Smart Tools, Smarter Concerns: Navigating Privacy Perceptions in Academic Settings

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Research Questions

Smart tools: tools enabled by the Internet of Things (IoT) and Artificial Intelligence (AI).

1. How are smart tools being used in academic settings, and what are the perceived risks and benefits from the perspective of college students, faculties, and staff members?
2. What are college students', faculty's, and staff members' privacy attitudes toward smart tools in different academic settings?
3. What are the differences between college students' privacy attitudes and faculties' and staff members' privacy attitudes toward smart tools?

Survey Design

Part 1: Usage and Attitudes

- **Focus Areas:** Frequency of smart tool usage, Attributes valued in smart tools, Perceived risks associated with smart tools, Most frequently used smart tools, Privacy concerns, Data protection preferences

Part 2: Vignette Questions

- **Objective:** Evaluate reactions to a hypothetical "Smart Assistant Program" with and without AI integration.
- **Scenario 1:** Features technology enhancements such as Smart Classroom Upgrades, Assessment Tools, Administration Systems, and Pedagogy Approaches.
- **Scenario 2:** Builds on Scenario 1 by integrating AI, allowing for direct comparison of attitudes towards non-AI and AI-enhanced tools.
- **Measured Responses:** Comfort levels and privacy concerns.

Part 3: Demographic Information

Results

General Usage

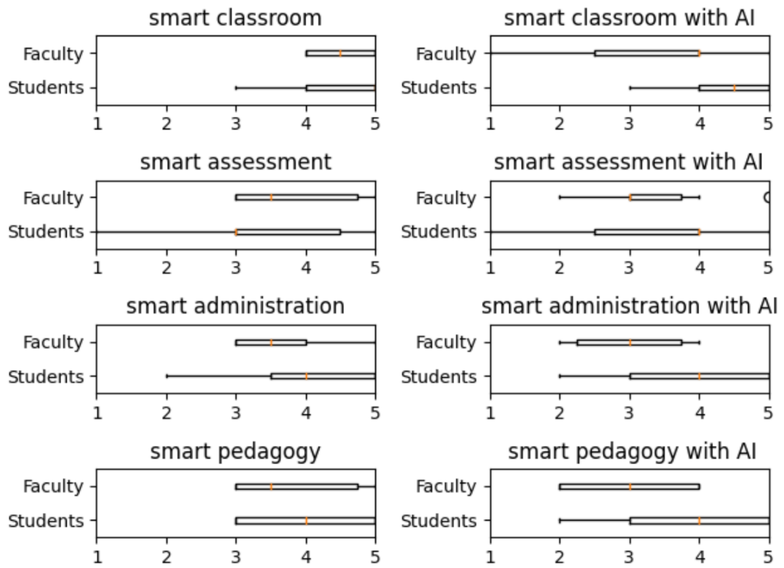
- **Daily Users:** 77% use smart tools daily.
- **Tools Used:** Students prefer learning and interactive tools, while faculty use administrative tools.

Scenario-Based Evaluation

- **Comfort Levels Across Scenarios:** Overall, students exhibit less concern than faculty across most scenarios.
- **Faculty and Staff:**
  - Initial Comfort Levels: 3.56
  - Comfort Levels with AI: Decreased from 3.95 to 3.17, showing heightened concerns towards AI integration.
- **Students:**
  - Initial Comfort Levels: 3.92.
  - Comfort Levels in smart classroom settings: High at 4.34, indicating minimal concern.
  - Comfort Levels with AI in assessment tools: Decreased from 3.46 to 3.33 when AI is integrated, reflecting specific concerns about AI's impact on fairness and accuracy.

Preferences and Concerns

- **Preferences:** Students value cost-effectiveness, and faculty value automation.
- **Concerns:** Common issues include plagiarism and data security. Faculty show greater privacy concerns, especially with AI integration.



Comfort levels among participants for scenario-based questions

Methods

- We conducted an online survey on Duke Qualtrics to ensure **anonymity.**
- Participants underwent a screening process to ensure familiarity with smart tools.
- Out of **42 participants** who completed the screenin g questions, 23 passed. After one dropout, **22 valid responses** were analyzed, consisting of **16 college students** and **6 faculty or staff members**.

Discussions

- The data reveals significant variations in how students and faculty perceive the integration of AI in educational tools.
- Faculty's decreased comfort with AI indicates higher sensitivity to privacy and efficacy issues, whereas students are comfortable with AI in classrooms but concerned about its use in assessments.
- These insights highlight the need for educational institutions to address AI integration with a focus on enhancing transparency and trust, particularly in how AI is applied in assessment contexts.