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The Complexities of Developing a Personal Code of Ethics for Learning Analytics Practitioners

Implications for Institutions and the Field

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ABSTRACT

In this paper we explore the potential role, value and utility of a personal code of ethics (COE) for learning analytics practitioners, and in particular we consider whether such a COE might usefully mediate individual actions and choices in relation to a more abstract *institutional* COE. While several institutional COEs now exist, little attention has been paid to detailing the ethical responsibilities of individual practitioners. To investigate the problems associated with developing and implementing a personal COE, we drafted an LA Practitioner COE based on other professional codes, and invited feedback from a range of learning analytics stakeholders and practitioners: ethicists, students, researchers and technology executives. Three main themes emerged from their reflections: 1. A need to balance real world demands with abstract principles, 2. The limits to individual accountability within the learning analytics space, and 3. The continuing value of debate around an aspirational code of ethics within the field of learning analytics.

CCS CONCEPTS

• **Social and professional topics** → **Codes of ethics**;

KEYWORDS

code of ethics, professionalization, professional responsibility

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1 INTRODUCTION

As the field of learning analytics (LA) has grown, so too have calls for clearly stated constraints on the activities in which its practitioners should engage [13]. At the institutional level this has resulted in the development of a number of now publicly available Codes of Ethics (COEs) for learning analytics - documents that institutions can refer to for guidance as they plan, implement and evaluate learning analytics applications [4, 6, 24, 27, 30]. Despite this proliferation, and the reality that existing COEs share some clear common themes, these charters stop short of detailing the responsibilities of individual LA practitioners, leaving it to institutions (one hopes) to develop specific policies and guidelines for their employees.

There are sound reasons for concentrating the discussion of ethics at the institutional level, particularly in the higher education space [26]. ‘The institution’ dominates higher education conversations and it is therefore natural that any discussion of regulation of new data practices should begin with the institution. For universities to implement LA projects successfully, substantial institutional coordination is required [9, 16]. Development of ethical LA strategies, policies and outcomes at the institutional level is therefore critically dependent on a clear set of ethical principles *for the institution as a whole* [23]. Moreover, the diversity of possible institutional LA practices and institutional cultures/realities might suggest that the natural top level of granularity for a COE is the institution itself (nested within ethical principles and norms constructed by a great diversity of regional/national cultural, social and legal contexts).

Authors of existing COEs have regularly made explicit reference, however, to the need for ‘personal’ (professional) COEs to guide individual alignment with institutional (or organizational) ethical codes. Ekowo and Palmer argue for example, “many state bar associations have professional codes for attorneys outlining proper conduct when interacting with clients, other attorneys, and the court. Higher education, like any other profession, should also be governed by ethical standards” [7]. Such authors highlight the existence of important personal COEs in the legal, medical and accounting professions, viewing these as both a mark of professionalization and commitment, and a necessary mechanism in the regulation of professional behavior. Yet, beyond pointing to their existence, the designers of institutional COEs for LA have largely

not concerned themselves with the mechanics of how individuals in LA roles might interact with such codes.

Perhaps it should not be surprising that a serious conversation about personal COEs for LA practitioners has not yet been taken up. Defining what LA is, and how it might be best practiced, are already complex and contested realms. Adding additional questions about individual actors, ethical best practices and personal responsibility and accountability geometrically increases the complexity of an institution's planning process [12]. The inclusion of the individual into ethical considerations also introduces the "unification problem" [32]: How should conflicts between professional/organizational ethics and personal ethics be arbitrated, and by whom? What is the role of professional organizations in this process? [3]. These complexities are not new. Established professions have had to face similar dilemmas since the beginning of professionalization in the Middle Ages in Europe [5], the rise of the bureaucrat in ancient China [8], and the emergence of the learned professions in the Middle East [17]. It is natural that as the field of LA grows, and as education and training is increasingly formalized, LA practitioners will be forced to address tensions and mismatches between their personal ethical principles, and those of their home institution. In this paper we consider whether it is time for us all, as participants in the field of LA, to contribute to the development of the field by collaboratively crafting and debating a set of professional ethical guidelines for LA practitioners that can guide individual choices and practices in relation to institutional COEs.

1.1 Critiques of COEs

Personal COEs exist in other scientific enterprises, including the Association of Computing Machinery (who index LAK Proceedings) [10], but they are not without their critics [1]. Within the field of LA, establishment of a universal code of personal/professional conduct may seem to contradict the current dominant ethos that encourages the decentralized, organic growth of the field [25]. Moreover, Prinsloo and Slade [22] have recently argued that LA as a field of professional practice has simply not yet matured to a point at which ethical codes would demonstrably have impact and change behaviors and practice. The implication of such views is that within the still poorly bounded and loosely regulated field of LA, individual actors are unlikely to feel bound by ethical codes which they perceive to be externally imposed. Massy [18] notes that such 'push back' may be especially true within educational institutions, whose decentralized nature tends to allow for considerable agency in decision making.

A second group of critiques are exemplified by Montaign's centuries-old quip, "An honest man is not responsible for the vices or the stupidity of his calling" [31]. In this bleak view, workers and professionals are positioned as mere agents of their profession, and as automatons of their industry or institution. Against such a backdrop, commentators have sought to highlight the negative impact of imposing abstract professional codes that ignore individual experience and ethical commitments. Both perspectives highlight the very real potential tensions that may evolve between the moral practices and beliefs of individual practitioners and the necessity of institutional COEs.

1.2 Flavors of COE

COEs come in two main varieties: mandatory and aspirational [14]. Mandatory codes detail obligatory professional behaviors, coupled with the sanctions or legal ramifications that result from infringement of the code. They are often enforced by professional associations and sometimes by agents of the state. Mandatory codes may also offer forms of protection by describing the behaviors that are acceptable in different settings.

Conversely, aspirational codes offer moral guidance, and clarify the norms that individuals should strive to meet, but offer no expectation of standardized enforcement and often have no organization to enforce them. In contrast to mandatory codes, their value lies solely in their ability to articulate a shared understanding. An aspirational code allows people to understand the boundaries of behavior within a profession, and monitor their own and others' behavior. In countries where common law practices exist, they may form the basis of future legal norms [29].

1.3 Considering a personal LA COE

That the field of LA needs ethical frameworks to guide decision-making and implementation is beyond question. Postema [21] argues, however, that frameworks insisting on complete detachment of the individual from her professional actions are not only unrealistic but also dangerous, because they "limit personal and institutional growth".

Given the current state of the field, we therefore wonder whether an aspirational professional COE informed by individual experiences 'at the coalface' of institutional LA has the potential to neutralize both problematic scenarios - the challenge of quiet disregard of institutional COEs that practitioners perceive to have been developed remotely and imposed from 'on high', and the related challenge of requiring practitioners to submit to codes of practice which bear no relation to their experience, expertise and belief systems.

Within the burgeoning and rapidly changing field of LA, might collaborative development of a personal/professional COE that draws on individual ethics and personal morality across a range of viewpoints play an important role in establishing a set of the most parsimonious practices within the field [26]? Could a COE that invites input and acknowledges agency and expertise more effectively inspire ownership of, buy-in to, and professional commitment to ongoing discourse about ethical practice? What are the risks and benefits of developing a personal COE for LA practitioners?

2 METHODS

In order to capture ideas and issues concerning a personal LA code of ethics, we drafted an "LA Code of Ethics v1.0" and sought input and feedback on this draft code from individual practitioners across the LA spectrum: professional ethicists, institutional leaders, e-learning company executives and 24 students enrolled in an LA class. We sought to identify common themes from their feedback on this draft, as well as perspectives from different kinds of practitioner on the potential consequences of enacting such a code.

2.1 Code of Ethics v1.0

The draft code (see Appendix A) was based on three professional codes - the Chartered Financial Analysts' Code of Ethics [19], the

American Psychological Association's Code of Ethics [2] and the Jisc Institutional Code of Practice for Learning Analytics [24].

3 DISCUSSION

Below, we offer selected extracts from the draft code, and discuss some common feedback themes and critiques offered by discussants.

3.1 Approaching Real World Situations with Abstract Principals

"I have a responsibility to act for the benefit of learners and to avoid any action that would harm the learner and their educational opportunity"

The codification of personal ethics opens up the possibility that an individual's ethical responsibilities as specified in a COE may come into conflict with the demands of their institution. In particular, making an individual's responsibilities to the learner explicit almost ensures this conflict. Regularly, institutional and student interests will not align, for example in instances where the institution must determine where to spend limited resources, or benefit one group of students over another. Moreover, LA may not even be defined with respect to individual learners and may be tuned to maximize institutional success as a whole. For example, LA aimed at lowering dropout rates may consequently lower resources allocated to improving instruction for students who would never have dropped out. Institutions must also make trade-offs depending on how they define 'success': for example they may need to choose whether to focus on students who would benefit most from an analytic intervention, or on those whom they deem most worthy (by some standard) to receive the intervention.

More generally, one might envision instances in which there are no well-defined answers at all. One commenter offered the following scenario:

New data reveals a learning disability in a student who has not alerted the university to this status. The student is not struggling...Does the university alert the student to the new information?

Individuals within an institution may respond in different ways. There is no clear, correct, ethical position. Such instances necessarily prompt us to question whether any COE could possibly be constructed that would not, in some circumstances, 'fail to offer guidance'. One solution may be to position any codified ethical principles at a level that allows a large amount of discretion, or as one commentator suggested, to frame the code in a way that allows for the discretion of the individual and possibly defers to institutional policies.

A related complication is one of power and agency. Individual LA practitioners may have limited capacity to control their decision-making independent of their institution, regardless of their personal commitment to a code of ethics. Codifying the expectation that individuals will break rank with their employer is unrealistic and likely to be unproductive. And without appropriate safe-guards to protect employees, it is unlikely that any would be effective or confident in their opposition.

And yet, the resolution of conflict between institutions and their LA practitioner employees may depend largely on whether novel, generalizable, norms for LA emerge over time. We can envision scenarios in which an institution's position on an ethical question is widely out of step with the broader field. The question of whether an individual's ethical commitments should be constrained by institutional commitments will then be further complicated by tensions between the institution and the wider culture of higher education. We might at least hope that scenarios of this kind would prompt regular reviews of and contributions to ethical codes at all levels.

Indeed, such scenarios suggest that there is an ongoing need for the LA community to engage in this debate, and emphasizes the important role of *aspirational* codes of ethics in dynamically evolving fields. As Postema highlights, in other fields aspirational codes of ethics frequently offer a 'testing ground' for developing norms and practices that may not currently be regulated by laws, but may be in the future [21]. For example, it is currently legal for a school in the United States to make a technology startup a "school official" and so grant it the data access privileges of any teacher, principal or counselor [20]. This practice is likely to change in the future, and the LA community may play a role in formally frowning upon this practice [28].

An aspirational code of ethics therefore offers a mechanism for a professional community to continuously review and debate ethical practice. Although non-binding it can signal a form of reproach, that if generally accepted can inform future binding regulation.

3.2 To What Degree can Individuals be Held Accountable?

"I will ensure that I understand analytic processes (algorithms, statistics) that I employ."

The most common response to our draft code from LA practitioners was that personal COEs may simply not be actionable, given the scale and complexity of institutional LA systems. The sheer size and number of components and interlocking systems and areas of overlapping authority, even within a single institution, make delineating clear threads of individual responsibility difficult. No individual within the system will be able to take responsibility for the entirety of the decision making process. Indeed, even current data pipelines are dispersed in ways that make assigning an individual responsible for discrete decisions difficult. It may even be impossible to trace an individual's actions without substantial, possibly unrealistically sophisticated, accounting systems being implemented.

In relation to "understanding analytic processes", the opaque nature of many LA tools brings a set of unique challenges. Such systems can be beyond the understanding even of individuals who contributed to their design. It is even less clear what expectations of deep understanding can realistically be placed upon practitioners who purchase, implement or use them. Likewise, it is probably impossible to hold individuals accountable for the protection of vulnerable communities when they cannot understand the impact on the population as a whole.

If no individual has oversight of the entire data pipeline, from collection to impact, is it reasonable to expect that individuals take

responsibility for any downstream effects of their actions? In the face of such complexity, often hidden from view, we must as a field of practitioners, grapple with the question of whether or not it is even possible to define generally acceptable behaviors. For example, is it reasonable to expect that individuals must satisfy themselves that due diligence will be performed in the actions taken with data before they access it? This may not even be possible as downstream effects of data use can be unpredictable, especially in the case where different data sources are merged. If two separate people collect a data source using categories chosen by administrators, a third merges these data sets, a fourth develops a prediction tool and fifth implements that tool resulting in an adverse impact on students, which individual would hold the greatest share of responsibility? [15]. Clearly, there is much deliberation still needed in these areas.

3.3 Aspirational vs. Mandatory vs. Reality

"I will strive to promote accuracy, honesty and truthfulness in the science, teaching and practice of learning analytics."

One unavoidable theme in discussant responses to the draft LA practitioner COE was the need to determine its core nature: should it be aspirational or mandatory? The LA students who considered the COE draft largely diverged from professional commentators, with 84% of students believing that some form of personal COE is necessary and 63% believing it should be mandatory. Implementation was seen as difficult but not impossible, and students viewed a commitment to a COE as an important mark of professionalization. Granted, we may ascribe these positions to the naiveté of individuals not yet experienced in the realpolitik of institutional life. But perhaps this reflects precisely what an aspirational code should offer - a willingness to look beyond what is currently practicable.

Any mandatory COE demands a mechanism for accountability, be it an independent professional body, or government. Mandatory COEs in fields such as medicine, law and chartered accounting rely on professional associations to enforce the rules of their respective professions. LA has no such body and there are no signs that existing bodies such as SoLAR plan (or have the capacity) to take on such a role. Without the existence of such a body, it may seem premature to propose a mandatory personal COE.

Aside from the students, opinion was split between those who believed that a mandatory code was impossible but an aspirational code may be useful, and those who believed the aspirational code was also premature. Critics of any aspirational code also believed it to be unrealistic and held that the field will likely remain decentralized and divergent in ways that will preclude any common practitioner COE. There was also some skepticism expressed that such an aspirational code could be agreed upon.

4 CONCLUSIONS

In this very preliminary study, we sought to explore the potential of a personal code of ethics for LA practitioners, and to consider whether such a COE might usefully mediate individual actions and choices in relation to a more abstract institutional COE. From the brief exercise of drafting and seeking feedback on such a COE we have confirmed two main findings: That such aspirations are desirable and may be worthwhile, but that serious roadblocks exist

to their formation. We outlined three major roadblocks, 1. That resolving the possible conflicts between individuals and institutional priorities is complex and may unfold over decades, 2. That there is currently no way unified way in which individuals can be held accountable to any code, and 3. That there needs to be a clear understanding of the type of code that is being implemented: aspirational or mandatory.

The hurdles outlined above are non-trivial, but throwing up one's hands and declaring that it is "too hard" is not really a satisfying solution to a significant set of professional and ethical challenges. We suggest that at a minimum, the core of any COE for LA practitioners must assert that a duty is owed to learners to investigate how LA are used and regulated.

Discussant perspectives on who should have ethical oversight over LA were mixed. Some felt that individuals have limited power and that institutions must have primary responsibility; others highlighted the challenge of identifying identify *who* within an institution should be held ultimately responsible. Some argued that 'the field' should take firmer positions on acceptable behavior. Several commentators suggested that since LA applications may be substantially developed outside universities and governments, outside individual nations, by private companies, across national and even supra-national boundaries, establishing even an aspirational COE that serves as a general nudge toward best practices is important.

We continue to hold that such concerns leave room for an aspirational personal code of ethics. Such a document would serve to remind the LA community of its best intentions, and function as a stepping stone to possible future implementation of more binding agreements. Moreover, it is conceivable that the most significant achievement of the ongoing development of a COE for LA practitioners may not be the product but the process: the continuous engagement of LA practitioners across the spectrum of this interdisciplinary field in deliberations around ethical challenges and our responsibilities as practitioners.

The work reported here is necessarily limited in scope. Its goal is simply to open up discussion. Meaningful elaboration of any realistic ethical code will demand much wider consultation and analysis: conversations with the many LA stakeholder groups (learners, families, educators, EdTech providers...) and across a wider social, cultural and educational range; more thorough examination of other COEs in existence; testing of a potential code against real ethical dilemmas; and consideration of additional theoretical frameworks. In our continuing work - research, implementation, strategic intervention - we might take for guidance cultural theorist Stuart Hall's strenuous rejection of closed theoretical paradigms. "I am not interested in Theory", he insisted "I am interested in going on theorizing" [11]. We might similarly insist that we are not interested in definitive lists of ethical 'regulations', but in continuing to review ethical dilemmas and formulate our best solutions given current knowledge.

5 APPENDICES

A DRAFT CODE OF ETHICS V1.0

A.0.1 As one privileged to have access to educational data I have a responsibility to act for the benefit of learners and to avoid any action that would harm the learner and their educational opportunity.

I will ensure that I act in the best interests of those whose data I utilize and minimize any adverse impacts that my analysis might have.

A.0.2 As a member of an educational community I am responsible for establishing relationships of trust with those whom I work. I will ensure that I understand who has the authority within the organization to grant me access to data. I will ensure I understand how and for what purpose the data was collected. I will ensure that data is only maintained as required for specific purposes. I will ensure that the privacy of data is maintained appropriate to the agreement with those whose data I handle. I will ensure that data practices are transparent to those whose data I work with. I will strive to keep promises I make and to avoid unwise or unclear commitments.

A.0.3 As a member of a scientific enterprise I will be aware of my professional and scientific responsibilities to society and to the specific communities in which I work. I will ensure that I monitor the quality, robustness and validity of data and analytics processes in order to develop and maintain confidence in my work and the work of the field. I will ensure that I understand analytic processes (algorithms, statistics) that I employ. I will strive to promote accuracy, honesty and truthfulness in the science, teaching and practice of learning analytics.

A.0.4 As a contributor to educational processes I will recognize that fairness and justice entitle all persons access to, and benefit from, the contributions of education and to equal quality in the processes, procedures and services being conducted through the use of data. I will exercise reasonable judgment and take precautions to ensure that potential biases are not magnified through the use of data analysis and technological intervention and that I will actively work to prevent such occurrences.

A.0.5 As someone involved in the construction of systems that impact individuals I will respect the dignity and worth of all people, and the rights of individuals to privacy, confidentiality, and self-determination. I will be aware of and respect cultural, individual and role differences, including those based on age, gender, gender identity, race, ethnicity, culture, national origin, religion, sexual orientation, disability, language and socioeconomic status and consider these factors when working with members of such groups.

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