Ethical Innovations: Exploring How Moral Reflection Benefits Learning Analytics Development
Brief Proposal for the IU Bloomington Learning Analytics Fellows Program

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The Problem

Using student data for the purposes of learning analytics incurs various ethical problems in the processes of curation, analysis, implementation, and modeling. A small body of literature began emerging in 2012-2013 which included ethical approaches to learning analytics in socio-critical examinations of power, surveillance, transparency, and student identity (Slade & Prinsloo, 2013), implications of an obligation to act once student outcomes are predicted (Willis, Campbell, Pistilli, 2013), and examinations of policy frameworks (Prinsloo & Slade, 2013). Later work included a pivot to concerns of privacy and legal liability when particular data points are known (Pardo & Siemens, 2014). Recent ethical work suggests ethical typologies supporting stakeholder collaboration, full disclosure of research activities and outcomes, and integrative practices embodying dignified approaches to data collection, amalgamation, and dissemination (Willis, Slade, & Prinsloo, in review).

However, the intersection of ethics and learning analytics still encounters two critical problems: 1. Ethics quite often remains an "after-the-fact" consideration in innovation, and is spurred by legal or financial concerns and 2. Ethical theories brought to bear on innovative technology practices are done so at a theoretical level, which results in a persistent disconnect between two fields that may well symbiotically benefit.

An answer to both of these critical problems is to place moral reflection and ethical practice in direct alignment with the development of learning analytics. Though this has been proposed in prior work (Willis, Quick, Hickey, 2015), how this would work in action has not yet been worked out in the literature or learning analytics development. The most apparent reasons for this are appreciating the difficulties of connecting ethical theory within research underway without stymying the process and providing moral reflection in a specific context that is likewise generalizable to other analytics systems.

Grounding in an Accepted Proposal

Professor Daniel Hickey's recently accepted IU Learning Analytics Fellows Program project, "Analyzing the Transition from Developmental to Supplemental Education," (Hickey, 2015) provides an excellent space to bridge the gap between ethics and learning analytics innovation. Both researchers of this proposal are directly affiliated with Hickey's lab (i.e. as a Research Associate and Graduate Student), so this work would be carried out in tandem with his project.

In his proposal, Hickey states, "It is also hoped that sufficient data on SI [supplemental instruction] will be accessed to allow for repeated measures analysis of variance of independent variables concerning participation (e.g., frequency and intensity) and nature (required vs. optional, course vs. department vs. college, etc.) on dependent variables like grades, continuation in major, and graduation). It is assumed the hierarchical linear modeling will be used to account for interclass correlations and the attendant variance associated with particular classes and cohorts." Working alongside these research goals, an ethical approach could work out the questions of whether or not such data should be shared with advisors, instructors, students, or other stakeholders; and, if so, how should this be carried out? Furthermore, what issues in these models necessitate ethical innovations in their execution?

Hickey also seeks to "…shed important new light on the current placement practices and the effectiveness of those courses." Ethical research in this frame could rightly ask how this information can inform changes in curricula. For example, Hickey intends to "evaluat[e] the effectiveness of optional SI programs" which may also include questions about the outcomes and ethical ramifications of these evaluations. Working at the level of how students are recruited for SI, how students encounter SI, and later perform as a result of intervention is especially fruitful for moral reflection.

Research and Outcomes

Working alongside Hickey's SI program, we foresee several outcomes:
1. The demonstration of how moral reflection and ethical practice can shape learning analytics innovation in tandem with a goal of generalizability to other IU learning analytics initiatives.
2. The dissemination of how ethical practice and technological innovation coupled might present new symbiotic processes for ethics and learning analytics for the wider community.
3. The development and publication of an unfolding matrix of ethical practices that guide and influence research. This matrix will be a product of the first attempt to catalogue the challenges, opportunities, and future directions of using ethics as an innovative partner.

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