

Are Higher-Education Institutions Ready for Learning Analytics? Governance, Ethics, Confidentiality and Privacy

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University governance on the use of student feedback was studied by looking at the availability and clarity of public policies, FAQ's, websites, and other documents made available by a sample of Canadian higher education institutions. Educational data, including student feedback data, offers institutions new opportunities to analyze and evaluate their programs in order to improve teaching and learning. However, it is imperative that datasets be used and protected in a manner that respects student privacy and promotes trust and transparency. The research revealed a number of inconsistencies in privacy governance practices, information availability, and proactivity of Canadian higher education institutions.

Keywords: learner analytics, feedback data, privacy, confidentiality, ethics, data governance, data policy

INTRODUCTION

This research explores the current state of Canadian higher educational institutions' policy frameworks regarding student feedback data. In particular, this research addresses institutions' privacy frameworks that govern data from student feedback or student evaluations of teaching. Among other questions, it asks how effective and specific institutional policy frameworks are in allowing student feedback data to be combined with other datasets, such as learning analytics data, while still respecting student privacy and clearly communicating data uses and governance to students. Educational data is valuable to educational stakeholders, who may wish to combine datasets to improve the quality of learning and teaching within institutions. However, new technologies and the sheer volume of data that educational institutions hold may pose privacy challenges. Balancing these goals—maximizing effective data use while also respecting stakeholder privacy and promoting trust and transparency—in turn requires thoughtful and proactive policy frameworks.

There is a large volume of work on the benefits of learning analytics to help better understand and optimize learning and the environments in which learning occurs (Ifenthaler and Schumacher, 2016; Prinsloo and Slade, 2013a; 2013b). In addition, researchers are exploring how to combine student feedback

with student digital click behavior data for more robust learning analytics (Samoilova, et al, 2017). For example, learning analytics that rely solely on a student's digital clicks in an institution's LMS (Learning Measurement System) may attempt to diagnose why there are not enough clicks in the LMS, all the while the issue may be that the student is expressing why they are not engaged via course evaluations. Student feedback contains rich insights about student's learning experience and engagement such as Pardo, et al (2017), where the authors explored the use of learning analytics and feedback in a largescale class.

Learning analytics with a diverse set of student feedback and digital click behavior data can be very useful. However, the ethical challenge of learning analytics can hinder the full realization of these benefits. The literature on learning analytics raises significant concerns with respect to privacy and ethical issues, where privacy and data governance do not yet seem to be addressed as thoughtfully and thoroughly.

LITERATURE REVIEW

Commenters have expressed fears that higher educational institutions may lag behind other sectors, such as government and the private sector, in implementing comprehensive privacy principles to protect themselves and stakeholders such as students, staff, faculty, and donors (see e.g. Cate, 2006; Meade, 2009; Vogel & Grama, 2019). This is concerning, because some research indicates that students' concerns about data collection and use may affect their feelings of alienation from universities (Mollick & Pearson, 2006). This lag is also concerning given the large volumes of data higher education institutions hold about stakeholders (Cate, 2006). Moreover, important trends in higher education, including the advent of learning analytics and greater reliance on student evaluations of teaching, involve additional data collection, storage, and use. There appears to be a discrepancy in the scholarship on student feedback or student evaluations of teaching, on one hand, and the emerging scholarship on learning analytics, on the other. The literature on learning analytics suggests a deep engagement with privacy and data governance issues. However, as of this writing, the research on student evaluations does not appear to consider data privacy and governance in as much depth. As educational institutions may benefit from combining student evaluations with learning analytics data, considering the privacy implications of both these data sources may be significant for institutions updating their policies or practices. A brief survey of some salient literature follows.

Learning analytics ("LA") refers to the use of data about students and their learning behavior, often gathered from course management and information systems (Prinsloo & Slade, 2013a). LA may involve a variety of data, including data about student characteristics; activities within digital learning management platforms; and digital interactions with peers or instructors (Ifenthaler & Schumacher, 2016). Some research has raised the possibility of learning analytics also taking into account data from student social media (Ifenthaler & Schumacher, 2016). LA probes a large volume of static as well as dynamic real-time data to provide useful information to educational stakeholders (Avella et al, 2016; Ifenthaler & Schumacher, 2016; Mahroeian & Butson, 2017). Further, the terms institutional, academic, and IT analytics are also sometimes used (see Daniel, 2015; Daniel, 2019).

Research has explored the potential benefits of learning analytics to students and other educational stakeholders. Such benefits include: tailoring content, feedback, and opportunities to individual needs (Avella et al, 2016); improving educational decision-making and instructors' teaching (Avella et al, 2016; El Atia et al, 2012; Ndukwe et al, 2018); and personalizing student learning experiences and support (Ifenthaler & Schumacher, 2016; El Atia et al, 2012; Ndukwe et al, 2018). Daniel (2015) notes that educational data mining and 'Big Data' may also be useful for making institutional policy, program, resource, and technical decisions, in addition to student support. However, the literature has also noted several ethical and privacy concerns regarding learning analytics. These challenges include questions about data ownership (Ifenthaler & Schumacher, 2016; Pardo & Siemens, 2014; Mahroeian & Butson, 2017); the dangers of institutions making erroneous assumptions (Ifenthaler & Tracey, 2016; Prinsloo, & Slade, 2013b); and student privacy considerations (El Atia et al, 2012; Heath, 2014; Ndukwe et al, 2018; Pardo & Siemens, 2014; Prinsloo & Slade, 2016; Prinsloo & Slade, 2013).

Data ownership is one legal and ethical issue that has interested commenters researching learning analytics (see Pardo & Siemens, 2014; Mahroeian & Butson, 2017). It is not always clear which stakeholder

should own student-generated learning analytics data. Pardo and Siemens (2014) note that while users may own raw data about themselves; it is less clear who owns derivative data. Further, as Ifenthaler and Schumacher (2016) note, different legal systems adopt different approaches to ownership of collected personal data. Europe treats data as belonging to the data subject while the US assumes that collected data belongs to the collector.

Additionally, the literature has noted several concerns about LA's limitations – and the conclusions that may be drawn on that basis. Slade and Prinsloo (2013) highlight that student data may be interpreted in ways that stereotype, label, or limit students. These interpretations could, in turn, lead to inappropriate or even harmful interventions. This risk is significant, as data pertaining to individual students may be part of large, depersonalized datasets; inappropriate interventions based on individual or cohort data could lead to student resentment and refusal to share (accurate) information (Prinsloo & Slade, 2013). Ifenthaler and Tracey (2016) cited in Ifenthaler & Tracey, (2016) similarly note the risk of making recommendations based on misleading, incomplete, or inadequate data. An almost correlative concern is whether using learning analytics to understand students' failure, dropout, or other risks may create a duty to act for institutional stakeholders (Ferguson et al, 2016; Griffiths et al, 2016; Kay et al, 2013; Willis et al, 2013).

Furthermore, given the large volume of student data involved in LA, commenters have advocated being sensitive to privacy and confidentiality issues. Griffiths et al (2016) review some of the salient privacy challenges as well as solutions that have been proposed. Prinsloo & Slade (2013) highlight the power imbalances between institutions, instructors, and students, as well as the fact that different datasets may be stored across an institution, each, potentially, with different standards of privacy. They advocate a collaborative approach that involves students, institutional transparency, and informed consent, which may be refreshed periodically (Prinsloo & Slade, 2013). They also advocate safeguards and governance structures for student data and procedures that ensure students have access to their own data (Slade, Prinsloo, 2013). Similarly, Ifenthaler and Schumacher also note the need for a governance structure that defines “who has access to which data, where and how long the data will be stored, and which procedures and algorithms to implement for further use of the available data” (Ifenthaler & Schumacher, 2016, p. 925).

Ifenthaler and Schumacher report on a survey suggesting that students demonstrate greater willingness to share some data rather than others (Ifenthaler & Schumacher, 2016). They conclude by concurring Prinsloo and Slade that transparency and student collaboration are important. Pardo and Siemens (2014) likewise advocate high-level principles for student data, including transparency, accountability, access guidelines, and student control. El Atia et al (2012) address some of the ways in which existing Canadian privacy law principles may challenge or constrain LA. They note, for example, that identifying purposes for which data will be used may limit novel – but potentially beneficial – uses of student data or that seeking consent for all data uses may be impractical. To comply with Canadian privacy law, El Atia et al advocate depersonalizing student data. Khalil and Ebner (2016) likewise propose de-identification of learning analytics data as a way to minimize privacy risks. Gursoy et al (2017) address the pros and cons of different de-identification techniques that may be helpful to protecting student privacy while taking advantage of learning analytics.

Several scholars and practitioners have also suggested ethical frameworks for managing the ethical and privacy issues associated with learning analytics. A full exploration of these approaches is beyond the scope of this report; however, for several relevant discussions, see Drachler & Geller, 2016; Ferguson et al, 2016; Griffiths et al, 2016; Sclater, 2016; Willis et al, 2013. Interestingly, Prinsloo and Slade (2013) analyze current policies at the University of South Africa and the Open University, comparing the two and finding that the gaps in existing university frameworks may hinder the ethical adoption of learning analytics.

Somewhat surprisingly, it does not appear that privacy and data governance issues affecting student evaluations have inspired a comparable level of scholarship. Few if any discussions focused on – e.g. – the applicability of privacy legislation, privacy risks, or possible frameworks for issues like safe data storage and disposal or the consequences of breaches. This is despite a decades-long trend in which student evaluations of teaching have continued to grow in importance (see e.g. Darwin, 2016; Ory, 1990). Other aspects of student evaluations, however, are discussed extensively in the literature. For example,

commenters have pointed out that student evaluations may represent a more consumer-oriented view of education which treats it as a commercial service in need of quality assurance – a view that can be controversial among educational stakeholders (see e.g. Darwin, 2016; McCormack, 2005; Ory, 1990; Simpson & Siguaw, 2000; Spooren et al, 2013). Research likewise explores potential risks of bias in student evaluations. Evaluations may demonstrate bias against instructors teaching quantitative or other particularly challenging courses (Uttle & Smibert, 2017; Vargas-Madriz et al, 2019). There is no consensus as to whether evaluations may exhibit bias against female and/or minority instructors as different studies suggest different results (Vaargas-Madriz et al, 2019; Spooren et al, 2013). Research has also addressed the validity of student evaluations faculty uses and perceptions of evaluations (see e.g., Simpson, Siguaw, 2000; Ballantyne et al, 2000).

Crumbley and Reichelt (2010) discuss the risk of grade inflation as a strategy by which instructors may seek to earn better evaluations, and frame widespread grade inflation as an ethical concern and a drawback to the growing reliance on evaluations. They also criticize the customer satisfaction approach to education which may be inherent in student evaluations (Crumbley, Reichelt, 2010). McCormack (2005) likewise discusses several questions which instructors should bear in mind and which may affect both the ethics and validity of evaluations before proposing a framework for online evaluations that would be sensitive to ethical and privacy concerns. McCormack advocates paying attention to autonomy and justice, including consent to participate in or withdraw feedback and ensuring all students are treated equitably; respect for students' opinion, including explaining purposes and uses of student feedback; anonymity and confidentiality; and privacy. Similarly, Applebee et al (2002) consider ethical questions in their report on a study with Australian educational stakeholders. They urge consideration of privacy, consent, interpretation, ownership/authorship and accessibility in the use of student evaluations, including use in research. Ory (1990) considers possible ethical breaches in the form of undue influence which instructors or other stakeholders may try to exert in the evaluation process, and expresses concerns over weaknesses in the 'honour system' by which in-class evaluations typically run. However, this article predates the move from paper-based, in-class evaluations to increasingly common online systems, which may present different strengths and weaknesses. Finally, Zimmitat and Crebert (2002) advocate that instructors and educational researchers pay attention to informing students about surveys or studies; privacy and confidentiality; and informed consent in evaluations as well as in research. They also advocate principles and practices to consider in conducting research within online communities.

Based on this literature review, it appears there is more work to be done in articulating how institutions can effectively and ethically combine learning analytics with student evaluation data.

METHODOLOGY

Publicly available documents from forty-two Canadian universities were sampled. Documents included student feedback data as well as more general privacy compliance such as:

- institutional policies addressing student feedback data or privacy;
- student feedback/evaluation FAQ's;
- websites dedicated to the student feedback process within a given institution;
- bulletins reminding students to complete evaluations; and,
- collective agreements if those were the only sources of detailed information about the evaluation process listed on institutional websites.

In general, more than one document was consulted per institution. The average number of documents consulted per institution in each category is shown in Table 1.

In consulting lists or repositories of institutional policies, a number of policies related to the general use of technology within an institution were found. However, these policies were usually too general to address student feedback data or provide information relevant to the questions in this research. The focus was therefore on two categories of documents or policies: those that governed privacy within the institution in general, if available, and documents specifically addressing student evaluation of teaching within the

institution. In addition, six informational interviews with stakeholders from a selection of institutions were also conducted. The goal of these interviews was to clarify the documents studied and to ensure the researcher was consulting correct and relevant documents.

**TABLE 1
DOCUMENTS CONSULTED**

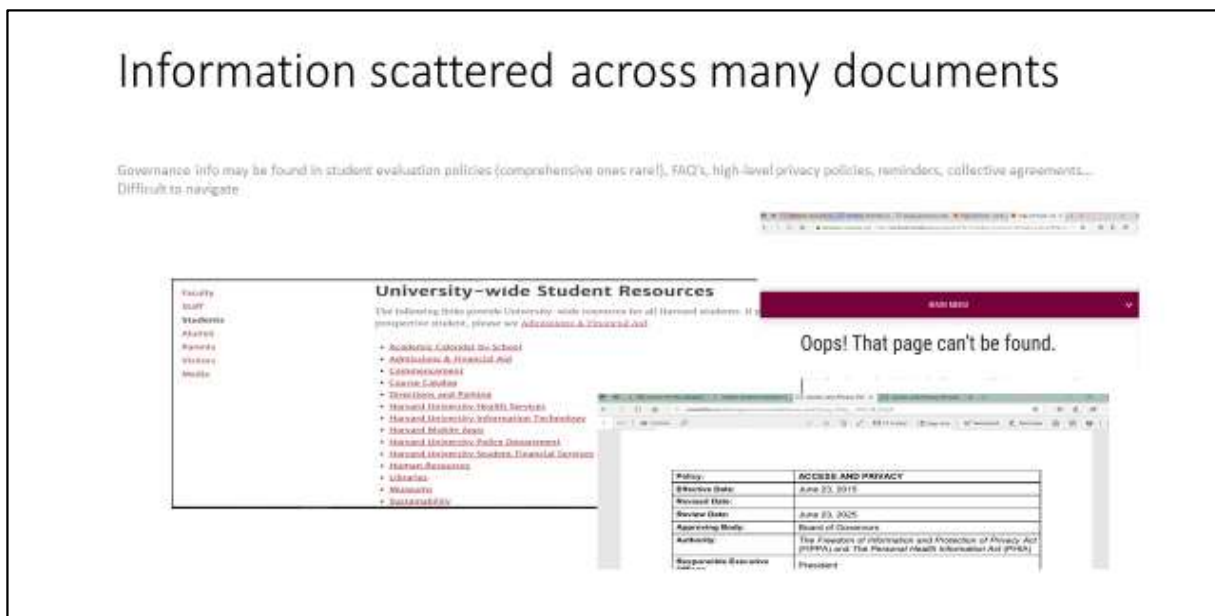
Classification	Average number of documents consulted
Polytechnics	3.202
Medical doctoral universities	3.75
Comprehensive universities	2.89
Primarily undergraduate universities	2.71

KEY FINDINGS

Information Scattered across Multiple Documents

Many institutions had multiple documents that addressed student evaluation practices. Many had information scattered between a variety of FAQ's, websites about the course evaluation process, and other documents. The fact that information is scattered across multiple documents could also have implications for industry, such as the partner organization, and even students and other institutional stakeholders wondering what policies or frameworks govern the feedback data they provide. This is shown in Figure 1.

**FIGURE 1
INFORMATION SCATTERED ACROSS DOCUMENTS**



Furthermore, even those universities that had centralized student feedback policies or procedures (i.e., 1-2 such policies or procedures) often nevertheless made available other documents such as FAQ's, but also, more typically, general, higher-level policies that addressed issues like acceptable technology use and freedom of information and privacy. A variety of institutional freedom of information and privacy policies these seemed likeliest to be relevant to privacy and data governance. However, while these freedom of information and privacy policies tend to reflect privacy law and establish general principles regarding legal

compliance in information governance, they are typically too high-level to address student feedback data (or any one type of data) specifically. No student evaluation-specific policies, FAQ's, or other documents that explicitly referred back to higher-level institutional privacy policies or applicable privacy legislation, and addressed whether or how those policies or laws apply to feedback data were found.

Only one university contained a reference in a publicly available policy which states that "In compliance with privacy laws, results for individual instructors will be released only with their consent." This university was unique in referring to governing privacy legislation. However, even this reference did not address whether student feedback data can be considered personal information of students supplying this data and how privacy law may protect or affect it. Most institutions showed a lack of clear cross-referencing between student feedback policies or FAQ's, their internal privacy policies, statements or procedures, and relevant privacy laws.

Inconsistency of Information Sources

Several areas in which institutions were inconsistent from one another in their available information sources were noted. This inconsistency in student evaluation data governance is not simply a theoretical concern, but may also make it difficult for other stakeholders, including students, to find information relevant to their needs. Information location was not consistent (i.e., what sorts of documents may answer data governance questions); the extent of information available; and the practices regarding governance of student feedback data, as described in publicly available documents. Institutions also varied widely in how much data governance information they made available and what their practices are, based on documents included in the sample. Institutions across all categories varied considerably in how much detail they provided to answer even basic questions, such as what feedback data is collected, from whom, and about which stakeholders. For example, regarding the first question, 'what data is collected?', some institutions provided detailed guidance on qualitative and quantitative questions to be asked while others simply provided general guidance such as "[the institution] wants to know what you think" or did not address this issue publicly at all.

Other questions regarding data scope, i.e., from whom and about whom is data collected, similarly revealed inconsistencies in whether and how institutions answered them. Institutions varied in how specific they were in addressing data use and access in publicly available documents. The type of document available through an institution may also influence how detailed that institution is (or appears to be) about uses for student feedback data. Policies governing student evaluation processes often (but not always) expressed information on data uses for a variety of stakeholders or purposes, such as improving teaching (for instructors) and making decisions about tenure, promotions, merit, or other staffing issues (for administrators).

More general documents, such as websites or FAQ's aimed at students or other stakeholders, also varied widely in the degree of detail with which they addressed uses of student evaluation data, from listing purposes for which stakeholders may use data to simply stating that this data is helpful for maintaining or improving instruction.

Finally, institutions also showed considerable variation in the data governance practices they indicated. However, there was at least some consistency in this area, though few if any universal practices. Further, 'consistency', in this context, often means that questions of data governance, privacy, and combining different data sources were not addressed in many institutions: Canadian schools may be consistent or unified in their silence on issues like feedback data retention, ownership, or combination with learning analytics.

Student Feedback Data Governance and Privacy Practices

Most universities did not address question of secure data storage and destruction. These institutions provided at least some information regarding the length of time data is retained and how. However, many of these references were only partial and did not address all aspects of the length of data retention, security, and destruction. Further, most institutions (with the exception of two) did not refer back to other, higher-

level institutional policies on privacy and access to information or retention and protection of personal information.

Similarly, institutions surveyed do not typically address how (or whether) they communicate privacy and data governance issues to students. Most institutions that provide any information at all to students indicate that student feedback data is anonymous and/or confidential. Some state that instructors and the institution must or should communicate the importance of completing evaluations to students, and/or communicate that evaluation data is anonymous/confidential, while others indicate that online evaluation forms must include mandatory statements about the data's anonymity. However, these statements are usually fairly general and could perhaps do more to clarify privacy and data governance issues in student feedback data. They also typically do not address concretely how instructors themselves should learn about relevant privacy and data governance issues so they can provide accurate information to students if needed.

Further, policies to address troubling student comments and enforcement mechanisms for breaches of ethics or privacy were exceedingly rare. Most universities did not have any concrete mechanisms to sanction discriminatory comments in its policy framework. Statements regarding potential consequences for privacy breaches, or more general ethics breaches by staff or instructors, were even more rare. The researcher only found three institutions that addressed these issues at all. In one, some system administrators may be able to access individual survey results, but sign confidentiality agreements that prevent them from improperly accessing or using data. A second university addresses the way aggregate survey results are to be made available to students, and states that a user agreement must precede these reports to prevent misuse of data. Finally, a third contained a general statement that data must be transmitted and stored in a manner that respects student confidentiality. However, it does not provide any more specific information than that. Most do not even address stakeholders other than students (i.e., instructors and staff) who may have an opportunity or incentive to try to access student feedback data. This is another area where greater clarity would be helpful in all institutions surveyed.

Another area where institutions are silent is that of learning analytics. None of the institutions surveyed addressed learning analytics and the possibility of combining other datasets with student feedback data. This is not particularly surprising, as learning analytics is a new field. It is possible that existing policies are silent on this issue because learning analytics have yet to be adopted in some institutions; policies have yet to be updated to address this issue; or even because different stakeholders or units within schools may be responsible for adopting learning analytics and administering student evaluations of teaching, respectively. It is possible that institutions may already be relying on general policy provisions to analyze learning analytics data alongside student feedback data. For example, a statement in a student feedback policy that student feedback data will be used to evaluate and improve instruction, programs, academic units, and the institution may be broad enough to rely on for an institution that wishes to combine student feedback with other datasets. However, in such cases, greater clarity may still be helpful for any students or other stakeholders wondering about the specific uses of data.

Likewise, even the use of student feedback data for academic research was infrequently addressed. Only six institutions seemed to address this issue but none did so explicitly. In some, the course evaluations website indicates that course evaluation data belongs to instructors and may be used in publications or conferences while others have established a procedure by which instructors may request approval to use this data in research. Others state that student feedback data is considered personal information of the instructor, though it may also be personal information of the student if it still contains identifiers. These provisions may be interpreted to allow instructors discretion to use their own anonymous evaluations in research, but, again, this is an inference, not a clear statement. While some institutions may rely on general provisions of policies, which did not seem immediately relevant to using feedback data in research, for this purpose, it may be helpful for institutions revisiting their policies to address the issue of using student feedback in research more explicitly.

Institutions also varied in whether they stated that student feedback data is anonymous or confidential (or whether they even addressed that issue in publicly available documents). Five institutions referred to student feedback data as anonymous in their policies, FAQ's, or other documents. A further nine institutions stated that student data is confidential (see chart below). Additionally, ten institutions use both terms. The

researcher noted that several colleges and universities that used both terms used different terms (either confidential or anonymous) in different documents. However, the researcher was unable to find any information addressing anonymity *or* confidentiality at fourteen institutions. This lack of information could clearly pose a problem for students or other stakeholders seeking clarity about how feedback data is governed.

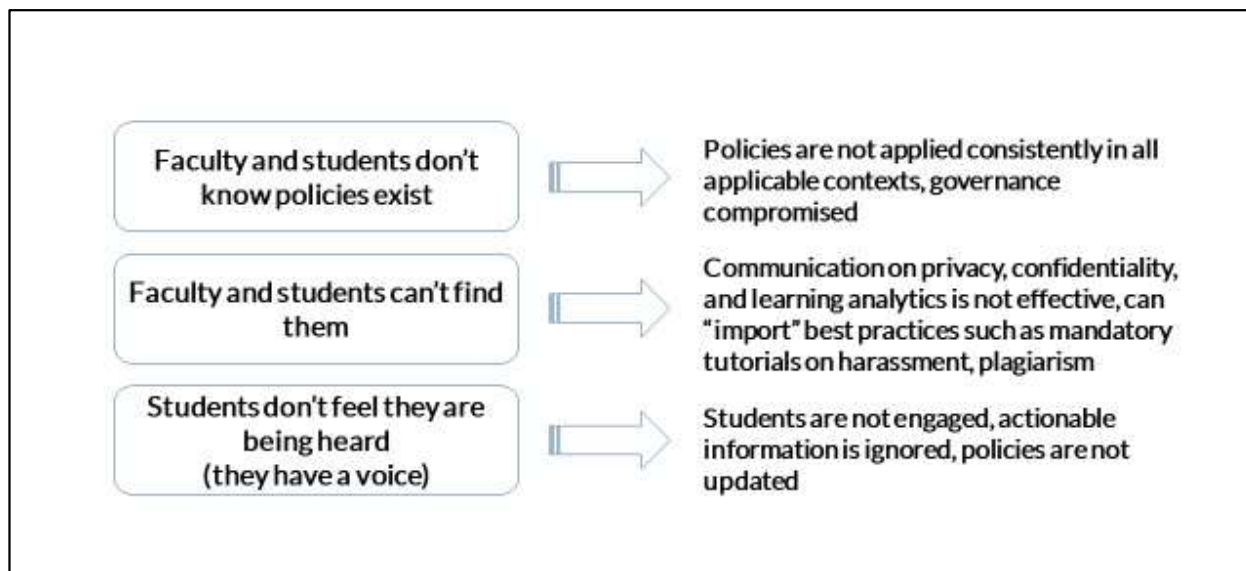
Stakeholder Access to Data

Several questions in the rubric touch on the central issue of *which* stakeholders have access to student feedback data, and how much student feedback data different stakeholders may have access to. Institutions may make available different types of data to different stakeholders and at different levels of granularity. For example, an institution may indicate that instructors receive a mean score for all quantitative questions in the student evaluation survey for their courses, as well as all individual qualitative comments. The same institution may limit administrators’ access (e.g., that by deans and department heads) to the mean quantitative scores or to a mean quantitative score for only certain questions. Finally, the same institution may make mean quantitative scores (either for all questions, or for select questions) available to students, or allow instructors to opt-in or decline to make that information available to students. As with nearly all aspects of this research, practices varied widely between institutions surveyed. A clear understanding of these practices could be helpful for instructors, administrators, industry stakeholders such as the partner organization, and even students. However, institutions varied considerably in whether or not they provided a clear breakdown of this information.

Seventeen institutions did not provide any such information at all. A further nine institutions provided partial information. The remaining institutions provided a fuller breakdown of which stakeholders have access to student feedback data and at what level of granularity.

A summary of the research findings is presented in Figure 2.

**FIGURE 2
SUMMARY OF RESEARCH FINDINGS**



RECOMMENDATIONS

This research suggests the following recommendations for Canadian educational institutions seeking to clarify and modernize their policies on student feedback data and its governance:

1. Institutions should streamline and cross-reference documents dealing with privacy, data governance, and student evaluation data. For example, policies, procedures, FAQ's, and other documents addressing the student evaluation processes should cross-reference one another as well as reference and address higher-level privacy policies and laws which may apply.
2. Those schools without a central policy on student evaluations (e.g., those with only an FAQ or brief website about the process, or that may point to a collective agreement that addresses some aspects of evaluations) should consider drafting a central policy.
3. Institutions, in their policies regarding student evaluation data, should address retention, storage, and destruction. Currently, most institutions do not address this issue. It would be helpful if institutions did explain how long student feedback data will be retained, how it will be stored securely, and whether and when it will be destroyed. For further clarity, such provisions could cross-reference applicable privacy and data protection legislation as well as other policies within the institution.
4. Institutions should consider and adopt a proactive approach to communicating privacy and data governance issues as they affect student feedback data. This approach could include training to students as well as instructors, who may receive questions from their students about the evaluation process. This approach should address data uses more specifically, including potential novel uses like research or learning analytics, as well as what if any legislative or institutional protections apply. Further, such a proactive communications strategy could even become a part of broader privacy literacy training for students.
5. It would be helpful if institutions considered and articulated their policies on troubling comments that may appear in student feedback. Further, the fact that so many policies on student evaluations do not address troubling comments at all invites questions as to whether Canadian institutions have necessarily considered this issue. Institutions should address it and clarify whether or not they have a mechanism to investigate comments in extreme circumstances, e.g., threats.
6. Institutions should indicate what enforcement mechanisms exist for attempts to breach student privacy. Policies should articulate how student data is protected and what consequences stakeholders, such as students, staff, or faculty, may face if they attempt to access data inappropriately. Consequences for broader ethical breaches, such as attempts to bias or influence student evaluation results, could also be considered in reforms of student evaluation policies, although this research is primarily concerned with data privacy and governance issues.
7. Learning analytics is a growing field and offers new opportunities for higher education to make effective use of data. Potentially, student feedback data could be combined with other datasets to offer novel insights about learners, instructors, programs, and/or the institution more broadly. Student evaluation policies, as well as broader communication strategies about them, should at a minimum articulate whether and how these datasets may be combined, and how any such uses will protect student privacy.
8. Institutions should consider and address the use of data for academic research. This can range from simply indicating that student evaluation results belong to instructors to articulating an approval process to use the data in that context.
9. Institutions should further clarify in their policies whether student feedback data is anonymous or confidential—and, ideally, should explain the difference between these terms. Confidentiality may be easier to guarantee than anonymity, especially if institutions also adopt methods by which troubling comments such as threats may be re-identified and investigated (as per recommendation five).
10. Institutions should address the breakdown of data sharing with different stakeholders, to a relatively high level of specificity. For example, it would be helpful to stakeholders within the institution as well as, potentially, industry service providers to know who has access to what level of student feedback data, and whether granting access to some stakeholders e.g. students is optional.

11. Finally, institutions should ensure that their policies or other documents regarding student evaluations clearly provide basic information about this process. For example, policies should address which students have their experiences evaluated; which instructors or other members of the teaching staff, e.g., teaching assistants or lab instructors, will be evaluated; and whether there are minimum numbers of students per course before a course can be evaluated.

FUTURE RESEARCH

Higher education institutions are in a constant state of flux. Some may be revising or changing their institutional policies and guidelines regarding student course evaluations in response to increasing demands for transparency and equity from all stakeholders. In parallel, the growth of adoption, and subsequent growth in realization of benefits of a technology has been likened to a “diffusion” of an innovation. The potential benefits offered by a technology-enabled innovation can only be realized when and if the technology is used widely and effectively (Orlikowski, 2002; Marcolin et al, 2000). The process of technological evolution implies that users have to integrate new technologies in their practices, organisations and routines, which involve learning, adjustments, and “domestication” (Lie and Sørensen, 1996). Adherence to ethical use of student data such as student feedback and click behaviors in their digital learning environment (Kieran, 2020) is essential for the trust that the academic community needs to domesticate and fully realize the benefits of learning analytics for students, complying with policies on information security and privacy (Kieran, 2020; Vogels et al, 2020; Kerry, 2020). As universities continue to grow and adapt to ever-changing “new normal” realities, new technologies such as learning analytics continue to outpace them. Both need to be better aligned but it the evolution of easy to find, clear, detailed and fair policies on the use of student learning analytics cannot be left too far behind. The student feedback ecosystem will require a balanced approach that combines rich and voluminous data with clearly thought out guidelines on how best to make use of that data while respecting student information confidentiality and privacy.

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