Preparing Preservice Teachers to Better Understand Student Data Privacy Concerns: A Pilot Study

SITE 2021
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About Us

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Locating the Researchers

Nick Lux

Teacher education and K-12 focus

Close relationship with partner schools and districts

Travis Peters

Computer security and industry focus

Family connections to K-12 teaching and learning that resulted in interests in student data privacy

Montana State University

Land grant university where the three part mission is central to our identity

This pilot study is a direct result of an "ask" by our partner school districts

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Introduction

- 400-1000 online educational tools and apps currently being used in US
- Increased attention about data privacy concerns the result of:
  - This proliferation of educational tool and apps
  - Widely publicized data breaches
  - Questions about how vendors use data
- Many dimensions for (new) teachers to manage:
  - Third party terms of service/use
  - Federal and state laws
  - District policies
  - Parents
- How best do we prepare teachers to navigate these issues?
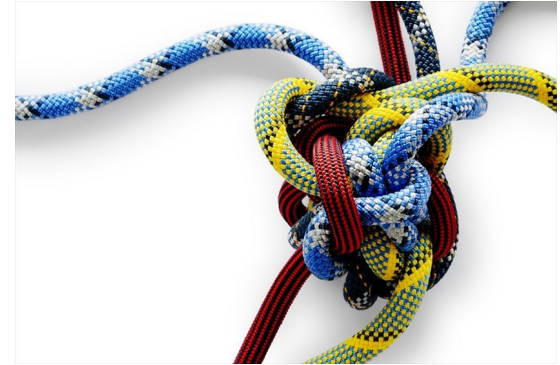
Background

Data privacy is governed by layers of policies, laws and protective measures:

1. Federal laws like FERPA, COPPA, and CIPA
2. District technology and data use policies
3. Data privacy agreements
4. Terms of service(ToS)/Terms of Use

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Is agreeing to ToS the "biggest lie on the Internet"? (Obar & Oeldorf-Hirsch, 2020).
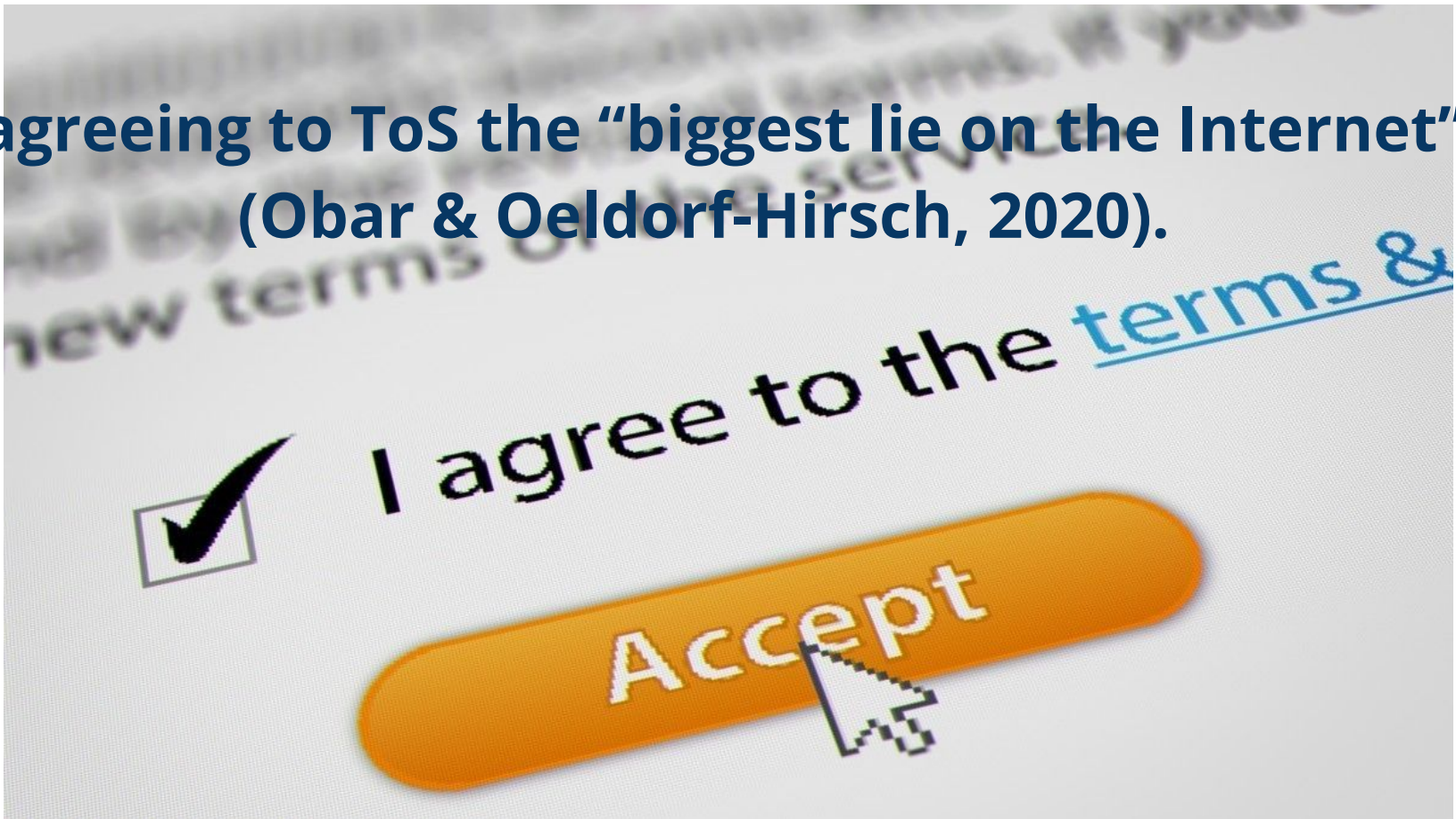
Background

- Complexity leads to confusion for educators
- 74% of teachers report using apps not vetted nor approved
- 68% of teachers report not getting any training in data privacy navigation (BTA, 2018)
- End users either ignore the terms of use policies or spend far too little time reviewing them (Robinson & Zhu, 2020).

Terms and Conditions

☐ I agree

☑ I didn't read it

☐ I don't understand it

Background

- A teacher must understand how to navigate a tool's privacy dimensions as they apply to their own instruction.
  - Is it a tool that when integrated into teaching, adheres to local, state, and federal law and policy?

- A teacher must be able to communicate to their students the critical nature of reviewing, understanding, and authentically agreeing to data privacy dimensions (e.g. Terms of Service).
  - How can a teacher best prepare their own students to understand the importance of reviewing ToS and to interpret their intentions?

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Background

In other words, the teachers are charged with being able to:

- …not only navigate data privacy for teaching purposes
- …but to be able to articulate to their students how they should be navigating data privacy in their everyday digital lives outside of school.

Terms & Conditions
1 rules and requirements that one agree to abide by in order to use a service; 2 general and special arrangements, provi sions, requirements, rules, specifications, an standards that form an integral part of agreement or contract

Problem

Little research exists on how in-service teachers are being prepared to navigate these issues.

Even less research exists on how preservice teachers are being prepared to navigate student data privacy issues.

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Purpose

To better understand how preservice teachers are being prepared with the skills they will need to navigate student data privacy issues

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Research Questions

The following research questions framed this investigation:

1. How can a data privacy educational intervention increase preservice teachers' awareness of student data privacy issues in educational contexts?

2. How can a data privacy educational intervention be used to improve preservice teachers' skills in interpreting Terms of Service and data privacy agreements?

Pilot Study: Context

- **Pilot study** in response to local partners' requests
- Within a teacher education program at a large land-grant university in Pacific Northwest
- Participants (n = 25) were purposefully sampled
- All sophomore and junior pre-service teachers
- From across all teaching majors
- Early field experiences only (pre-practicum and student teaching)
- Participants enrolled in the required educational technology course for all teacher education program students

Pilot Study: Methodology

- Vignette research (Schoenberg & Ravdal, 2010; Wilkes, 2004)
- Short vignettes data privacy were presented to participants in an effort to study their attitudes, perceptions, and beliefs about interpreting ToS and data privacy agreements
- Vignettes are about hypothetical characters and contrived circumstances and are "dilemmatic in nature" (p. 80) representing privacy conundrums a teacher might actually face (Finch, 1987)
- We wanted to specifically examine "**increased awareness**"
- Quantitative and qualitative data sources

Pilot Study: Data Sources

- QUAL-Quant study and data sources
- Qualitative
  - Rationale for responses
  - Terms of Service analysis
  - Reflection on post-assessment
- Quantitative
  - Nominal data regarding responses to vignettes
  - Confidence responding to vignettes

Vignettes

Vignette 1

Q: I want to use a free app that allows me to award points to students for good classroom behavior. After creating a teacher account, the app is asking for student names, class period, and photos. Does FERPA allow me to share this information?

Question 1: Do you think the disclosed student data in this vignette is acceptable?

a)   Yes
b)   No
c)   Don't Know
d)   It Depends

Question 1b: Please further elaborate on your impression of whether the disclosed student data in this vignette is acceptable?

Vignette 2

Q: My elementary school has a 1:1 program where each student is provided her/his own laptop. Teachers are encouraged to find education-related apps and load them directly to the devices. When I find one I like, I create a teacher account, agree to the app's Terms of Service (TOS), and assign my students to use the program, which then collects their personal data. Does this violate COPPA?

Question 2: Do you think this situation represents a violation of COPPA?

a)   Yes
b)   No
c)   Don't Know
d)   It Depends

Question 1b: Please further elaborate on your impression of whether this represents a violation of COPPA.

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Data Collection

Week 1

>Students pre-assessed with vignettes

Between Week 1 and Week 2

>Students viewed several short screencast lectures on student data privacy

>Reviewed tools' terms of service

>Explored resources like Common Sense's Privacy Ratings and the Student Data Privacy Consortium's Registry

Week 2

>Students pre-assessed with vignettes and additional resource analysis

Privacy Evaluation for Quizizz

Last updated April 8, 2020

⚠ **78%** **Warning**

Overview

Quizizz is a game show-style quiz tool for the classroom. It has both a web-based version and

View site information

iOS, Android, and Chrome apps for students. The terms for Quizizz state that comments made on quiz content and blog posts may be seen by other users, along with any information in user profiles that have been made public, and that users are responsible for the content of their posted material. The terms further state that, though the product is intended for users and students of all ages, they do not require students to create accounts or submit name or contact

Continue reading ⌄

⊕ Expand all

DATA COLLECTION   SCORE: 50%

What data does it collect?

- ⚠ Personally identifiable information (PII) is collected.

- ⚠ Collection or use of data is not limited to product requirements.

DATA SHARING   SCORE: 75%

What data does it share?

- • Collected information is shared with third parties.

- • Unclear whether the categories of information shared with third parties are indicated.

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Montana

About MTSPA

The Montana Student Privacy Alliance is a collaboration of Montana school districts that share common concerns around student privacy. Read on >>

View Participating Districts

Learn about Joining the Alliance

Already a member? Login

State Alliances

Select a state to visit their alliance website.

Select a State ▾

Visit Alliance >>

Non-State Alliance Members

Select a state to see the non-alliance

Search the Database

Examine student data privacy agreement information from across the state.

Start Exploring >>

Quick Stats

We are overflowing with participation. Why not join us?

Learn how you can be a member >>

Montana Stats

of Districts Participating: 138

# of Agreements Statewide: 959

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Preliminary Findings: Quantitative Findings

| Table 1. Vignette 1 Pre and Post-Assessment Responses				
	Vignette 1		Vignette 2	
	Pre-Test	Post-Test	Pre-Test	Post-Test
Yes	8% (n=2)	32% (n=8)	24% (n=6)	28% (n=7)
No	64% (n=16)	28% (n=7)	32% (n=8)	28% (n=7)
It Depends	16% (n=4)	40% (n=10)	20% (n=5)	44% (n=11)
I Don't Know	3% (n=3)	0% (n=0)	24% (n=6)	0% (n=0)

Disclaimer: Small sample size with limited power, so descriptive statistics only

Preliminary Findings: Quantitative Findings

Vignette 1: Pre and Post-Assessment
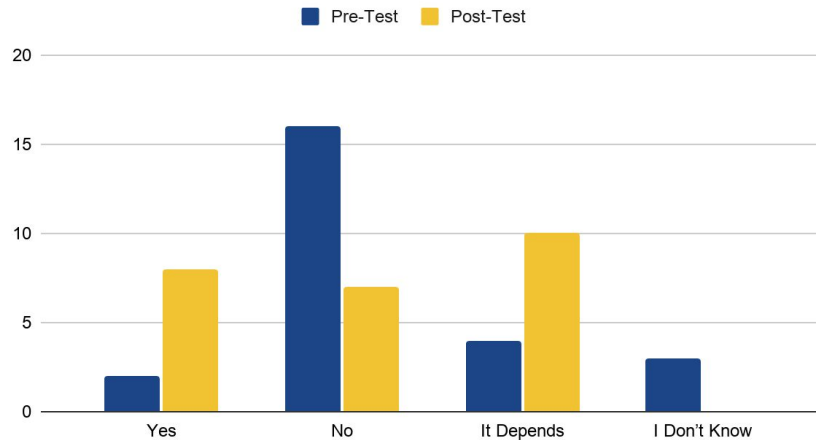
Vignette 2: Pre and Post-Assessment
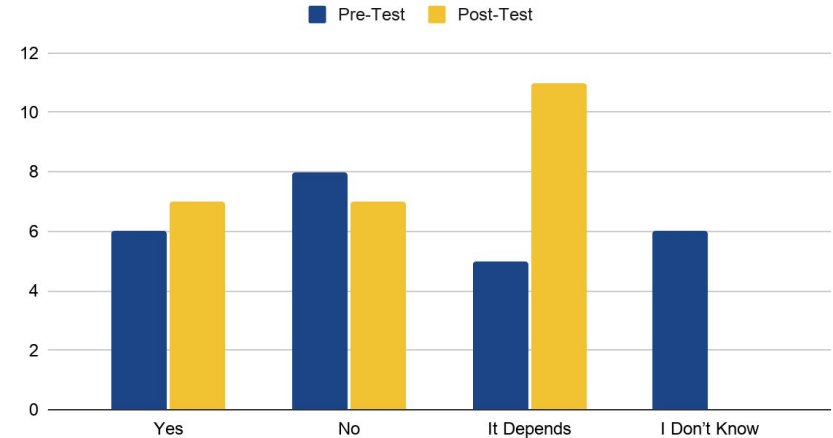
Disclaimer: Small sample size with limited power, so descriptive statistics only

Preliminary Findings: Qualitative Data Initial Coding

On the pre-assessment, students addressed privacy...

- in very vague terms (e.g. "I think the use of names is iffy)
- Based on their own "comfort" (e.g. "I don't feel comfortable saying yes to anything that involves my students' pictures to be shared publicly")
- By suggesting that PII was OK to share, but pictures were not (e.g. "I don't think the company asking for pictures and names of the students is acceptable. Having the names of the students seems okay.)

Preliminary Findings: Qualitative Data Initial Coding

On the post-assessments, students demonstrated increase awareness of:

- What is and is not PII and privacy issues around directory information
  - "Under FERPA, directory information without parental permission is generally allowed. However, the sharing of non-directory PPI is not allowed without parental consent."
- Age of students per COPPA
  - "COPPA is meant to protect the privacy of information for students under the age of 13, so this would only violate the COPPA regulation if you were teaching to a class of students under the age of 13."
- Role of parental consent
  - "A teacher cannot share this information without parental consent."
- Role of third party's ToS (and FERPA and COPPA compliance)
- Role of district responsible use agreements (REUs) and data privacy agreements (DPAs)

Conclusions

- Findings suggest that vignette analysis by preservice teachers might serve as one way to raise their awareness of issues around student data privacy
- Much larger sample size needed
  - Influence of demographic data, in particular teaching major
- Theory to practice will remain key
  - In what ways do pre-service teachers demonstrate this new awareness in real instructional decision-making circumstances?
- More extensive qualitative data collection/analysis required
  - What tools did the pre-service teachers use to arrive at their analysis decisions?
  - Does an intervention like this really change behavior? What impact will this have on pre-service teachers' use of technology outside of teaching and learning?

References

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Thank you

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