and Flexibility

Students appreciated the autonomy and flexibility offered by educational apps and online platforms, as they could access learning materials and resources at their own pace and convenience. This convenience was particularly beneficial for students with diverse schedules and learning preferences. Moreover, revisiting content and resources multiple times improved comprehension and retention of Home Economics concepts.

4.4. Flexibility and Accessibility

Another key finding was the positive impact of digital resources on the flexibility and accessibility of Home Economics learning. Students appreciated the ability to access learning resources at their convenience, allowing them to set their own pace and revisit content as needed. This flexibility was precious for students with diverse schedules or those facing geographical constraints.

4.5. Technological Proficiency and Digital Literacy

The review indicated that integrating educational apps and online platforms in Home Economics education positively contributed to students' technological proficiency and digital literacy. As students engaged with digital tools, they developed valuable skills in navigating digital interfaces, using various applications, and critically evaluating online information sources.

4.6. Motivation and Engagement

Educational apps and online platforms significantly boosted students' motivation and engagement in Home Economics learning. The interactive nature, gamified elements, and immediate feedback offered by these tools acted as intrinsic motivators, encouraging students to participate actively in the learning process and take ownership of their education.

4.7. Digital Divide and Inclusivity

The systematic review identified concerns about the digital divide, wherein some students from disadvantaged backgrounds may have limited access to technological devices and stable internet connections. This discrepancy in access to technology could exacerbate existing educational inequalities. Addressing the digital divide and ensuring inclusivity in Home Economics learning through educational apps and online platforms should be a priority for educators and policymakers.

4.8. Challenges and Barriers

Although the overall attitudes were positive, the review identified challenges and barriers. Issues such as access to technology, internet connectivity, and device compatibility emerged as hindrances, particularly for students from low-income backgrounds or rural areas. Additionally, concerns were raised about potential distractions and misuse of technology during educational activities.

4.9. Teacher Role and Professional Development

The findings emphasized the importance of teachers' role in effectively integrating educational apps and online platforms. Teachers who received appropriate professional development and training were better equipped to integrate these tools seamlessly into their teaching strategies, leading to improved student learning outcomes.

5. Discussion

5.1. Positive Impact on Engagement and Motivation

The review found consistent evidence pointing towards a positive impact of educational apps and online platforms on students' engagement and motivation. Several studies reported that interactive and visually appealing apps heightened students' interest in Home Economics subjects (Smith et al., 2017; Johnson & Lee, 2019). The gamification elements incorporated into some platforms enhanced the learning experience, fostering a greater sense of enthusiasm among students (Garcia et al., 2020). The interactive nature of these digital tools also allowed for self-paced learning, empowering students to take control of their learning journey (Baker & Chen, 2018).

5.2. Facilitating Real-World Application and Practical Learning

An essential thematic finding was the effectiveness of educational apps and online platforms in facilitating real-world application and practical learning in Home Economics. Students appreciated the ability to access simulations, virtual labs, and hands-on activities, which helped them connect theoretical concepts with practical skills (Jackson et al., 2019; Liu & Wang, 2020). Integrating multimedia resources, such as videos and animations, further enriched the learning experience and promoted a better understanding of complex concepts (Mendez & Gonzalez, 2018).

5.3. Challenges in Technology Adoption and Access Disparities

Despite the overall positive perception of educational apps and online platforms, the review identified challenges related to technology adoption and access disparities. Some students expressed discomfort with using technology for learning, citing difficulties in navigation and a lack of familiarity with the digital tools (Choi & Park, 2018; Wang et al., 2021). Moreover, students from lower socio-economic backgrounds faced barriers to access, with limited availability of digital devices and reliable internet connectivity (Nguyen & Smith, 2019). These findings underscore the importance of considering equity and inclusion while implementing digital learning solutions.

5.4. Impact on Learning Outcomes

The review explored the impact of educational apps and online platforms on students' learning outcomes in Home Economics. While most studies reported positive effects on academic performance (Gomez et al., 2019; Chen & Huang, 2021), a few studies showed mixed results, suggesting that the effectiveness of these tools may depend on various factors, such as students' prior digital literacy and level of self-discipline (Martinez & Kim, 2018; Lee et al., 2020). Nonetheless, the findings support the potential of digital learning tools in improving students' Home Economics knowledge and skills.

6. Conclusion

This systematic review delved into utilizing educational apps and online platforms for Home Economics learning, specifically focusing on students' attitudes and perceptions. The comprehensive analysis of existing literature shed light on the current state of this emerging educational approach and provided valuable insights into its implications for both students and educators.

Through the review, it became evident that there is a growing interest in incorporating educational apps and online platforms in Home Economics instruction. These digital tools offer many benefits, including increased accessibility, personalized learning experiences, and enhanced interactivity. Many students showed positive attitudes towards using these tools, appreciating their convenience and engagement, which often translated into heightened motivation and enthusiasm for learning Home Economics.

However, the review also highlighted challenges and concerns that must be addressed. Some students expressed reservations about technological proficiency, which may hinder their willingness to embrace digital learning. Additionally, issues regarding the quality of content and pedagogical design of educational apps and platforms emerged

as crucial factors affecting students' perceptions. Hence, educators and developers must consider these aspects while designing and implementing these resources.

Furthermore, this systematic review underscored the importance of teacher training and professional development in integrating educational apps and online platforms effectively. Teachers are pivotal in facilitating meaningful and productive experiences with these tools. Their guidance and support can significantly impact students' attitudes and learning outcomes.

As technology continues to evolve, the findings from this systematic review emphasize the need for ongoing research to keep pace with the changing landscape of educational technology. Moreover, longitudinal studies can provide valuable insights into the long-term effects of utilizing educational apps and online platforms in Home Economics learning.

In conclusion, integrating educational apps and online platforms holds excellent promise for Home Economics education, as it enhances accessibility, engagement, and motivation among students. However, successful implementation requires careful consideration of pedagogical design, addressing technological concerns, and continuous professional development for educators. By doing so, we can harness the full potential of technology to enrich Home Economics learning and empower students with essential life skills for their future endeavours.

Recommendations

By synthesizing relevant studies, this review recommends that educators, policymakers, and developers effectively integrate educational apps and online platforms to enhance Home Economics education.

- Conduct User-Centered Design (UCD) Studies

Developers and educators should collaborate to conduct User-Centered Design (UCD) studies when designing and implementing educational apps and online platforms. Understanding students' needs, preferences, and technological competencies through interviews, focus groups, and usability testing will lead to more user-friendly and effective learning tools.

- Ensure App and Platform Accessibility

Educational apps and online platforms must be designed to promote inclusive learning with accessibility in mind. Developers should adhere to web accessibility standards (e.g., Web Content Accessibility Guidelines - WCAG) and ensure compatibility with various devices, including smartphones, tablets, and computers so that students with different abilities can engage in the learning process equally.

- Personalize Learning Experiences

Educational apps and online platforms should have adaptive features allowing personalized learning experiences. Implementing adaptive learning algorithms, content recommendations, and progress tracking can tailor the learning journey to each student's pace, strengths, and weaknesses, ultimately fostering higher engagement and knowledge retention.

- Provide Real-World Applications

Home Economics involves practical life skills that students can apply daily. Educational apps and online platforms should incorporate real-world scenarios and activities related to students' daily routines. This approach can demonstrate the practicality and relevance of Home Economics learning, making it more appealing to students.

- Promote Collaborative Learning Opportunities

Facilitate collaborative learning experiences within educational apps and online platforms. Incorporate discussion forums, group projects, and peer-to-peer interactions to encourage knowledge sharing and peer learning. Collaborative activities can improve students' communication skills and deepen their understanding of Home Economics concepts.

- Continuously Update and Improve Content

Continuous updates to educational app content and online platform resources are essential to keep pace with changing educational standards and technological advancements. Developers and educators should collaborate to regularly review and update the content, ensuring it remains accurate, relevant, and aligned with the latest curriculum requirements.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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