Fudging the Data: Student Responses to Data Use in the LMS

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Abstract
In a learning management system (LMS), students leave a trail of data that they produce in a course. Learning management systems are equipped with visualizations that provide the instructor with information about the student’s activity or behavior. This poster presents initial findings from an exploratory study that tells the story of what these students know, feel and understand about how their data is used by instructors in learning environments. In this pilot study, five students participated in semi-structured interviews and narrative writing to describe their impression of how and why instructors would use student data in teaching and learning. The interviews and narratives were coded for patterns using an ethical reasoning framework. Initial findings indicate that while these students think it is fair for instructors to use their data for instructional purposes, it may affect how they behave in the learning management system.

Keywords: information ethics, privacy, learning management systems

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1 Introduction
Learning management systems (LMS) come with a variety of tools that allow instructors to view student activity and performance in their systems. For example, Blackboard offers an analytics product that provides individual or comparative reports on student performance such as how students are meeting outcomes, which tools or access points are used and how often they are used (based on information from Blackboard’s website). Collecting data during teaching and learning, often referred to as educational data mining or learning analytics, can be used to inform educational practices such as predicting, clustering, relationship mining, distillation for human judgment and discovery with models (Bienkowski, Feng, & Means, 2012). At the course level, reviewing student data can also inform instructional practices, such as providing new insights into student success by identifying at-risk students or guiding course redesign (Fritz, 2011; Macfadyen & Dawson, 2010; Baepler & Murdoch, 2010). Other research indicates learning analytics can have a positive impact on motivation and self-monitoring when students are able to access their own data (Fritz, 2011; Arnold & Pistilli, 2012).

Are students aware that their data may be used for instructional purposes? This question is at the center of some ethical discussions based around whether instructors or administrators need informed consent to collect data from students in learning environments. Even though the data from these systems may be kept private and confidential in accordance with FERPA laws, students may participate differently in learning management systems when they know what and how their data is used (Stutzman, Capra, & Thompson, 2011). Other studies indicate that students may change their behavior when they know that online activity will be viewed by others (Dawson, 2006).

In a 2012 presentation, John Campbell asked, “What will be the student reaction to “big brother” collecting data?” Students may have unique feelings, thoughts or experiences about the collection of their data when used for instructional purposes. Do students consider collection of data to be moral or ethical issue? When reasoning about the ethics of data collection, do students feel that using this data is in the best interest of all parties (consequentialist) or that instructors have the right to use student data to better support instruction (deontological)? This research investigates this and shares the findings from a study that asked students to react to the instructional practice of using student data in the learning management system.

2 Method
This study takes an exploratory, narrative approach. The participants in this study are all students from a large Midwestern university who had participated in various online or blended courses that heavily used the Blackboard Learning Management System. Participants were recruited based on a population of convenience for the researcher. By design, this research project utilized qualitative methods for speaking in-depth with a few participants who met specific criteria. Students were asked to participate in the study if they had extensive experience in the learning management system and were not enrolled in the same class to get a broader sampling for the experience in a variety of courses at the university.
Students were asked to first provide a written response to a scenario. Then, the participants wrote a
description of what data they thought might be collected on them, how it may be used and what risks they felt may
be associated with that. Following these written narratives, each student participated in a 30 minute, semi-
structured interview and answered follow-up questions about their writing.

2.1 Coding Scheme

Woodward (1990) described an ethical framework that can be applied to issues of intellectual freedom. In this
framework, Woodward compares the deontological and consequentialist ethical defense and concludes that
approaches supporting the right to information and truth (deontological) are the best for promoting intellectual
freedom. However, she also recognizes that use of information can be well intentioned but can lead to harmful
results (consequentialist), like censorship and withholding of information. If an ethical approach were to be applied
to data, we can imagine a duty-based (deontological) versus action-based (consequentialist) debate between the
viewing, use or withholding data that is created and available in learning management systems.

To examine the issues presented by the students in the interview, transcripts were coded using
deductive, qualitative content analysis. Using Woodward’s framework (1990) for deciding ethical issues, the
transcripts were coded for instances of consequentialism and deontology. In particular, the coding scheme looked
to identify statements that indicate fairness, right, wrong, or moral reasoning related to duty, obligation, or rules.
The coding for this project was validated using inter-coder reliability.

<table>
<thead>
<tr>
<th>Category</th>
<th>Theme</th>
<th>Excerpts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consequentialist</td>
<td>1.1 Acts of goodness</td>
<td>“I feel like the role of the teacher is to help you learn. So if they see you are making a lot of mistakes with a concept, they can help you fix that error that you are making. Therefore it is their role to track the data and see where they can help you.”</td>
</tr>
<tr>
<td></td>
<td>1.2 Consequences</td>
<td>“If I knew an instructor was looking at my data, I would put more effort into it.”</td>
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<td></td>
<td>1.3 Outcomes</td>
<td>“If an instructor used my data, I would feel like I would always have to be prepared and look like I was one of the smartest kids in the class, I guess.”</td>
</tr>
<tr>
<td>2. Deontological</td>
<td>2.1 Rights</td>
<td>“The instructor has the right to access this information. For example, if the instructor is able to download our data, we should be able to do the same to our own data, but not to see the other students.”</td>
</tr>
<tr>
<td></td>
<td>2.2 Respect</td>
<td>“They can use my data for anything. My professor can use it for whatever he wants to use it for. I believe that my privacy will be respected.”</td>
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<td></td>
<td>2.3 Trust</td>
<td>“I feel a little bit awkward when the instructor knows when I make mistakes and stuff, but I guess it is part of the data from LMS, and it does not affect my final grade so it is ok.”</td>
</tr>
<tr>
<td></td>
<td>2.4 Anonymity</td>
<td>“I don’t necessarily want them to see my notes that I made, but at the same time, if it is really anonymous, like they don’t know who they pulled it from, then it wouldn’t bother me because they won’t know it’s me.”</td>
</tr>
</tbody>
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Table 1 Categories, themes and excerpts related to the ethical framework.

3 Initial Findings

The majority of these students feel that instructors use data for legitimate educational purposes, such as
improving instruction, assessing student behavior or activity and making the course better. However, these
students also indicated that while they trust their instructors to use their data correctly, they may also try and
manipulate the data to show more effort, engagement and participation than what actually exists.
These students also indicated a general feeling of complacency, or privacy apathy, about their data. They felt that they didn’t have control over the data anyways, so it was useless to worry about it. One participant said that even when given the opportunity to provide, or not provide, consent, he would feel pressure to consent to sharing data so that it wouldn’t reflect on him negatively:

“I don’t know if there would be repercussions from me blacking out my instructor. If I block my instructor from seeing everything I do, he might have a personal issue with that. Right? That could influence how he graded me possibly.”

The students in the study were all asked the same two questions: Would you change your activity in a learning management system if you knew your instructor would look at your data? Do you want to know if your instructor is looking at your data? All students indicated that they would change their behavior to be more active and would also like to be informed about how their data is used in the course.

4 Conclusions

When applying an ethical framework to student discussions about learning analytics, initial findings indicate that students do not have a moral concern with using their data for teaching and learning. Instead, they may feel like it is their duty and obligation to provide data within a course, and it is fair for the instructor to use it. However, they do worry about consequences that may affect their grades. With this consequentialist approach, should we be concerned that a student’s academic freedom is at risk in a data-driven environment? What expectations of academic freedom or privacy do we have for students in a learning environment? These findings also suggest that students may be apathetic about their information or have relinquished control to their instructors to use as needed for instruction. In addition, they may also be involved in manipulating their data to appear a certain way to their instructors. The unanimous response from participants about wanting to know if an instructor was looking at data in the learning management systems may also indicate that more transparent statements from instructors would be preferred by some students.

This study represents the beginning of a project that looks at the bigger picture of using student data. Results are unique to this study and not meant to be generalizable and will inform a larger study that includes other stakeholders, such as instructors and administrators on their use of data. In addition, more students should be surveyed to get insights from a larger sample. However, these initial results provide information that can help inform larger projects and may indicate that instructional practices of transparency when using student data could be considered in the classroom.

5 References


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