Research

Attitudes of SBAE Teachers Regarding AI utilization

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Introduction/Need for Research

While Artificial Intelligence (AI) has existed for decades, recent breakthroughs in technology have allowed a rapid proliferation of it into every aspect of society, including education (Huang & Smith, 2006). This groundbreaking technology is revolutionizing the workplace as well as the school setting. AI has the potential to continue to improve teaching by reducing teacher workload, but there is also uncertainty and concern as educators, administrators, parents, and students are all navigating how to deal with and utilize AI in education (Tyson & Sauers, 2021). With the novelty of AI in education, a lack of understanding exists about the attitudes of agriculture teachers towards AI, which this study seeks to address.

Theoretical Framework and Literature Review

The Technology Acceptance Model (TAM) suggests that when individuals are presented with new technology, several factors influence their decision about using it including perceived usefulness, perceived ease of use, and attitude (Davis et al., 1989). Perceived usefulness relates to an individual's belief about how useful the new technology is to them. Perceived ease of use is related to the ease or difficulty level to use the new technology. If a technology is easy to use, individuals will have a better attitude towards utilizing it. External variables such as social influence are important factors to determine the attitude of individuals toward new technology. Each of these factors play a role in the teacher's intentions to utilize AI. In this study, we will focus on the attitudes of teachers toward AI utilization.

Because AI is a new and evolving technology, many teachers have not had the opportunity to incorporate it into their teaching practices. Literature suggests that some teachers have negative attitudes towards AI while others have more positive perceptions of it (Butakor, 2023; Kim & Kim, 2022). Overall, most studies claim that there is a general belief that AI can be a valuable resource to teachers (Khare et al., 2018). Despite the positive possibilities of AI in education, many teachers are unsure about using AI (Butakor, 2023). In recent research regarding teacher perceptions of AI, Woodruff et al. (2023) found that teachers' negative perceptions about AI tend to be simple misconceptions based on previous experiences with technology. While some studies exist in education about the attitudes of teachers towards AI, nothing has been published in SBAE.

Purpose/Objective

The purpose of this study was to describe the perceptions of SBAE teachers related to AI utilization. Findings from this study can lead to recommendations for policy, professional development, and procedures within SBAE related to AI utilization.

Methodology

As part of a larger study, this research utilized quantitative descriptive survey methodology. We distributed an online survey to all SBAE teachers in Utah during the 2023-

2024 school year (n = 169). A response rate of 41.4% (n = 70) was achieved. The survey instrument was largely researcher developed and based on previous research (Chounta et al., 2021; Oh et al., 2019). The survey instrument was reviewed by a panel of experts for face and content validity before distribution. The survey instrument consisted of items soliciting information about AI usefulness (14 items) in SBAE programs as well as perceived challenges and benefits of using AI (21 items). Participants were asked to rate their level of agreement on each item (1 = *Strongly Disagree* to 5 = Strongly Agree).

Results/Findings

The topics in which SBAE teachers most strongly agreed with regard to general beliefs about AI included the statements, "AI takes away student creativity and their ability to think critically" followed by "I do not trust AI to carry out tasks without error," "I think that AI can improve the overall success of my program," "I think that AI can improve student learning," and "Teaching my students about AI is important for their future success." Items of strongest disagreement included the statement, "I am too old to learn new things like AI," "I am afraid AI will lead to my job becoming obsolete," "My school district discourages the use of AI among teachers, "I am afraid of AI technology," and "AI is too expensive."

The topics in which SBAE teachers most strongly agreed as the benefits of utilizing AI in SBAE programs were "Creating assignments or rubrics," "Generating ideas for activities or assignments," and "Developing instructional materials." Items in which participants most strongly disagreed included "Managing student behavior," "Completing student or chapter award applications," and "Organizing FFA events."

Conclusions/Recommendations/Impacts

The findings of this study suggest that SBAE teachers have mixed feelings about AI, which is consistent with literature in other disciplines. With the top two beliefs being related to AI taking away students' ability to think critically and an acknowledgement that teachers do not trust AI, there are certainly negative perceptions and attitudes towards the use of AI in SBAE. However, SBAE teachers also seem to realize the potential that exists with using AI by agreeing to statements that AI can improve both the success of the program and student learning. According to the TAM theory, these positive attitudes can lead to adoption of the technology (Davis et al., 1989). The participants indicated that creating assignments and rubrics, generating ideas for activities or assignments, and developing instructional materials were the areas within SBAE where teachers perceive the most benefit from AI. It is interesting to note that all of these are within the classroom component of the three-component model and not with FFA or SAE. The lowest ranked items were related to FFA. We recommend further research into the current use of AI in SBAE as well as exploring SBAE teacher's levels of exposure to AI, the contexts in which it has been used, and past experiences that have influenced general beliefs about it. Additionally, we suggest providing teachers with more exposure to AI to familiarize themselves with it and to facilitate further development of their beliefs and opinions about it.

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