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Responsible learning analytics: creating just, ethical, and caring

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Responsible Learning Analytics: Creating just, ethical, and caring LA systems

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ABSTRACT: Ethical considerations and the values embedded in the design, development, deployment, and use of Learning Analytics (LA) systems have received considerable attention in recent years. Ethical frameworks, design guidelines, principles, checklists, and a code of practice have contributed a conceptual basis for focused discussions on ethics in LA. However, relatively little is known about how these different conceptual understandings of ethics work in practice and what specific tensions practitioners (e.g., administrators, developers, researchers, teachers, learners) experience when designing, deploying, or using LA with care. This half-day interactive workshop aims to provide participants with a space for information, dialogue, and collaboration around Responsible LA. The workshop will begin with a brief overview of Responsible LA. After that, the participants will present their cases drawing attention to the ethical considerations covered and not covered in LA practices. Following this, participants in groups will discuss the cases illustrating ethical tensions and create semantic categories to document such edge cases. The collected edge cases will be shared in a wiki or database. The workshop outcomes will help inform LA practitioners on ethical tensions that need to be discussed with care while highlighting places where more research work is required.

Keywords: Ethics, fairness, equity, socio-technical systems, values, matters of care, responsible learning analytics

1   BACKGROUND

From its very beginnings, Learning Analytics (LA) has sought to understand the risks associated with a heavy reliance on data and analytics without engaging with the underlying models, algorithms, and assumptions about how students learn (Siemens, 2013). More recently, concerns have arisen in connection with issues regarding potential inequalities (West et., 2016), discrimination (Jones, 2019), data-surveillance (Selwyn, 2019), algorithmic fairness & bias (Holstein & Doroudi, 2019), as well as advisors' rejection of LA systems because of moral discomfort and violation to a professional, ethical code (Jones, 2019). Cases of misuse of students' data have also been reported regarding teachers' lack of data literacy (Lawson et., 2016). These issues are all the more pressing in light of protests from teacher unions in the UK against plans to transform teaching and privatize education data with AI technologies and predictive analytics (Pearson, 2019). Societally, international events have also sparked reflections regarding how structural racism manifests in LA and datasets (Buckingham Shum, 2020). Both research and societal issues concerning data-driven practices in education underscore the seriousness and scope of ethical considerations in the LA community (Cerratto Pargman & McGrath, 2021).

While the LA research community has long been interested in the ethics of data-driven practices (e.g., Slade & Prinsloo, 2013; Pardo & Siemens, 2014; Swenson, 2014; Tsai et al., 2019; Drachsler & Greller, 2016; Sclater, 2016; Ferguson, 2019), most of this work has been conducted in conceptual terms (Arnold & Sclater, 2017). Research on applied ethics has not become pervasive in LA practice, potentially leading to "LA principles and codes of practice being crafted in a theoretical vacuum, far from the practicalities of implementation" (Arnold et al., 2020, p. 2). On this line of reasoning, Kitto & Knight (2019) also stressed the need to engage with concrete cases of the ethics of LA systems "to nurture practical reasoning across the community" (p. 2864).

1.1   Motivation

Capitalizing on past LAK workshops on ethical concerns (e.g., Ferguson et al., 2016; Holstein & Doroudi, 2019; Arnold et al., 2020), this workshop has three primary motivations:

1- Introducing and discussing the interplay between *ethics of justice,* applying rules and principles to ensure the fair and equitable treatment of all people, and *ethics of care*, driven by values and concerns and involving tasks that make a living better in interdependence with others (Puig de La Bellacasa, 2011). Neither ethics of justice nor ethics of care, on their own, can "*sufficiently address and accommodate the complexities, intersectionality and multi-dimensional nature of individuals and different relations in different contexts*" (Prinsloo & Slade, 2017, p.115). Instead, we need to approach ethical considerations in the education sector (K-12, high school, higher education) from a dialectic and relational stance between justice and care.

2- Promoting critical views of data in the context of widespread unease in society about the misuse of data and datasets (D'Ignazio & Klein, 2019). In particular, critical understandings of data are critical to promoting data and ethical literacies.

3- Contributing to ongoing conversations on ethical considerations based on practical cases. It is of utmost importance not only that the LA community is producing ethical frameworks,

principles, and concepts but also that it is aware of how ethical considerations can be enacted in practice, what ethical areas are challenging and why, and how the LA community can ensure sustained and updated conversations take place, nurturing practical reasoning on ethics across the community (Kitto & Knight, 2019).

1.2. Relevance to the Conference theme

This workshop is well suited for this year's LAK conference, given the theme of promoting discussions on the impact we make and how we contribute to improved learning. As ethics are deeply entrenched in the learning we scaffold and the teaching we practice, this workshop will encourage the community to reflect on ethical considerations concerning the educational values (i.e., caring for the other) promoted in the design and use of LA systems.

2 WORKSHOP OBJECTIVES AND INTENDED OUTCOMES

The primary goals of this workshop are as follows:

1- Introducing "Responsible LA" via concepts and sensitivities coming from the fields of Science & Technology Studies (Puig de La Bellacasa, 2011) and Human-computer interaction (Buckingham Shum et al., 2019; D'Ignazio & Klein, 2019). By "Responsible LA", we refer to the need to create LA systems that are just and ethical but also that care about equity, democratic and solidarity values in education.

2- Promoting discussions on the ethics of data-driven practices from the ground aimed to inform practitioners on the ethical challenges that emerge in practice.

3- Creating a wiki or other type of artifact contributing to a repository of ethical practice, as suggested by Kiitto and Knight (2019).

4- Helping participants to reflect on ethical challenges that speak of a disconnect between research and practice and find research collaboration opportunities.

The workshop outcomes will advance the LA field by informing the community on ethical challenges encountered in practice (during the development, design, and/or use of LA systems). One concrete outcome of the workshop will be starting an artifact (e.g., wiki) to document edge ethical cases in general terms, not linked to particular individuals or institutions that will be shared in the community for reflective discussions and further study. The workshop outcomes will be disseminated via social media (#ResponsibleLAK) and via the workshop's website:https://sites.google.com/dsv.su.se/responsible-la/home?authuser=0

3 WORKSHOP ORGANIZATION

Type of event: Half-day virtual workshop. Type of participation: Mixed-participation.

The workshop welcomes two participant groups: (1) Those who submit position papers discussing ethical dilemmas they have encountered in their practice (following an open call). These position papers should (a) discuss the context of the case, (b) the ethical concerns, targeting the various stakeholders involved and the principles in tension, and (c) technical, policy, and other approaches

that have informed addressing the dilemma, and the effectiveness of these. (2) Those who are interested in attending and participating in the discussions. Submissions will be collated on the workshop website. Publication of the workshop contributions is intended in a joint "LAK Companion Proceedings" (ca. 10 contributions). Participants will post-workshop be invited to contribute to a special issue or similar on "Responsible LA". We expect around 15-20 workshop participants. We will recruit participants via ACM mailing lists, social media, and professional networks.

3.1   Schedule

A preliminary keynote by Rebecca Fergusson (30 min) will be followed by lightning talks in which workshop participants present ethical dilemmas that they have encountered in LA (30 min). The workshop will then move to an interactive mode, where participants break out into smaller discussion centered around selected ethical challenges, working through a series of exercises designed by the organizers to encourage deep thought about the dilemmas they are exploring, the stakeholders impacted, and the ways we might navigate the ethical dimensions of these scenarios (100 min). Finally, the workshop will reconvene to a main plenary, where groups discuss their findings and design the next steps for future work.

3.2   Organizers

We are a group of international scholars with previous experience as workshop organizers in major conferences such as LAK, CSCL, and TEL. We are all from institutions that are investing in Responsible LA and data-driven practices.

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