

The value of context in determining the sustainability and effectiveness of feedback practices in
higher education: A case study of a general education program

by

Jaime Buchanan

B.A., St Thomas University, 2004
M.A., Wilfrid Laurier University, 2005

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Curriculum & Instruction
College of Education

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Manhattan, Kansas

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Abstract

This evaluative case study investigated the situated feedback practices of a prescribed general education program at a university in the Middle East. It examined the extent to which the feedback practices on this program could be considered effective and sustainable as evidenced by the extant feedback literature in higher education. To facilitate this, the study employed a qualitative design and utilized a dual theoretical framework. First, the study interrogated feedback practices from a socioconstructivist or sociocultural perspective, since this is the educational paradigm upon which the program is premised. Second, it investigated feedback practices from a sociomaterial lens, in order to reveal the influence of non-human actors such as technology, time, and space on feedback. Data were collected using document analyses from institutional policies and other records associated with semester-specific course-related documents, faculty interviews, and an object interview with the bespoke learning management system (LMS). Purposive sampling was utilized, and data were collected and analyzed iteratively using reflexive thematic analysis. The study found that the feedback practices of the program under investigation were neither effective nor sustainable from a socioconstructivist perspective due to a lack of alignment with three foundational aspects of sociocultural theories of learning: active student positioning, opportunities for scaffolding, and culturally situated interactions. Further, the sociomaterial analysis revealed that non-human actors significantly shaped feedback practices, constraining the modality, timing, and focus of feedback information. In particular, this analysis found that the LMS exerted powerful influence on faculty feedback practices through many of its design features and data analytics. Ultimately, the study concluded that the feedback practices of the general education program were found to be more aligned with technocratic views of education that prioritize managerialism and accountability over teacher

professionalism and agency out of a concern for upholding the “science of learning”. These findings highlight the need for institutions to critically evaluate the purpose and place of feedback in program design and delivery, and how their technological infrastructure shapes pedagogical practices, with implications for LMS design, faculty agency, and institutional policies that govern feedback in higher education contexts.

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Dedication

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Chapter 1 - Introduction

1. Overview

1.1 Introduction to and Purpose of Study

The research context is situated at an interdisciplinary predominantly undergraduate university in the Arabian Gulf region. During the COVID-19 pandemic, the university partnered with an external provider, an American higher education service provider to adopt the provider's curriculum and teaching philosophy, which eschews a traditional, teacher-fronted lecture-based curriculum in favor of active learning that relies on flipped learning strategies and heavy engagement and participation by students facilitated through the use of technology and its bespoke platform. These online lessons are recorded and accessible by faculty, students, and administrators alike for review, assessment, quality assurance and other purposes. One of the hallmark features of the program is the use of regular formative assessment rather than high-stakes summative assessment: students are graded each class session on one of that lesson's learning outcomes, although they are not aware of which activity will be assessed.

Faculty are expected to also provide brief feedback comments with the grade, aimed at improving student performance in future class activities. This creates a substantial grading and feedback load on faculty, which raises questions of effectiveness and sustainability (Boud & Molloy, 2013), since research confirms that feedback that is teacher-directed is not as effective as feedback from other sources (Kluger & DeNisi, 1996; Nicol, 2019; Nicol & McCallum, 2022; Sadler, 2010). As such, this project seeks to explore both the structural issues affecting the ability of faculty to provide meaningful and useful feedback as well as how feedback can be made more sustainable within this context.

1.2 Feedback in Higher Education

Feedback is a key element of education. Research has shown that feedback is second only to direct instruction in its potential to improve student performance (Hattie & Timperley, 2007). This is increasingly true in the higher education context, where students spend less time under the guidance of instructors and are expected to take on an increasingly autonomous role in their studies. Tutor feedback, then, is often the only individual attention given to students from a faculty member (Bailey & Garner, 2010). Within the externally provided curriculum where formative assessment accounts for nearly half of a course grade, instructor feedback is particularly crucial.

Furthermore, in higher education, feedback is mandated at the policy level; it is built into policy documents and forms a key component of accreditation and review processes critical to the continued operation of an institution. This can be seen, for example, in the Teaching Excellence Framework submissions in the UK where feedback provision descriptions feature prominently as a means of securing increases in tuition fees (Winstone, 2022). However, despite the transformational potential of feedback, it remains a frustrating experience for both students and teachers alike. Feedback is almost always delivered post hoc, and students are rarely provided the opportunity to incorporate feedback to improve future performance (Bailey & Garner, 2010; Forsythe & Johnson, 2017).

1.3 Defining Feedback

The concept of feedback is problematic in its definitions. Early definitions of feedback reveal its origins in cybernetics, which is defined as “control theory as it is applied to complex systems” (*Cybernetics | Definition & Facts | Britannica*, 2025). Wiener (1950) framed it as a means of manipulating a system, focusing on directionality and results, and focusing on the

ability to “change the general method and patterns of performance” as the key tenet of feedback (p. 56). While Hattie and Timperley (2007) define feedback as information about aspects of performance or understanding as delivered by an agent (which could be a course instructor or a peer), many theorists and researchers argue that this conceptualization is incomplete. Indeed, as Ramaprasad so astutely observed four decades ago, “The information on the gap between the actual level and the reference level is feedback only when it is used to alter the gap” (1983, p. 5). While he was talking about feedback in the context of electrical engineering, the point is no less true of feedback on performance in university. Researchers such as Sadler (2010) argue that information about performance needs implementation, and so the student response to this information has been incorporated into a more nuanced understanding of feedback.

Far from viewing feedback as information transmission, which takes a behaviorist model of learning where students improve on the basis of comments on performance given by their course tutor, feedback moves from a transmission model to a process, one where the student is an active participant rather than passive recipient. In the transmission model, there is a focus on inputs, in the sense of a focus on the comments given to students, while in the process model, there is a focus on the interaction between student and instructor as the means of producing the desired results.

Recent developments in feedback research have challenged the positioning of feedback as a phenomenon external to the student, arguing that feedback should be reconceptualized as an internal, self-generated form of self-regulation. This project will use this definition of feedback proffered by Nicol, positioning feedback as an inner process that students engage in, whether they are consciously aware or not (Nicol, 2019). However, while Nicol’s definition provides a strong basis for the learner’s role in feedback processes, it fails to acknowledge the ways that

contextual factors such as timing or technology can influence feedback processes. As such, this study takes a step beyond Nicol, to assert that effective and sustainable feedback processes typically occur in social contexts where the learner engages with peers, tutors, and the environmental and material to initiate the internal process.

1.4 Complexities in Higher Education Feedback Practices

1.4.1 Institutional Constraints and Contexts

Many factors impede opportunities for faculty to engage in meaningful feedback practices. The first factor is institutional. Often, the ability of faculty to provide useful and actionable feedback is constrained by the positioning of feedback within the larger context of teaching at university. Time-intensity is a major subcomponent of this. Providing targeted and individualized feedback that is tailored to an individual's needs is a time-consuming process (Boud & Molloy, 2013), and feedback provision must compete with other teaching duties, to say nothing of the often competing additional roles of faculty in higher education to produce research and engage in service activities. This limits the time many faculty devote to giving personalized feedback, despite the marketization of higher education and thus a higher emphasis placed on student satisfaction (Rand, 2017).

Volume is a further contributor. A further consequence of the marketization of higher education can be seen in the increase in class sizes (Altbach et al., 2009), and in requirements for certain types of assignment, and even assessment procedures such as expectations of quick turnaround can further constrain the opportunity for valuable feedback to be given.

Quality assurance practices can have an impact on both what is provided and how, as accreditation bodies often look for specific forms of evidence, which in turn influence feedback practices. Some accrediting bodies, for instance, may require results be returned to students

within a specified timeframe, or they may mandate that students receive written feedback comments as well as grades. Winstone and Boud (2019) have termed the context within which feedback is given in HE as Feedback Cultures (p. 2), which can be heavily influenced by the institution at which one teaches, the feedback practices of colleagues, or even the expectations of feedback according to the discipline of instruction.

Institutional factors not only impact how much feedback faculty can give, they can also determine the extent to which students can engage in active participation in feedback processes. Heavy assessment schedules for students tend to have a domino effect on the ability of students to learn from one assessment and build skills for the next. When student assessment loads are viewed both longitudinally and also latitudinally, volume can severely restrict the amount of time and space students have to engage meaningfully with feedback before their attention is moved to another upcoming assessment. Curriculum design that does not take into consideration how courses interact at the semester level for students can therefore contribute to a lack of feedback engagement.

1.4.2 Student Responses to Feedback

Another factor influencing feedback events concerns the student's role in feedback situations. When transmission feedback is given, it must be decoded and understood within the context of the gap between desired levels and current levels of achievement. However, closing the attainment gap requires a significant amount of successful processing on the student's part, and very often students lack the competencies required to be feedback literate. The concept of feedback literacy, first introduced by Sutton (2012) and further delineated by Carless and Boud (2018) illustrates how feedback processes require specific competencies and dispositions for students to act upon feedback information. Students need to understand the academic value of

feedback for their improvement, for instance. They also need to be predisposed to respond to it productively (Forsythe & Johnson, 2017). Students further need to understand how their work has been evaluated. Often, faculty employ softening strategies, such as the use of hedging (e.g. modifiers like “not always” or “sometimes”) and modals (e.g. could, may) to mitigate critical evaluation of student work (F. Hyland & Hyland, 2001). Unfortunately, this can have the negative consequence of decreasing the clarity of the message. Second, students need to know why their performance does not meet standards and thirdly how they can make changes to that performance (Evans, 2013). Perhaps most important to a student-focused feedback literacy model, students must be active participants in the feedback process, not only eliciting feedback on performance, but then taking action to self-evaluate and improve aspects of that performance (Carless & Winstone, 2023, p. 13). All of these needs can be met by developing feedback literacy.

1.4.3 Faculty Beliefs and Practices

A third challenge is that of faculty feedback practices (Rand, 2017). Corresponding to the challenges of students in decoding and acting upon feedback to improve their performance, some faculty do not believe that it is their role to provide guidance regarding how performance can be improved. Oftentimes, faculty subscribe to a transmission-model of feedback, whereby simply telling students what they have done incorrectly is sufficient for improving performance (Bailey & Garner, 2010). Frequently, these comments function as grade justification rather than a forward-looking means of improving in future work. Other faculty argue against excessive coaching or mentoring of students, viewing learning as the work of an engaged student. Some faculty do not consider how able their students are to understand their comments and bridge the gap between performance and expected standards. When there is little or no connection from one

assignment to the next, students have limited opportunities to engage meaningfully with feedback. Finally, faculty also frequently express dissatisfaction with student response and engagement with feedback (Mulliner & Tucker, 2017), which renders it a poor investment of time. This also includes an understanding of the sociomaterial factors impairing student responses to feedback. Clearly, feedback practices that are premised on a transmission model of student learning are problematic for all stakeholders.

1.4.4 Sociomaterial Dimensions of Feedback Processes

A final factor contributing to the complexity of feedback practices in higher education concerns the fact that feedback practices are embedded within complex sociomaterial networks that influence their effectiveness. At the core of these networks is the challenge of meaning making between different actors. Transmission feedback requires extensive interpretation within the context of performance gaps, yet the material conditions often impede this process. The feedback artifact itself, whether digital comments, handwritten notes, or a video recording, exist within material constraints that affect how it functions in practice. Furthermore, the feedback artifact occurs within a wider network. These networks involve not only human actors but other material, physical, and temporal elements as well, such as the timing of assessments, the physical or digital spaces where feedback is exchanged, and the artifacts through which feedback information is communicated. Indeed, feedback occurs within a complex web of considerations ranging from institutional climate and policies, to student and faculty roles and beliefs in feedback practices, and the material and environmental context within which feedback is situated.

1.5 Social Constructivism

We turn now to consider feedback models from within the dominant underlying theoretical frameworks of teaching and learning most prominent during their rise. Social constructivism as a theory of learning and teaching practices has dominated the past fifty years of educational theory and has greatly influenced how feedback is construed. This model of learning draws most notably on the work of Vygotsky and argues that learning takes place within a dialogic framework, either in social interaction with teachers or with peers. It also advises us that students require scaffolding in their feedback, and that ideally, for them to learn from the experience, the feedback should be pitched somewhere in the Zone of Proximal Development, which is where “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). The combination of these three aspects – the scaffolding, the social interaction, and the challenge – ensure that students are actively engaged as co-constructors of their experience, enabling them to build on prior experiences. Within this framework, feedback practices that enable students to be active participants as opposed to passive receivers of input on performance are more likely to result in improved outputs.

1.5.1 Feedback Literacy as Socially Constructed Language Event

Feedback literacy, largely the work of several researchers in the UK, Hong Kong, and Australia (Boud & Molloy, 2013; Carless & Boud, 2018; Carless & Chan, 2017) originates from the investigation of feedback dissatisfaction, seeking to identify how feedback can be made more actionable and thus more useful. Investigations have sought to move away from a process in which students receive feedback passively (via the transmission model already discussed), and

into one where students are active contributors, seeking feedback, self-evaluating, and providing as well as receiving peer feedback. One principle resulting from this research is that feedback that is delivered in a transmission model is not effective, and that feedback must be dialogic in order for it to be effective (Myers & Buchanan, 2025; Sadler, 2010; Yang & Carless, 2013). As previously discussed, this has led in turn to considerations of how feedback literate students are or are not.

Feedback literacy has been defined by Sutton (2012) as “the ability to read, interpret and use written feedback” (p. 31). Winstone and Carless (2023) argue that a more comprehensive description is found in Carless and Boud’s assertion that feedback literacy encompasses “the understandings, capacities and dispositions needed to make sense of information and use it to enhance work or learning strategies” (2018, p. 1316). For Winstone and Carless, it is the activation of the student role that is key (2020, p. 11), since “active participation in feedback processes is central to a new paradigm approach to feedback” (Carless & Winstone, 2023, p. 24). More recently, feedback literacy has been defined as “the ability to understand the functions of different forms of feedback, to actively engage with feedback, and to employ feedback to ameliorate future work and study behavior” (Myers & Buchanan, 2022, p. 308). The authors outline the knowledge, competencies, and behaviors involved in feedback literacy, arguing that the intermarriage of the three is what contributes to student success.

What is key to all of this is the recognition of student agency within feedback processes. Students act upon feedback information rather than being acted upon. Feedback practices, then, should both acknowledge this role and afford opportunities for students to engage with feedback information from a wide range of sources. For this to occur, conceptualizations of feedback

should move from transmission-focused feedback on performance to a feedback literacy model with designed-into-the-curriculum opportunities for noticing and self-regulating performance.

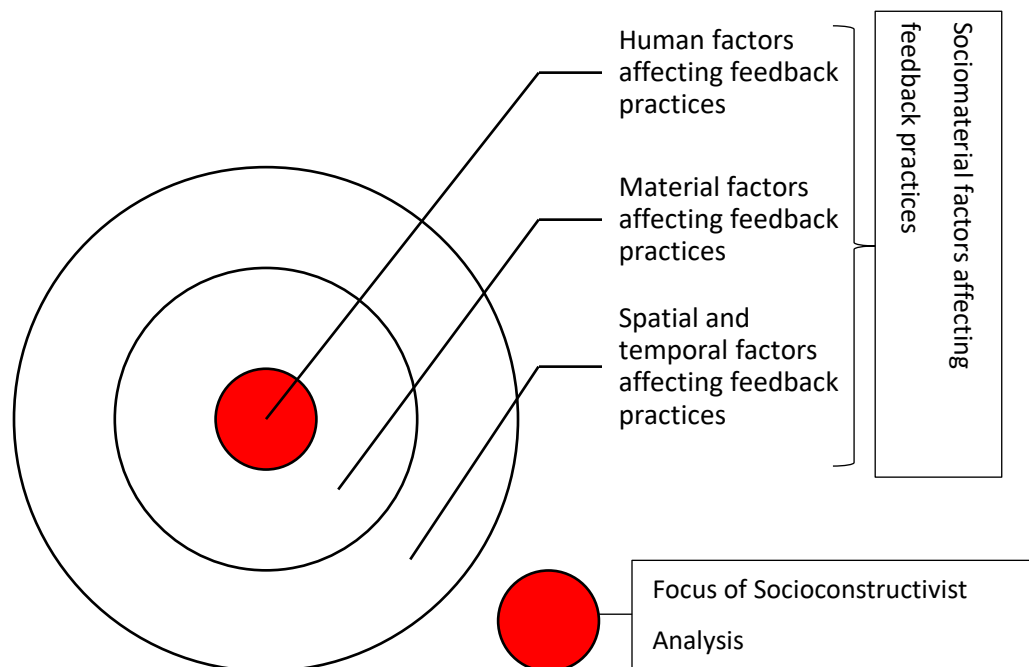
2. Theoretical Framework

This project incorporates two major theoretical frameworks. First, feedback as a fundamental teaching and learning process is construed as a socioconstructivist process. That is, learning occurs through interactions with others. This theoretical framework is used, since it provides the fundamental basis for the bespoke pedagogy and curriculum under investigation. As such, using a socioconstructivist lens allows feedback practices to be interrogated against the principles of student activity and agency. However, such a view should not consider feedback, like any other aspect of teaching and learning, as occurring within a vacuum, which is why this project also adopts a secondary lens of analysis: that of a sociomaterialist view. Gourlay (2019), interrogating the lip service in HE policy documents paid to student engagement, notes that “there has been a tendency in mainstream policy development in particular to collapse into a generic ‘skills and competencies’ model, which underscores the notion of the neoliberal individual, imagined as context-free, as both repository and sole agential source of digital literacy practices” (p. 237). Gourlay is critiquing the tendency to reduce students to one homogeneous type, a type which is not influenced by context or environment. With this in mind, Gravett (2020) calls for feedback literacies to be examined within the context of the “key factors that affect feedback and learning interactions” (p. 6). As such, a sociomaterialist perspective views feedback practices from a context-rich standpoint, one that incorporates not only the feedback processes of a given learning event between actors but also considers the event from the wider context of program or semester-level learning, extra-academic and extra-curricular concerns, and the role of digital mediation on teaching and learning processes, including

feedback exchanges. Further, those actors are not limited to humans, but may include non-human actors, such as policies, places, and time constraints that may impact how feedback is enacted. Digital space is part of a wider focus on how space – whether physical, digital, public or otherwise – impacts upon feedback processes is a key tenet of a sociomaterialist approach to feedback. Such a view allows not only the interactions of students and tutors to be interrogated, but also considers whether material, physical, and temporal factors may further influence feedback practices within the program in question.

Figure 1.1

Dual Theoretical Framework



3. Statement of the Research Problem

This project seeks to explore the place and positioning of feedback practices within the fully prescribed general education program at the site in question. It seeks to reveal the tacit and explicit expectations as outlined in institutional policy documentation governing the core business of teaching and learning. It further looks to examine the extent to which the purported

positioning of feedback practices aligns with the stated goals of fully active learning as underpinned by the guiding principles of socioconstructivist views of teaching and learning. In particular, this study aims to determine the extent to which the feedback practices espoused by the program and articulated by faculty can be considered sustainable and effective as outlined in the literature on effective feedback practices.

3.1 Research Purpose

The purpose of this research project is to examine the place of feedback within the prescribed program at the site in question, as seen from the perspective of faculty and administrative stakeholders and to examine the underlying assumptions implied by the positioning of feedback practices, roles, and agencies within institutional documentation. This study aims at understanding of the structure place and beliefs concerning feedback within this institution. By doing this it seeks to provide an evaluation of this positioning of feedback, premised on the extant literature of effective and sustainable feedback practices in higher education.

3.2 Research Questions

Main Research Question:

1. How sustainable and effective are the feedback practices of the general education program?

Sub-questions:

2. How do these feedback practices align with socioconstructivist principles of learning and teaching?
3. How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices?

4. Methodology

This study used an evaluative case study methodology to interrogate the extent to which the feedback practices that form a central component of the general education program at the site in question can be considered to be effective and sustainable. In order to achieve this, it utilized document analysis, providing an in-depth analysis of the policy documentation publicly available at the site in question, as well as the published manifesto explaining the underpinning curricular principles upon which the overall curriculum and pedagogy are premised. A second significant data set was derived from the perspectives of new and seasoned faculty members teaching on the program. This data was collected via semi-structured interviews that explored faculty perceptions and self-reported practices surrounding feedback and grading within the general education program at the site in question. In order to enable a sociomaterial analysis that acknowledged non-human factors as significant actors in feedback practices, an object interview (Adams & Thompson, 2016) was also conducted with the learning management system (LMS) on which the program operates. More extensive discussion of the methodology employed by this study can be found in Chapter 3.

5. Definition of Terms

Dialogic Feedback – Myers and Buchanan (2025, p. 4) note that “Dialogue in the feedback literacies literature is characterized by two key features: giving students a voice or agency in the feedback process, and framing feedback as a conversation involving back and forth interaction between both parties”. Dialogic feedback can be conversational, as in an iterative, reciprocal exchange, though it can also be facilitated using asynchronous and/or multimodal activities occurring before or after student performance. Askew and Lodge (2000) provide a broad dialogic

definition of feedback as “all dialogue to support learning in both formal and informal situations” (p.1).

Feedback - input on performance against a target standard or benchmark. This is often conceived of in terms of written corrective feedback, especially in a higher education context (see definition below). Feedback has been variously defined as the following:

- a) Kulhavy (1977) conceptualizes feedback as “any of the numerous procedures that are used to tell a learner if an instructional response is right or wrong” (p. 211).
- b) Ramaprasad (1983) - “Feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way” (p.4).
- c) Sadler (1989) defines feedback on the basis of how it is used rather than what it contains (p. 120), arguing that it serves both the teacher and the student as audience, but that its impact is what essentially makes it information.
- d) Hattie & Timperley (2007) propose a model of feedback that answers three key questions corresponding to the notions of feed up, feedback back, and feed forward: “1) Where am I going? (What are the goals?) 2) How am I going? (What progress is being made toward the goal?) 3) Where to next? (What activities need to be undertaken to make better progress?)” (p. 86)
- e) Nicol (2021, p. 2) offers a model of internal feedback that he defines as “the new knowledge that students generate when they compare their current knowledge and competence against some reference information”.

Feedback Gap - Sadler (1989) identifies what he terms the feedback gap, which is the difference between reference levels or expected performance levels and actual performance (p. 120). Sadler

(1989) identifies three key competencies a learner must possess in order to successfully act upon feedback, thereby closing the gap. The first is an understanding of what constitutes successful performance, the second is the ability to measure individual performance against that standard, and the third is the ability to act as necessary in order to close any perceived gap between expectations and current performance (p.121). As such, Sadler's definition of the feedback gap is intrinsically linked to the concept of qualitative judgement (defined below).

Feedback Literacy - The term “feedback literacy” was first defined by Sutton (2012, p. 31) as “the ability to read, interpret and use written feedback”. It is something many students fail to master. It was further elaborated by Carless and Boud (2018) as “the understandings, capacities and dispositions needed to make sense of information and use it to enhance work or learning strategies” (p.1316). This has been extended by Nieminem and Carless (2022) to include “the understandings, capacities and dispositions that learners need to maximize benefits from feedback processes.” (p. 2).

Feedback Processes – this is an umbrella term used to refer to activities that offer opportunities for students to engage in noticing and acting upon information related to their skills and performance. It is also sometimes termed as “feedback events” or “feedback situations.” This term encompasses all activities for peer learning, reflection, and noticing from exemplar analysis which are often designed into the curriculum as well as formal and informal feedback provided from the tutor to the student, whether in written, verbal, or other formats. This term does not distinguish between effective and ineffective processes, nor evaluate whether the processes are sustainable or not.

Formative Assessment – Wiliam and Thompson (2008, p. 67) define formative assessment as any of five strategies involving: “1) Clarifying and sharing learning intentions and criteria for success; 2) Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding; 3) Providing feedback that moves learners forward; 4) Activating students as instructional resources for one another; and 5) Activating students as the owners of their own learning.” Black and Wiliam (2009, pp. 7–8) further expand this to acknowledge the three different agents of teacher, peer, and learner and three phases of where the learner is going, where the learner is now, and how to get there.

Peer Feedback – this term is used to denote opportunities for students to give and receive input on their work. It can be designed into the curriculum (Nicol et al., 2014; Winstone & Carless, 2020) or happen spontaneously. It can be synchronous or asynchronous, occurring in multimodal formats and for a range of purposes (Nicol, 2009; Nicol & Boyle, 2003; Sadler, 2013). Peer feedback is viewed in the literature as a valuable component to enhance both the sustainability and effectiveness of feedback practices in higher education (Boud & Molloy, 2013; Winstone & Carless, 2020).

Qualitative Judgments – Sadler (1987, p. 201) conceptualizes the evaluation of one person of a piece of work as involving some or all of five characteristics: 1) the use of multiple criteria 2) the use of gradient criteria rather than absolute criteria 3) the use of a subset of criteria out of all possible options 4) a lack of independent means for verifying the accuracy of a judgment 5) that numeric assignments are made after rather than before the judgment itself. This is a key term, since qualitative judgments are a hallmark of higher education assessment practices.

Student Agency – Myers and Buchanan (2025, p. 3) tie agency to students’ engagement in feedback practices, explaining that “in the context of feedback, engagement involves seeking out, thinking about, and applying teachers' comments. This process requires student agency, including initiative to seek feedback, independent thought to critically analyze it, and the self-regulatory capacity to implement it". This term relates strongly to feedback literacy, since students require (often demonstrable) evidence of these skills and propensities.

Sustainable Feedback – defined by Carless et al. (2011) as “dialogic processes and activities which can support and inform the student on the current task, whilst also developing the ability to self-regulate performance on future tasks” (p. 397). This has been extended by Boud and Molloy (2013), who point to the need to locate feedback practices within the curriculum “as a central feature of student engagement” (p. 706). This move shifts the responsibility for feedback provision from the teacher to give the student. Instead, feedback processes are meaningfully designed into teaching and learning opportunities. Succinctly put, sustainable feedback is designed into the curriculum and provides learners multiple opportunities to access feedback at multiple points from multiple sources.

Transmission Model - this term is used by Winstone, Carless and Boud among other researchers (Carless, 2020; Nicol, 2010; Sutton, 2012; Winstone & Boud, 2019; Winstone & Carless, 2020) to describe the behaviorist model of feedback where educators provide feedback on performance that students receive. Winstone et al. argue that this model places the burden of feedback upon instructors, and any improvements to it must be a further responsibility of theirs.

Written Corrective Feedback - this term refers to written feedback given on assessed performance. Since the majority of feedback provided by teachers to students in a higher

education context comes in this format, it has high value for students. Often, this feedback is intended to be three-pronged: an explanation and justification of grade, and explanation of areas for correction (the explanation part can often be slim), and sometimes, advice or guidance for how to improve on future performance.

6. Delimitations, Limitations, and Challenges

6.1 Delimitations

1. **Qualitative Research.** As a study of qualitative research, this project did not seek replicability nor transferability in the sense of generalizable results that have significance in other contexts. Rather, it sought to gain depth of understanding from the place of feedback processes in the program at the site in question.
2. **Institutional and Faculty Perspectives.** A second restriction included the decision to limit the focus to the place of feedback within official institutional documentation and from the perspective of faculty working to enact feedback in this context. While student perspectives on feedback practices are often the primary consideration, students within this program are not in a position to affect feedback processes, and so this study focused on faculty and institutional perspectives.
3. **Site and Context.** This study was limited to the place of feedback processes within the general education program of a college at the site in question. It did not examine feedback practices in other programs at the site.
4. **Feedback Practices.** The focus of this study was to investigate the extent to which feedback practices within the general education program could be considered sustainable and effective. While other aspects of teaching and learning and student and faculty roles

are important aspects of education, this project limited its investigation to explicit mentions and focusing of feedback practices.

6.2 Limitations

1. **Lack of Student Voice.** While the study sought to evaluate the institutional positioning of feedback practices and how its faculty as human actors negotiate this placement, current feedback literature sees the student role as integral rather than secondary, as such, the study lacks the valuable perspective of students in terms of feedback processes within the case under analysis.
2. **Document Data.** A second limitation included the use of documents as a source of data, since “documents are not produced specifically for research purposes” (Cardno, 2019, p. 627). This means that there are gaps in the amount of attention and detail paid to feedback in the documentation at the site in question.
3. **Limited Participation.** A third constraint involved the need to limit participation and document analysis. This was in order to feasibly conduct the intensive analysis required to generate the depth and thickness of description that are hallmarks of qualitative inquiry.

6.3 Challenges

1. **Institutional Change.** This project was premised upon the positioning of feedback practices within the pre-established curriculum of the external provider. However, recent institutional leadership decisions appear to be rolling back the decision to implement this external curriculum. Nonetheless, data collection occurred while the program was fully operational and so institutional change did not impact the collection, analysis, or findings of this study.

2. **Lack of Cooperation.** A second challenge involved the lack of cooperation by course coordinators of the statistics course. Documentation related to the course-within-a-semester is only accessible if course coordinators cooperate by sharing it. Unfortunately, this did not occur, which resulted in a less robust analysis of how different teaching teams responded to feedback practices over a semester. Nevertheless, perspectives from this course were included in the form of the faculty review summaries for that semester and in the interview dataset.

6.4 Statement of the Significance of the Study

Feedback is a crucial element of teaching and learning in higher education for several reasons. First, the amount of contact between instructor and students is radically reduced from secondary to tertiary education, with the expectation that students take on the responsibility of learning independently. Within the program that is at the heart of this study, formative feedback and its associated grading have replaced high-stakes assessments and exams, rendering them even more significant. It is imperative, therefore, that these feedback practices are evaluated in terms of their impact and sustainability.

A secondary aspect of this study involves the unquestioned assumption that more feedback is better, rather than a consideration of whether and how this is the case. When faculty are provided with an external curriculum and an increased assessment and written corrective feedback load, the extent to which this is true must be critically examined. This research is the first known attempt in higher education to evaluate feedback practices against the standards of sustainability and effectiveness as argued in the extant literature. As such, it should prove to be a valuable addition to the existing research in the area. Specifically, it aims to address:

- Determining the extent to which quantity of feedback equates with quality of feedback.

- Considering the scalability of formative assessment and feedback practices within the increasing marketization of HE
- Promoting the inclusion of effective and sustainable feedback practices
- Promoting the development of feedback literacy in teachers, students, and administrators

6.5 Researcher Positionality

I bring an emic perspective to this research, with extensive professional experience and expertise in tertiary education spanning nearly two decades. My background encompasses diverse roles within general education and academic bridging programs, including direct experience with the type of program under investigation.

My academic qualifications include credentials in communications, literature, language studies, and adult language teaching, complemented by several postgraduate teaching-related qualifications. These qualifications come from North American and European institutions. Over the past six years, I have conducted research in comparable educational contexts, with a particular focus on feedback practices in higher education. This work has resulted in publications in peer-reviewed journals, establishing my scholarly engagement in the field.

Theoretically, I align strongly with sociocultural and socioconstructivist approaches to education, emphasizing the integral role of learners in both learning and teaching practices. For me, feedback is an essential aspect of my role as an educator. However, I maintain that sustainable feedback should not rest solely with instructors and that effective feedback must be dialogic, affording learners an agentic role. Throughout this study, I have increasingly recognized the significant influence of non-human factors – including policy, technology, space, and temporality – in shaping educational experiences.

I acknowledge potential bias in my conviction that written corrective feedback delivered solely by instructors is neither sustainable nor effective. This perspective is supported by current empirical literature. To address this bias, I have employed multiple strategies: reviewing policy documents, soliciting diverse faculty perspectives, actively seeking outlier cases and examples of success within existing practices, and engaging in peer coding during the initial pilot study to ensure that alternative perspectives were sought out and considered.

My cultural positioning reflects extensive experience in highly multicultural educational environments. While my North American cultural and linguistic background and education provider insider understanding of the program's expectations and norms, my two decades of work in diverse international contexts has developed substantial expertise regarding varied cultural norms within similar educational settings.

My practical experience includes direct teaching within comparable programs, delivering professional development to faculty on analogous courses, and developing curricula and professional development programs for diverse tertiary education projects across multiple local, international, and global contexts. This experience enables me to critically interrogate the place of feedback within the general education program at the heart of this case study.

Chapter 2 - Literature Review

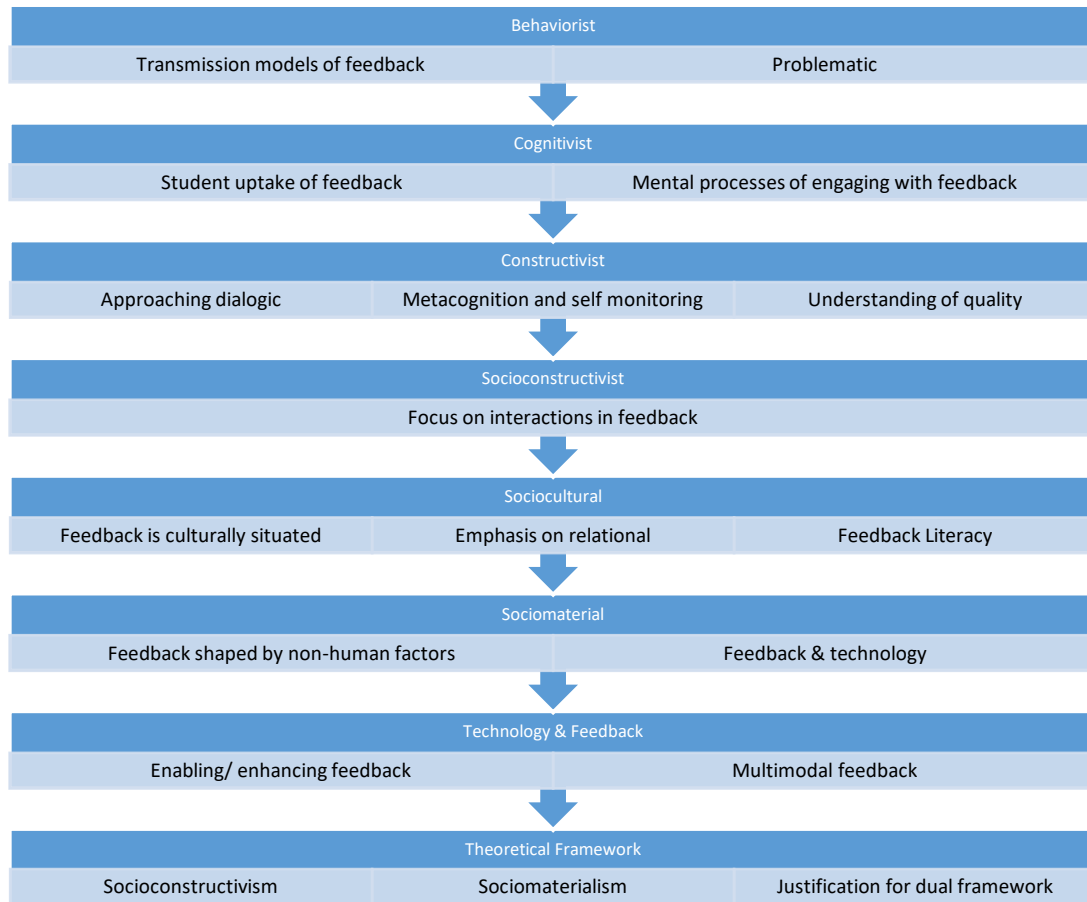
Literature Review Structure

The literature review is divided into two parts. First, it sets forth the current literature on feedback in higher education, tracing the historical shift of conceptualizing feedback as a post-hoc, assessment-linked activity that occurs after the teaching and learning process, to one that is embedded and serves an integral role in the teaching process. It examines the extensive literature on student and teacher feedback literacies, demonstrating that while both the fields of formative assessment and feedback in higher education have been extensively researched, the focus has been largely on socioconstructivist perspectives of feedback practices, with less research taking a sociomaterial perspective on feedback processes.

The second part of the literature review presents two major theoretical frameworks underpinning this study, first exploring socioconstructivist notions of teaching and learning processes, since they form the fundamental guiding principles of the curriculum used within the program under investigation. An understanding of the key tenets of socioconstructivist understandings of education is necessary in order to evaluate the curriculum upon which they are premised. It further delineates sociomaterial perspectives on education, since this perspective offers broader opportunities to understand the processes and actors who enable and restrict feedback processes. Such a view examines not only human participants in educational practices but widens the scope to non-human actors. Figure 2.1 below illustrates the structure of the literature review.

Figure 2.1

Literature Review Structure



Ultimately, this chapter aims to demonstrate that a gap in knowledge currently exists in the form of a purposive exploration of how higher education feedback practices within an externally-provided curriculum are enacted, and the extent to which these feedback practices align with the program’s foundational constructs of active learning.

Part 1: Feedback in Higher Education

This section looks at the historical evolution of feedback as it occurs vis-à-vis developments in educational paradigms. It problematizes transmission models of feedback as being ineffectual, unsustainable, and based on inaccurate representations of the student role in feedback specifically and teaching and learning more generally. It then offers feedback literacy and sustainable feedback practices as a logical solution to these problems.

Transmission Models of Feedback

First, the literature provides extensive research to support the view that current feedback models that are based on a transmission of knowledge from the faculty member to the student are untenable. Early research places feedback within the province of behaviorist theories of learning (Kulhavy, 1977; Skinner, 1968; Wiener, 1950), where the assumption is that a passive student recipient of feedback information will receive this information and correct errors. Provided the learning environment is carefully manipulated, learners can be led to the correct response, which is evidence of learning from a behaviorist standpoint. Essentially, learning is transmitted from teachers to students, who then act upon it. This view also situates learning as the outward evidence through behaviors and outward production of skills and knowledge. This transmission of feedback information is located in the information gap of cybernetics and epitomized in the oft-cited definition of feedback provided by Ramaprasad in 1983: “The information on the gap between the actual level and the reference level is feedback only when it is used to alter the gap” (1983, p. 5). To paraphrase, feedback can only be considered feedback if it results in improved performance. Although student outcomes were not evaluated as part of this study, faculty impressions of the impact on feedback on student performance were gauged.

However, such views have been contested by myriad research that delineate the extent to which a simple transmission model fails to provide an accurate conceptualization of the many complexities of learning, does not afford subjectivity or agency to the learner, and does not consider the cognitive processes involved in learning (Carless & Boud, 2018; Carless & Winstone, 2020). Furthermore, it places full onus on the teacher to first notice an issue with student performance, then determine the best form of feedback, and finally how best to deliver it. Even in small classes, this is onerous. In the marketization of higher education and increasing

class sizes, it is not feasible for faculty to do so for each student. In the program under investigation, this point becomes even more salient, since daily formative feedback information forms a significant expectation of faculty's day-to-day activities. A significant body of research, in fact, acknowledges the problematic nature of feedback information, discussed in more detail below.

Problems with transmission-model feedback

A second point raised from the literature is that a transmission model is ineffectual. It does not account for the student's role in receiving, understanding, responding to, and acting on feedback information. This is evident in the extensive body of research that demonstrates the many challenges of feedback. Feedback as a concept has been problematized from many angles, including the difficulty of understanding it (Foord, 2019; Green, 2019), the value of it (Beaumont et al., 2011; Carless, 2006; Forsythe & Johnson, 2017; Kumar & Stracke, 2011; Matthews et al., 2023), the facility of applying it (Forsythe & Johnson, 2017; Kluger & DeNisi, 1996; Sadler, 1989; Steen-Utheim & Hopfenbeck, 2019), and the return on investment for giving it (Bailey & Garner, 2010; Nicol & Macfarlane-Dick, 2006). Sutton (2012, p. 37) noted problems with accessing feedback due to the use of academic language that did not form part of a shared metalanguage among students and tutors. Other criticisms have pointed to the difficult emotional responses to feedback that many students experience (Evans, 2013; Han & Hyland, 2019; F. Hyland & Hyland, 2001; Mulliner & Tucker, 2017; Xu & Carless, 2017). These studies underscore the complexities of feedback practices and illustrate the many potential challenges of oversimplifying feedback as a transmission from tutor to student. Many of these studies focused on feedback as the written commentary provided to students together with a grade on an assignment, demonstrating an underlying assumption that feedback is a transmission of

information. This point is salient for the present study, given that a significant component of faculty workload involves the provision of precisely this form of feedback.

One particularly revealing study of just some of the many problems with feedback occurred at the turn of the millennium. Chanock (2000) investigated student interpretations of tutor comments by asking both faculty and students in a humanities course to decode the meaning of a single piece of feedback information. Her study found that nearly half of both students and faculty disagreed in their interpretation of the meaning, revealing the inadequacies of feedback processes situated in information transmission systems. Providing formative feedback comments is not sufficient to ensure students understand and can act on information given, drawing a distinction between feedback as information and feedback as effect, a distinction which is relevant to the present study.

Improving feedback quality: cognitivist and written corrective feedback approaches

Partly in response to the extensive body of literature outlining the problems associated with feedback, much of the feedback research at the turn of the millennium aimed at improving the quality of feedback messages. In this, an implicitly cognitivist approach was apparent: the assumption that the learner would internalize and act upon information if it was of sufficient quality. From this perspective, the mind is an information processor, taking in data, storing it, and retrieving it as needed. By emphasizing the cognitive processes involved in learning, students are given a more active role in the creation of their own understanding. Research in this perspective has focused on manipulating feedback messages to promote student uptake (Shute, 2008), implying that feedback can be made predictable when variables can be controlled (Bangert-Drowns et al., 1991; Fyfe & Brown, 2018; Thurlings et al., 2013). However, this

cognitivist approach nevertheless overlooks the broader social and cultural factors that impact learning, as well as the emotional aspects of learning environments. A further criticism of a cognitivist approach is that it largely fails to recognize the individual differences in developmental sequence and timelines of learning. Much of the research into feedback over the past several decades reveals that these overlooked considerations can often play an integral role in educational processes. The quality of feedback and how learners interact with it are relevant to the concerns of the present study.

Another collection of studies focuses on feedback within its post-hoc, evaluative association, since traditionally, feedback in higher education has been understood as the written comments given with a grade to a student's assignment. A significant body of research has investigated practices of written corrective feedback (WCF), particularly in the context of second language writing instruction and composition studies, focusing on its role for language learners and writers operating in an additional language. However, the literature on WCF reveals that it is a complex and often fraught process. Ellis (2009) provides a typology of written corrective feedback that outlines the possible avenues for delivering feedback as well as the potential uses that students may make of feedback. WCF may be direct or indirect and may be transmitted electronically. Per Ellis (2009, p. 105), the available responses to WCF for students include (1) correcting the error appropriately, (2) correcting the error inappropriately, (3) ignoring or failing to respond to the error, (4) avoiding the error through deletion, (5) making a correct substitution other than what was suggested by the teacher, (6) making an incorrect substitution other than that suggested by the teacher, (7) making an error caused by misleading or inaccurate teacher feedback, and (8) making a correction despite misleading or inaccurate teacher WCF. Ferris (2006) in another research project notes that of the seven possible outcomes, only three result in improved work,

supporting the ambivalent conclusions drawn earlier from the meta-analysis of feedback intervention research by Kluger and DeNisi (1996). Hyland and Hyland (2001) revealed that strategies to manage affect, such as the use of hedging and other linguistic devices, can unintentionally reduce the clarity of the message. Han and Hyland (2019) examined the emotional responses of two HE students in a qualitative case study analysis that revealed the subjective nature of feedback responses. Once again, this body of research is significant for the present study, given the many problems that can occur in acting on written corrective feedback comments.

Overall, the research in this area has been limited in terms of the tentative, localized, and contradictory nature of the findings. Crucially, as Ellis (2009) notes, for WCF to be valuable, the student needs to attend to the corrective feedback in subsequent work. When this is built into the pedagogy, such as in process-writing approaches, the feedback can be effective (Bitchener & Knoch, 2008, 2009; Chandler, 2003; Ferris, 1999; 2004). However, the contentious nature of the value and role of feedback within second language writing and composition studies further underscores the problematic nature of written corrective feedback, providing a foundation from which to critically examine the place and practices associated with feedback in the program under investigation.

Constructivist feedback perspectives

Further theoretical developments in educational research have placed the learner at the center of the learning process, fully engaged in activities that foster the creation of knowledge. An extension of the cognitivist view of the role of mental models to facilitate learning, constructivist theory is premised on the basis of prior learning and occurs through active processes such as project-based and inquiry-driven activities. Constructivist theory views feedback as a

communicative event in the sense that it is a dialogue between the teacher and the student, where both parties are actively engaged in the learning process (Black & Wiliam, 1998; Sadler, 1989). According to this perspective, feedback is not just a one-way transmission of information from the teacher to the student, but rather a two-way conversation where the student is actively involved in interpreting and responding to the feedback (Nicol, 2010). In this sense, feedback is not a mechanism for providing information on how well the student has performed. Instead, it is an opportunity for the student to reflect on their learning processes and to actively engage with the material being taught. Constructivist theory emphasizes the importance of metacognition, or the ability to reflect on one's own learning processes, and views feedback as a means of fostering this ability (Black & Wiliam, 1998; Hattie & Timperley, 2007; Nicol, 2010; Sadler, 1989). However, despite the more active role of the student, feedback is still largely positioned as the domain and responsibility of teachers, and students are still recipients of feedback (Hattie & Timperley, 2007).

An example is the use of interactive cover sheets by Bloxham and Campbell (2010) to make feedback more dialogic and student-centered. In this study, students affixed a cover sheet to their assigned work, specifying which particular areas they would like feedback in. Faculty responded by focusing on these areas. However, while students requested targeted feedback, this did not change the fact that the teacher is still the source of feedback that the student is then expected to act on. A significant body of feedback literature has investigated and continues to explore constructivist views of feedback, discussed in more detail below.

Sadler's (1989) influential work has shaped much of the current understanding of feedback. In his seminal piece, Sadler introduces a theoretical framework that positions feedback as the effect, rather than the content, of information on student performance within formative

assessment contexts. This is because merely providing information does not ensure that it will be acted on, or acted on correctly. Instead, it is the subsequent action, for Sadler, that indicates whether information has resulted in changes to performance. Further, in order for feedback information to be translated into improvements, the student must possess some notion of quality in order to be able to enact this change (1989, p. 121). This paradigm shift from a transmission-model to a more dialogic and student-centered approach has been crucial in advancing feedback research. Sadler also highlights the challenges of communicating standards to students, as they are often ill-articulated and rooted in the type of experiential knowledge that is used by educators to make evaluative assessments (Sadler, 2010, 2014). In this sense, Sadler repositions feedback as self-monitoring, which he argues occurs through making judgements about their own work against a standard. While standards are often then defined as criteria or rubrics, Sadler suggests that a better source is the use of exemplars, which provide both a width and breadth of understanding of quality that marking criteria, usually in the inaccessible language of an expert (Sutton, 2012) cannot convey. Thus, Sadler contends that students should strive to acquire this knowledge through feedback, which he views as a central pedagogic practice rather than an addendum to grading and evaluation. This view is of central importance to the present study, since it sets the place of feedback as a pedagogic tool for learning, which aligns with the underpinning curricular and pedagogic principles of the program.

Peer and internal feedback practices

Another fact supported by research is that the best sources of feedback do not always come from the teacher. The literature has consistently demonstrated that students learn as much and often more from comparing their own work with exemplars and peers as they do from teacher-provided comments. Nicol has investigated specific feedback interventions designed to prompt

student agency in the feedback process (Nicol, 2009, 2010; 2021). Interventions have targeted large class sizes and the use of technology to facilitate effective peer feedback practices (Nicol & Boyle, 2003), the use of exemplars to make comparisons and scaffold reflections (Nicol & McCallum, 2022), and generating criteria for assignment quality through the analysis of prior models (Nicol, 2010). Nicol has honed his theory of feedback as an internal process over the past two decades (Nicol, 2009, 2021; Nicol, 2010; Nicol & Macfarlane-Dick, 2006; Nicol & McCallum, 2022), and, following Sadler, positions feedback practices at the center of classroom activities, designing opportunities for students to learn from the comparisons of their own nascent understandings and emergent skills with those of their wider peer group.

It should be emphasized that the potential benefits of designing peer and internal feedback practices into the curriculum represents perhaps the most strongly corroborated theory of feedback. Research has confirmed peer feedback practices as a source of meaningful feedback (Banister, 2020; Nicol, 2020; Nicol & Macfarlane-Dick, 2006; Nicol & McCallum, 2022; Sadler, 1989, 2010).

The positive influences of self- and peer-assessment practices and their impact on learning has also been examined, with Blair and McGinty (2012) finding that students valued the opportunity to discuss their performance with their professor, leading to increased motivation and confidence. Deneen and Hoo found that incorporating peer and self-assessments into curricular design led to increased indicators of student feedback literacy. Myers and Buchanan (2025) have categorized dialogic peer feedback literacies across three levels of engagement: clarificatory, questioning, and critical, showing that peer feedback provides a range of learning opportunities and benefits. Nicol and McCallum (2022) found that student understanding of

quality and ability to distinguish quality was enhanced through peer feedback and no teacher intervention.

Additional research has demonstrated the benefits of dialogic feedback as comparison against an external reference (Carless & Chan, 2017; Myers & Buchanan, 2025; Nicol, 2010; Nicol & Boyle, 2003; Sadler, 1989, 2010). Another benefit of peer-feedback is that students tend to give more extensive feedback and feedback can be derived from multiple peers, increasing the volume of input on performance (Nicol, 2009; 2010; Nicol et al., 2014). Peer review is both a sustainable and effective source of feedback. This body of literature provides a strong framework for investigating the current feedback practices and the positioning of feedback within the program in question: to what extent are such practices designed into the program?

Sustainable feedback practices and curricular design

A final conclusion supported by the literature is that effective feedback practices need to be thoughtfully designed into the curriculum and not added after-the-fact. This is because students require feedback that comes at a time when it can be acted upon, which involves careful planning and course design. A common thread among these studies is the sustainability of such feedback practices (Ajjawi & Boud, 2017; Boud, 2000). With the marketization of higher education resulting in ever expanding class sizes, expectations that feedback be provided from the educator are increasingly impractical and impossible. Partially from this perspective, theorists have called for educators to consider students themselves as sources of feedback (Boud & Molloy, 2013; Hounsell et al., 2008; Nicol & Macfarlane-Dick, 2006). These perspectives parallel current educational preferences for sociocultural theories of learning, upon which the program under investigation is premised.

Closely linked to socio-constructivist views, sociocultural theories have formed the prevailing perspective over the past several decades. These theories are informed by the ideas of Vygotsky (1978) and propose that students are not only actively engaged in their own learning process, but that this occurs through the social interactions with peers and educators in co-constructing their own skills and knowledge (Chong, 2021; Hill & West, 2019; Nicol, 2020; Torrance, 2012; Winstone et al., 2017). Feedback research in this vein focuses on the student role in feedback processes (Carless, 2020b; Evans, 2013; Zhu & Carless, 2018), and places responsibility for seeking and acting on feedback from multiple sources in the domain of the student (Carless & Boud, 2018; Sadler, 1989, 2010; Sutton, 2012). Such research provides a framework for investigating the positioning and role(s) of actors within feedback events, especially the extent to which an active and agentic role is made possible.

The research into the role of the student in feedback events has paralleled a focus on student assessment literacies, which refer to the knowledge, skills, and abilities that students need to effectively participate in the assessment process. These skills and knowledge include understanding the purpose of assessment, the different types of assessment methods, and the expectations and criteria for success. They also involve understanding how to interpret assessment feedback and use it to improve a student's own learning. This includes knowing how to analyze their own performance, set goals, and develop strategies to achieve those goals (Carless, 2020a; Carless & Winstone, 2023). These literacies are important for students to develop as they progress through their education and beyond, as assessment is an integral part of lifelong learning and professional development. This literature provides another lens by which to analyze the feedback practices afforded by the program in question.

However, while efforts to develop assessment literacies aim to enhance university student learning by placing greater responsibility on higher education institutions to provide quality, transparent assessments as learning indicators, these approaches often lack critical examination of the underlying assessment tools and practices themselves. The Academic Literacies school of thought, however, problematizes the very tools used to acculturate students into academic communities of practice, arguing that pathways into discourse communities are not linear (Lea & Street, 1998, 2006), i.e. some students are less aware than others of what is valued in academic written work, which sometimes requires additional time and effort, and therefore higher education must not only teach the curriculum, but also reveal the hidden discursive expectations in order to enable wider participation in higher education (Gravett, 2020; Lea & Street, 2006; Sutton, 2012).

Hidden discourse, or what Bernstein (1975) referred to as elaborated code, indicates the use of more complex, metaphorical structures in speech and writing as opposed to the use of shorter, more direct speech – or what he termed restricted code. For Bernstein, a student’s prior exposure to an elaborated code provides a significant advantage in terms of academic preparation. Lea and Street (1998) call for greater acknowledgement and accommodation for students without prior exposure to these codes, which implicates feedback and its potential for driving student success. Feedback practices that provide more explicit guidance around issues of academic discourse and register, for instance, can foster greater academic literacies among students. This is significant in the present study, given the program’s particular approach to assessment and feedback.

Feedback literacy

It is from this critical questioning of academic practices that feedback literacy first originated. In 2012, Sutton put forth the concept of feedback literacy, which he defined as “the

ability to read, interpret and use written feedback” (p. 31). Firmly situated within the Academic Literacies approach (Lea & Street, 1998, 2006; Lillis & Scott, 2015), which problematizes students’ acculturation into academic and disciplinary discourses, Sutton proposed feedback literacy as a process through which students negotiate the socio-materialistic forces that promote or inhibit effective uptake of feedback sources, in epistemological, ontological and practical ways. The epistemological is realized by learners who demonstrate active engagement in the process of acquiring academic knowledge, the ontological is seen in learners who develop a sense of professional and/or academic self, and the practical is evidenced by the actions of learners to engage with feedback information, through reading, enacting or other demonstrable behaviors (Sutton, 2012, p. 33).

Nearly simultaneously, Boud and Molloy (Boud & Molloy, 2013) called for a reconceptualization of feedback practices within higher education, arguing that it is both untenable from a resource perspective and also illogical from a pedagogical perspective to rely on a transmission model of feedback. Instead, they called for feedback to be considered the result of information, rather than the information itself. Both Sutton’s and Boud and Molloy’s studies were seminal in creating a major shift in how feedback in HE was both conceived of and researched. In 2020, Molloy et al. developed a “learning-centered” framework for understanding the particular characteristics of feedback literacy, finding seven categories of feedback literacy that include (1) committing to feedback as improvement; (2) appreciating feedback as an active process; (3) eliciting information to improve learning; (4) processing feedback information; (5) acknowledging and working with emotions; (6) acknowledging feedback as a reciprocal process; and (7) enacting outcomes of processing of feedback information (2020, pp. 3–8).

Little et al. (2023) conducted a scoping review to determine whether interventions investigating feedback literacy resulted in increased engagement. They found some evidence that student feedback literacy was found to be enhanced, particularly with affective factors. Feedback literacy then, as a desirable competency of university students evidenced across these seven categories, complements sustainable and effective feedback practices, acknowledging the integral role of the student herself in feedback situations. The student role in feedback processes is of interest in the present study.

From a focus on elaborating on and then building on student feedback literacy, some scholars turned their focus to corresponding feedback literacies demonstrated by educators who either enable students to be feedback literate and engage meaningfully with feedback, largely by designing meaningful feedback opportunities into the curriculum and by facilitating effective pedagogic practices (Winstone & Carless, 2019). Recently, Boud and Dawson (2021) have built on initial conceptualizations of teacher feedback literacy by Winstone and Carless (2023) to encompass competencies across macro-, meso- and micro-levels. The macro level refers to programmatic design and development, such as considering how the skills and knowledge acquired at one stage of a program are built upon in a later stage. The meso-level refers to course design and implementation, such as opportunities to apply feedback information from one unit of learning in a subsequent unit. The micro-level refers to feedback practices relating to individual student assignments, for instance, when students have the opportunity to seek feedback information and whether this information can be used to improve performance. The authors used data on the practices of highly effective educators to arrive at this more broadly delineated view of teacher feedback literacy. Considerations of whether faculty have opportunities to engage in teacher feedback literacies across all three levels are pertinent to the present study.

Sociomaterial views of feedback literacy

Gravett (2020) criticized what she interpreted as an overly simplified view of feedback literacy as solely focused on the cognitive and affective factors, arguing instead in favor of a more nuanced appreciation for how these factors are influenced by social processes as well as material factors. For Gravett, binary and fixed representations of the dispositions, actions, and competencies enacted in educational processes are not accurate representations. Students arrive in educational contexts with unique perspectives and circumstances. Gravett argues that these are better understood as highly contextualized, recognizing that the environment and power relations between actors in an educational event have influence on what is (not) done. Pitt et al. (2020) note that students are frequently portrayed as a homogeneous masse, rather than recognized as individuals with distinct “histories, capabilities, and expectations” (p. 4). Further, a sociomaterial perspective on learning processes considers not only the individual traits and qualities possessed by a student, but also the physical and digital spaces, and the material artefacts that are used within these processes.

Modality and technology have been found to be significant factors in shaping feedback practices. Ajjawi and Boud (2017), for instance, note that the location where feedback dialogue occurs can influence the extent to which it is acted upon, something corroborated by Winstone et al. (2021) who found student engagement with feedback was in part dependent upon where it was located on the learning management system. Similarly, Mensink and King analyzed LMS data analytics and found that when marks were available elsewhere on the platform, 40% of students failed to access their feedback files (2020, p. 14).

Feedback practices are also influenced by other contextual considerations. Esterhazy (2018) found that feedback practices in an engineering course were heavily influenced by the

interplay of contextual factors including course design, and pedagogic choices, the influence of disciplinary as well as social norms and customs, and the tools and space within which learning and feedback activities occurred. For Gravett (2020), any attempts to promote feedback literacy that fail to consider the messy complexity of feedback processes from within this wide variety of factors is short-sighted. Since this study adopts a sociomaterial theoretical lens as a second analytical tool, these perhaps as-yet unnoticed factors influencing feedback practices are of interest in this context.

Tai et al. (2021) have expanded the socio-materialist critique of feedback literacy to consider teacher feedback literacy, foregrounding the entanglements of space, context, and power with the interpersonal roles and processes enacted by teachers and students in the HE context. They note that the types of feedback that can be delivered or even designed meaningfully into teaching and learning activities are constrained by factors such as the curriculum, workload models, and even workplace culture (p. 4), and that power relations cannot be ignored when considering student uptake of what is construed as feedback-literate behaviors, particularly since assessment bestows on the teacher a considerable power differential. Further, oftentimes such power lies with external accrediting bodies, which limit faculty opportunities to engage in alternative feedback practices. Tai et al. (2021) use the theory of practice architectures to examine how feedback practices are enabled and constrained through three conditions, or architectures, within which they occur. The first is cultural-discursive. Feedback practices occur within a culturally situated context and according to disciplinary or discursive expectations. Cultural norms, and the language used to position feedback promote some orientations towards feedback while restricting others. The second architecture is material-economic, and refers to the equipment, tools, and physical spaces within which teaching and learning practices occur and the

extent to which they mediate and/or alienate the actors in feedback events. Such events are further compounded by time, and ultimately depend on the economic investments that are capable and allotted by the institution. The third architecture considers how interpersonal interactions are influenced by roles and relationships. Individual expectations of what constitutes acceptable and expected forms of address, tone, politeness level and directness vary widely. All three of these architectures are relevant to this study. Tai et al.'s (2021) conceptual paper raises valid considerations about the complexity of considering feedback practices from a sociomaterialist perspective and points to a significant research gap in terms of how research into feedback practices in higher education have been investigated.

In a subsequent conceptual paper, Carless and Winstone (2023) further argue that it makes more sense to conceive of a fluid interplay of actions between teachers and students when enacting feedback literacy, stressing that rather than each actor inhabiting a set of fixed attributes, there is mutual influence from the skills and competencies of one actor on the those of the other, rendering feedback situations extremely context-dependent. They note that demonstrable competencies of feedback literate teachers such as designing effective feedback opportunities and being emotionally sensitive to individual student needs occur in response to student feedback competencies such as appreciating feedback and regulating emotions (p. 157). Other research (Esterhazy et al., 2023) emphasizes the time-bound element of feedback situations, concluding that teacher feedback literacy can be construed as performative in the sense that it is an active process that occurs in response to a specific feedback event and should not be understood as a state of permanent being or a set of stable competencies an educator possesses. Both papers raise important implications for the present study, given the highly

prescribed nature of the program and the strong value placed on ensuring a uniformity of learning experience for all students on a cohort.

The same researchers have begun to expand their research focus from the micro- levels of student and teacher interactions to consider the wider systems within which feedback practices occur. A sociomaterial perspective on feedback practices enables opportunities to shift the focus to non-human actors in feedback processes. Davies (2023) examined the language used around feedback in policy documentation, revealing a persistent commitment to construing feedback in transmission-model terms. Winstone explored how policy documents in the UK interpret the place and importance of feedback within higher education institutions (Winstone, 2022), and further research has called for learner-centered feedback practices to be codified into policy documents (Pitt & Winstone, 2022). Such studies investigate the broader ecological system of the university, seeking to reveal how institutional and national structures can constrain or enable effective feedback reforms and provide a research mandate for the present study, which seeks to examine the place of feedback within the systems and practices enacted in a particular general education program.

Technology & Feedback Practices

A final significant theme arising in the literature involves the role of technology in shaping feedback practices. The rise of educational technology in the wider HE landscape has been matched by a concomitant rise in strategies to harness technology to facilitate feedback practices, leading to a tremendous number of publications on the subject. A review of the literature on online peer feedback alone garnered an initial identification of over 2000 papers (Kerman et al., 2024, p. 767). The uses of technology to provide more flexible feedback practices are illustrated throughout the literature.

A key focus on the use of technology in feedback practices has concerned the ability to enhance feedback practices through increasing student engagement (Winstone et al., 2017). Rad et al. (2023), for instance, note the use of AI to increase engagement with feedback and to develop students' feedback literacies. In another study, Tai and Chen (2024) found that interactions with chatbots decreased negative affective factors such as anxiety about errors. Bearman et al. (2024), on the other hand, argue that the human capacity for evaluative judgment must be fostered by educators and not ceded to technology, echoing Sadler's earlier work on the importance of developing students' complex appraisal skills (2010). The role of technology in enhancing and shaping feedback practices is of particular interest, given the predominance of the platform as the locus of feedback practices in the present study.

A common investigation involves the use of multimodal technologies to improve feedback activities. Audio and video feedback has been found to provide a greater quantity of feedback (Harper et al., 2018) and be more personal (Henderson & Phillips, 2015). Another benefit appears to be an increase in sustainability of feedback practices (Dawson et al., 2018). Wood has investigated the use of screencast technologies to support dialogic peer feedback (2022), finding that incorporating screencast and cloud-based applications can increase access and engagement with peer feedback, thus rendering it more effective as well as sustainable (Wood, 2021, 2022). In an investigation using a sociomaterial perspective, he has also found that screencast peer feedback enables students to manage affective responses to feedback (Wood, 2024). All of these findings are significant for the current project since they offer empirical evidence upon which feedback practices can be seen to be both effective and sustainable, while also acknowledging the affordances of technology in enabling such feedback practices.

To date, much of the research into technology-enabled feedback practices centers on the ways in which technology can enhance feedback practices and feedback literacies, focusing largely on the human factors associated with technology-mediated feedback. Kerman et al. (2024), for instance, found that the learning platform and learning setting influence online peer feedback, but the analysis focused on human factors such as capabilities that led to enhanced feedback uptake. This takes a somewhat uncritical view of the role of technology itself in shaping feedback events by assuming a positive outcome. While recent publications have looked at the role of generative AI and its potential impact on feedback practices more critically (Bearman et al., 2024), less has been published on the role of LMS technologies, with most focus on student uptake and engagement. For instance, Kataoka et al. (2023) examined the implementation of computer-mediated feedback in a Japanese second language class and its impact on oral performance. Winstone et al. (2021) provides one example of a study that identifies the features of the LMS that pose as barriers to feedback uptake, though once again from the student perspective. This study aims to further contribute to the literature by considering whether technology exerts any potentially infelicitous influences on feedback practices from the teacher perspective.

Feedback Literature Summary:

Taken together, the substantial literature on feedback in higher education traces the arc of educational philosophies from a more teacher-centered transmission focus to a more student-centered focus, to increasing awareness of the impact of non-human contextual factors. Feedback literacy as a construct answers the problems of transmission models of feedback, acknowledging the active role a student plays in the learning process of which feedback is an integral part. It also provides a sustainable model that shifts onus from the teacher to the learner in seeking,

managing, and ultimately acting on feedback. This leads to teacher feedback literacy wherein educators' competencies focus on mediating feedback encounters, designing feedback into the curriculum, and creating pedagogic opportunities for students to engage meaningfully with feedback sources. This engagement is always situated and contextualized. Sociomaterialist perspectives contextualize feedback practices within the wider landscape of teaching and learning processes, the individuals, systems, and structures involved and the time and spaces they occupy. The body of literature discussed provides an empirical and conceptual foundation from which the present study proceeds, seeking to understand the effectiveness and sustainability of feedback practices within the program in question, first from the socioconstructivist principles underpinning the program, and second from a wider sociomaterialist lens. Each of these perspectives are explored in the following section.

Part 2: Theoretical Framework: Socioconstructivism and Sociomaterialism

The literature review now turns to a discussion of the theoretical framework through which this study is interpreted. There are two major schools of thought that inform how I understand the place of feedback within higher education. The first is socioconstructivism or sociocultural theories of learning. The second is sociomaterialism. The reasons for this dual approach stem from the complementary character of the two frameworks. First, the curriculum and pedagogy adopted from the external provider are founded on the principles of active student participation in learning, which arises from sociocultural theories of learning. As such, the place of feedback practices within the program is interrogated against these principles to determine the extent to which feedback practices are aligned with active learning. However, adopting a sociomaterialist interpretation allows me to move beyond a focus only on the human actors in feedback practices,

opening up space to uncover other actors, such as technology, time, and space to determine how they influence feedback practices within the case at hand.

Socioconstructivism

Socioconstructivist, or sociocultural theories of learning come from educational theorist Lev Vygotsky, who saw learning as an inherently social process (Vygotsky, 1962, 1978). For Vygotsky, the influence of social interactions and the cultural context of learning are seminal – an individual does not learn in a context-free environment and so learning and development should not be studied without due consideration for the social and cultural environments within which such progress occurs. In particular, Vygotsky’s most influential contributions to educational theory include his emphasis on the interactional and socially situated nature of learning, the importance of interactions with a more competent other to facilitate learning, the role of scaffolding to build competencies, and the view that learning is cultural. Each of these are discussed in more detail below.

Learning is Social.

The first contribution is that learning occurs within social settings. Palincsar notes that “mental functioning of the individual is not simply derived from social interaction; rather, the specific structures and processes revealed by individuals can be traced to their interactions with others” (1998, p. 351). For Vygotsky, the development of higher-order thinking comes from interactions with others. This occurs especially through interactions with a more knowledgeable other (MKO). Frequently, the MKO is the teacher, indicating the valuable role the teacher plays in helping learners to achieve more than they are able to achieve independently (Wass et al., 2011). In other instances, the MKO can be a peer who helps achieve more than is possible independently (Taber, 2011), although Derry argues that for this to be effective, students must

already possess certain prerequisite skills, such as in argumentation (Derry, 1999). Therefore, Vygotsky's theory of learning emphasizes the primacy of social interaction in cognitive development, stressing the need for collaborative environments where learners can engage with more competent others to extend beyond current levels of ability. The extent to which feedback practices provide opportunities for social interaction is thus an area of examination in the present study.

Zone of Proximal Development.

The second major contribution is strongly connected to the first and involves the role of the MKO in helping an individual to develop. The Zone of Proximal Development (ZPD) is defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). Here, Vygotsky makes a distinction between actual and potential levels of a learner's development. The concept of ZPD came to prominence in *Mind in Society* (1978), although it had been known about in English since the translation of *Thought and Language* in 1962. Vygotsky was critical of psychometric testing that focused on current competencies since it provided only a snapshot of what is currently possible and failed to account for the potential development of an individual learner. Instead, Vygotsky believed we should consider a learner's potential for growth. ZPD represents the gap between learner capabilities when working independently, and what they are capable of achieving through interaction with a more knowledgeable other (Abtahi et al., 2017; Harland, 2003; Lefrançois, 2001, p. 587). Hogan and Tudge (2014) argue that “the zone is not, therefore, some clear-cut space that exists independently of the process of joint activity itself.

Rather, it is created in the course of collaboration” (p. 43). ZPD, then, explains the process by which cognitive development occurs within interactions with the MKO.

Scaffolding to Enhance Learning.

Although this term was not used explicitly by Vygotsky, one means by which learning is facilitated via the MKO is through careful scaffolding. Taber defines scaffolding as “the principle of setting a learner a task that is currently beyond their expertise, but within the ZPD and then providing support – modelling, guidance, hints, etc., so that the learner can achieve with support” (Taber, 2011, p. 52). In an educational context, teachers build supports into their pedagogic resources that are gradually removed as learners become more competent in the desired skill set. Indeed, Taber stresses the integral role of the teacher, arguing that effective teaching involves “operating a series of parallel interactions with individual learners and groups, ‘on-line,’ in real-time” (2011, p. 55). He further notes that learner-centered teaching should not be misunderstood as minimizing guided instruction, but that it depends on contextual factors to determine the extent to which teacher input and support is needed. He argues that introducing new abstract concepts to learners requires “a hands-on” approach with careful guidance and support (p. 49). This is true both in individual activities and across a curriculum. Thus, scaffolding represents an important component of sociocultural theories of learning. Given the strict limitations placed on direct instruction within the program and the prohibition against teacher talk time, the extent to which feedback practices afford scaffolding opportunities to enhance learning is another key consideration for the current study.

Learning is Cultural.

A final tenet of sociocultural theories of learning involves the belief that learning is culturally informed. Sociocultural theory emphasizes the role of cultural tools in cognitive development,

including the physical tools of writing and technology and the symbolic tools of language and signs. Vygotsky noted that “in the process of development the child not only masters the items of cultural experience but the habits and forms of cultural behavior, the cultural methods of reasoning” (Vygotski, 1929, p. 57). As children develop, they are not only learning isolated facts and data. They are also learning the patterns, practices, and ways of thinking that are valued and used in their culture. For Vygotsky, the forms of thinking available to an individual are context dependent (Taber, 2011). As individuals acquire knowledge, they also acquire the ways in which their society organizes and understands that knowledge, such as the preferred methods of logical reasoning and problem solving common in their cultural context. Learning and thinking are mediated by these methods and shape an individual’s interactions with the world around them and assimilate the knowledge of their cultural community.

The culturally situated nature of learning is of especial importance for the present study. This is because the bespoke curriculum and pedagogy have originated in a very different cultural milieu than the site of this research project. From a sociocultural perspective, this means that the curriculum and pedagogy are products of their culture; the extent to which this is a harmonious shift to the current cultural setting is of interest for this project.

In conclusion, Vygotsky’s sociocultural theory of learning situates cognitive development within the context of social interactions, through the guidance of a more capable peer or teacher who helps a learner to achieve more than they would otherwise be capable of, and this is achieved through the use of scaffolding strategies. Furthermore, this learning incorporates a cultural dimension, interpreting how individuals learn and think through the tools and practices of their culture. Hogan and Tudge (2014) caution that we should not view these elements of sociocultural theories of learning as disparate elements, but that each should be understood as

inextricably tied up with the contextual considerations associated with individual learner characteristics and broader environmental concerns.

Sociomaterialism

For sociomaterialist critics, however, this does not go far enough since it is still centered in the human experience and fails to consider non-human factors. As Nieminen et al. (2022, p. 101) explain, “A sociomaterial perspective of the world considers learning as being situated in the complex relationships between, and the assemblages of, humans and their contexts including objects, places, systems, space and time.” This situatedness means social processes such as feedback should not be studied in a manner that fails to acknowledge the influence of these objects, places, systems, and space on feedback events. The subsequent principles delineate some of the most common sociomaterial perspectives, applied to teaching and learning.

Posthumanist Perspectives.

The first major point of departure is that sociomaterialist perspectives take a posthumanist view. Rather than center knowledge in a humanist tradition, a posthumanist interpretation rejects the privileging of human endeavor above all. This is because a humanist perspective tends to focus on human actions without considering how the environment shapes human actions.

According to Bayne, “posthumanism involves us in making an ontological shift from understanding ‘the human’ as an individuated entity separate from and observant of the world and its (human and nonhuman) inhabitants, to one which is inextricably connected to the world and only conceivable as emergent with and through it” (Bayne, 2018, p. 1). It is this more holistic viewpoint that distinguishes posthumanism from the humanist tradition.

Braidotti argues that de-centering the focus away from an assumption of human exceptionalism allows for new ways of knowing, ways that are not restricted by binaries such as

sex, race, geography, nature versus technology, but “defy the logic of the excluded middle” (2019, p. 34). Such a philosophical transition challenges the foundations of a humanist epistemology, revolutionizing how knowledge is construed. This study adopts a posthumanist perspective, to consider feedback practices from a more than humanist enterprise.

Actor Network Theory.

A second major tenet of sociomaterialism is that a posthuman shift involves a concomitant shift to researching and understanding the potential for all aspects of the material world to work as actors. A common approach is Actor Network Theory (ANT). A theoretical framework proposed by Bruno Latour (2007), ANT includes nonhuman actors in its efforts to explain social phenomena, challenging the traditional divide between subject and object. Actors include human and non-human entities, such as technologies, objects, or even concepts, hence the materiality of sociomaterialism (Gourlay, 2012). As Fenwick and Edwards (2010, p. 3) assert, “Distinctions, such as those between the social and natural, between the material and cultural, the human and non-human, and between the technical and social, are taken to be effects rather than foundational assumptions”. Instead, they interact with one another in a heterogeneous network that simultaneously shapes and is shaped by the actors’ interactions.

Such interactions are fleeting, constantly in flux. For Latour (2007), this theory enables the influence of non-human actors on human and non-human entities to be revealed. It also sees networks as constantly in flux, rather than as stable, with actors joining, leaving, and changing their relationships and influence within the network. Finally, it stresses that networks are comprised of diverse components, whose influence on one another is messy and complex. Such an analysis is useful in tracing the influencing factors that enable and constrain feedback processes within a given curriculum.

Materialities.

As has already been established, sociomaterial theories seek to de-center the human as the focus of research endeavors in favor of examining how human enterprise interacts with the environment and materials of the physical world. As such, much sociomaterial research is concerned with uncovering the influence of material objects on social activities that have traditionally been solely examined through the human perspective. Within educational settings, this has frequently involved examining the impact of educational technologies on teaching and learning endeavors. These research studies typically reveal that material agency can be seen as much as human agency in educational endeavors.

Calderwood (2023) studied the ways in which an LMS acted to shape educators' sense of professional identities, finding that the LMS created an increased sense of professionalism and expertise in successfully navigating and operating the LMS as part of their duties, but conversely that the LMS provoked feelings of failure or professional inadequacy if the LMS failed or if they failed to control or manage the platform, internalizing that as a loss of professional face within teaching settings. Similarly, Howard and Samala (2024) found that the mandatory adoption of an LMS at an institution led to increased surveillance opportunities on lecturers' teaching and learning activities, which in turn shaped their professional behaviors. This is relevant to examine how material factors such as the LMS's design impact faculty feedback practices.

Space.

Sociomaterialist approaches to education further view space as significant actors in shaping how learning occurs. Gravett and Ajjawi (2022) argue that "education does not occur in a vacuum, it is spatially configured and entangled with the material world" (p. 1391). Similarly, Gourlay (2012, 2015) has discussed the blending of digital and analogue spaces, and how

students interact with the physical and digital spaces of university. She argues that such spaces further blend the public and private, as “university” teaching and learning processes occur in hybrid settings such as accessing course materials on a public bus (Gourlay, 2015), which was especially brought to light during the COVID 19 pandemic, when domestic spaces needed to be used for professional and academic purposes that required modifications in order to adhere to the performative norms of education.

Another study provides examples of academics modifying their domestic spaces during lockdown, such as hanging a curtain to create a more professional backdrop for online lectures (Gourlay, 2020b), resulting in a form of “spatial assemblage” (p. 807). However, even with the apparent freedom offered by digitally mediated content, learning is still materially located, depending on hardware and software to access digitally mediated content and programs (Gourlay, 2021b).

Space is of particular importance in this study, since the program is hybrid, with the majority of teaching and learning encounters happening in an online context and the majority of feedback encounters being mediated in a digital space. The impact of this modality in shaping feedback events is of particular interest for the current study.

Time.

Time is another significant factor in sociomaterialist perspective on education. In research that focuses on the experience of academics in Finland, Ylijoki points to changes within the institutional framework and the internal operations of higher education institutions, demonstrating the significant implications for time, especially manifesting as an acceleration of time, blurring the boundaries of professional and private time (Ylijoki, 2013). Such perspectives have been corroborated in other contexts (Acker & Armenti, 2004; Menzies & Newson, 2007),

revealing the impact of temporality on other actors in the higher education sector. Further research reveals the variety of perspectives of academic time, emphasizing the internal conflicts and struggles experienced by academics who struggle to disentangle their personal time from the all-consuming demands of their professional time commitments (Ylijoki & Mäntylä, 2003).

Time is another key concern within this study, since the bespoke assessment strategies place unique constraints and expectations on how time is experienced, used, and constrained for all participants within wider educational practices but also through feedback practices more specifically.

Discursive Practices.

Ultimately, sociomaterialist perspectives on education bring these considerations to bear on practices of teaching and learning. Gourlay has extensively critiqued the assumptions underpinning the definitions of student engagement, in particular, Trowler's (2010) definition of student engagement, which privileges "active, public and observable forms of participation [...], while behavior which does not comply with these expectations is interpreted as 'passive'" (Gourlay, 2015, p. 404). She argues that current conceptualizations of student engagement favor communicative and collaborative actions and occlude more passive, less observable activities that hold value in developing and shaping academic development - things like private reading and thinking. Gourlay also questions the value of placing the onus on the student of ensuring their own learning. In a later article, she challenges valorized conceptualizations of student engagement, arguing that engagement has been conflated with activity and that in so doing, policies that aim to be learner- and learning-centered remove the teacher and the value of teaching from education (Gourlay, 2017).

Gourlay draws on the thinking of Biesta and “learnification” (Biesta, 2009, p. 36), where conceptions and misconceptions about constructivism have fostered overly simplified binaries which valorize learning while giving rise to the vilification of teaching and, by extension, teachers (Biesta, 2012). Gourlay, however, goes beyond Biesta to emphasize the importance of non-human actors in influencing educational processes. Together with Oliver, she argues the need to “move away from the abstracted and ideological thinking [...] concerning student engagement [...], instead focusing on specific, situated practice – socially, materially, spatially, and temporally” (Gourlay & Oliver, 2018, p. 9). Hence, Gourlay’s analysis invites fresh understanding of student engagement, articulating a reevaluation of learning as messy and complex, that considers the often overlooked yet vital unseen and private elements of learning.

Sociomaterial perspectives on education invite a wider opportunity for analysis of educational systems. By opening analysis to how actors, human and non-human alike, influence and are in turn influenced by their networks, a more situated understanding of the processes underpinning education is enabled. Such an analysis treats temporality, space, and materiality as actors with their own impact on learning processes.

Justification for Dual Framework

As I have just outlined, this study adopts two complementary theoretical perspectives to examine feedback practices. First, it employs a socioconstructivist approach that aligns with the program’s stated pedagogical foundations. Second, it extends this analysis through a sociomaterial lens that enables examination of how non-human elements shape educational practices. Together, these frameworks provide a comprehensive understanding of feedback as both a social process and a materially-mediated phenomenon.

Integration of Theoretical Perspectives.

The integration of socioconstructivist and sociomaterial perspectives offers several advantages for this study:

1. **Complementary focus:** while socioconstructivism emphasizes human interactions and meaning-making, sociomaterialism attends to the often-overlooked material conditions that enable or constrain these interactions.
2. **Multi-dimensional analysis:** together, these frameworks allow examination of feedback at multiple levels—from interpersonal exchanges to institutional structures to technological affordances and constraints.
3. **Critical perspective:** the combination provides tools to critically examine potential misalignments between stated educational philosophies (e.g., active learning) and the material conditions that may undermine these philosophies in practice.
4. **Comprehensive understanding:** by considering both human and non-human actors, the study can develop a more nuanced understanding of why feedback practices succeed or fail in specific educational contexts.

This dual theoretical framework shapes all aspects of the research design, from data collection methods (which include both human participants and technological objects) to analytical approaches (which attend to both social interactions and material conditions). By employing both perspectives, this study aims to provide insights into feedback practices that might remain invisible through either framework alone.

Conclusion

In summary, the following conclusions can be drawn from the literature regarding feedback practices in higher education. First, current feedback models that are based on a transmission of knowledge from the faculty member to the student can be untenable. This often places the onus

on the teacher to notice an issue with student performance, determine the best form of feedback, and how best to deliver it. Even in small classes, this can be onerous. In the marketization of higher education and increasing class sizes, it becomes unfeasible for faculty to do so for each student. Secondly, this model is frequently ineffectual, since it does not take into account the student's role in receiving, understanding, responding to, and acting on feedback information. Thirdly, the literature indicates that the best sources of feedback are not always from the teacher. The literature has consistently demonstrated that students learn as much and often more from comparing their own work with exemplars and peers as they do from teacher-provided comments. Further, the comments generated by peers in a peer review situation are often more detailed and cover a wider array of points than those of a teacher. A final conclusion is that effective feedback practices need to be thoughtfully designed into the curriculum and not added after-the-fact. This is because students require feedback that comes at a time when it can be acted upon, which involves careful planning and course design.

Gaps in the Higher Education Feedback Research

The literature review has revealed several potential areas for further investigation. The first relates to the location of much of the feedback research. The current research does not appear to be an accurate global distribution, with concentrations of research occurring in the UK, Australia and Hong Kong/China, with some affiliated work in Norway and the Netherlands. As such, the knowledge of feedback practices in HE would be extended by the perspectives from educators in a different context. Educators at higher education institutions in the Middle East represent some of the most diverse faculty in terms of cultures and educational backgrounds.

A second gap in the literature relates to the heavy emphasis on theoretical and conceptual frameworks in the feedback literature. There has been a move away from practical application of

effective feedback practices as seen in curricula and classroom practices in favor of theoretical frameworks. There is a lack of empirically supported research, with the majority of the most-recent literature consisting of conceptual papers. While extensive qualitative research has gone into exploring and framing competencies, less practical application of these frameworks has been investigated, especially in terms of how feedback processes occur. Some studies have investigated the ways feedback is evidenced (Boud & Dawson, 2021), how it is performed (Esterhazy et al., 2021; Gravett & Winstone, 2019) and the spaces and places within which it occurs (Gravett et al., 2022). However, there is a predilection to describe rather than research the phenomenon (Nieminen & Carless, 2022). The extent to which feedback practices can be transferred across disciplinary contexts is often called into question, with much research emphasizing the singularity of feedback practices according to their discipline (Esterhazy, 2018; Winstone et al., 2022). Further empirical research into situated feedback processes is necessary.

Third, while feedback has been extensively studied from the vantage point of the student (Banister, 2020; Blair & McGinty, 2012; Carless, 2006, 2019; Kleijn, 2023), and feedback literacy as a construct, the complex sociomaterial entanglements of feedback practices—the interweaving of human actors, technologies, institutional policies, physical and digital spaces, and temporal dimensions—remain underexplored from faculty perspectives. Those that have examined teacher feedback practices tend to consider the skills and competencies required for effective feedback processes (Carless et al., 2011; Esterhazy, 2018; Heron et al., 2023; J. H.-M. Tai et al., 2021).

Finally, a majority of the recent research that has been published about feedback processes in higher education takes a sociocultural or socioconstructivist view. Although the

research taking a sociomaterial view of feedback processes within higher education is growing, it remains an underexplored area of the literature.

Contributions of the Study

This study aims to contribute to the following areas of feedback research in higher education. First, it investigates the extent to which a program that is premised on socioconstructivist principles of active student participation in learning upholds these values within its feedback practices. It further extends this analysis by applying a sociomaterialist lens to reveal the actors moving within the feedback processes of the program under investigation, expanding the understanding of influencing factors beyond the human participants in feedback processes to non-human actors such as policies, technologies, and time. Finally, it considers the extent to which the program, which is itself transplanted from another cultural context, can be construed as sustainable and effective.

In order to achieve these aims, the study explores documentation surrounding feedback practices within the general education program at the site in question. It analyzes data collected from human and non-human actors, including semi-structured faculty interviews, institutional and program-related policy documents codifying the pedagogic strategies and practices within this program, and an object interview with the LMS on which the program is run. It uses the artefacts from one particular general education course during one given semester to provide fine-grained analysis of how these actors come together in assemblages of feedback practices.

This chapter has reviewed the literature on feedback within higher education. It has reviewed the theoretical frameworks of socioconstructivism and sociomaterialism in terms of how they each construe teaching and learning processes including feedback, justifying this dual framework approach. The chapter has also identified areas for further development within the

literature and set out the aims of this study. In the next chapter, I will discuss the methodology of my study, outlining my theoretical framework and the research methods used to answer my research questions.

Chapter 3 - Methodology

This project aimed to explore the effectiveness and sustainability of feedback practices within a highly structured program from multiple vantage points, providing a deeper understanding of the implicit and explicit assumptions of feedback evident at the site. It sought to examine the ways that feedback is incorporated and construed within the current curriculum and teaching of the site in question, and the extent to which these enactments can be deemed sustainable. Understanding these elements can inform the development of feedback practices that are both sustainable and effective, ensuring that they are aligned with the overarching educational goals of the program.

The chapter begins with an explanation of the research study, the data required to examine the research questions, and the research methodology underpinning the study. It then moves to a discussion of the data collection methods used, including the pivotal role of the pilot study in influencing the ultimate research focus and design. Following this, an overview of the analysis and synthesis of data are provided. Next, issues of trustworthiness and ethics are considered. Finally, the chapter concludes with a statement of researcher positionality and an outline of the limitations and delimitations of the study.

Qualitative Inquiry Justification

The present study is a project of qualitative inquiry. Qualitative inquiry differs from quantitative research. Whereas the latter is concerned with post-positivist considerations of truth and causality (Firestone, 1987), the former takes the perspective that so-called reality is multitudinous and socially constructed (Creswell, 2013). In this study, I strive to explore how feedback is socially constructed within the program under examination. As such, I am concerned with inquiry into human experiences. Qualitative research acknowledges the existence of

different realities, of the individuality of study participants, and of those engaged in and consuming qualitative research. It seeks to enable a deeper understanding of the complexities of a social setting or situation. This project, which aimed to investigate how feedback processes are socially constructed at the site in question, acknowledges the subjectivities of those involved in feedback events.

Creswell (2013) outlines the situatedness of qualitative research as a key defining characteristic. Rather than eschew the human considerations inherent in social research, qualitative research both recognizes and celebrates this fact. This is especially relevant for this project, where a curriculum and pedagogy have been adopted in a context very much distinct from that which originated it. This project sought to interrogate the extent to which a pedagogy that has been transplanted from one context is suited to another environment. The strengths of qualitative research are found in the ability to provide perspectives that are not readily available through quantifiable data. Charmaz (2006) notes that "Rich data get beneath the surface of social and subjective life" (p. 13). This aligns with the goal of the study to examine the place of feedback within the structural constraints of the program in question, particularly as they are realized by individual actors.

Another major benefit of qualitative inquiry lies in providing a greater understanding of the context within which a phenomenon may be analyzed. The program under investigation is contextually bound, and how feedback practices within this program are articulated must be understood within this context. Additionally, qualitative research seeks to give voice to the lived experiences of study participants. As such, it focuses on what Geertz (1973) terms thick description. This project aimed to reveal the experiences of faculty giving formative feedback

within the confines of the program in question, including the constraining and enabling factors that determine how such feedback is enacted.

Purpose of the Research

The aim of this project was to explore the feedback practices of the general education program at the site in question. It sought to understand how feedback processes are construed in a prescribed general education program and to evaluate the extent to which feedback practices within this context can be deemed effective and sustainable as outlined in the literature on feedback in higher education.

Research Questions

Main Research Question:

1. How sustainable and effective are the feedback practices of the general education program?

Sub-questions:

2. How do these feedback practices align with socioconstructivist principles of learning and teaching?
3. How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices?

Research Methodology and Design

This project used an evaluative case study methodology to determine the extent to which feedback practices in the general education program at an English as the medium of instruction university in the Middle East can be considered sustainable and effective. It took a case study design as its mode of inquiry. Yin defines case studies using two key aspects: the scope of the study and the features of the study (2018). He emphasizes that the case is explored “in depth and

within its real-world context” (p. 15). This choice is appropriate for this study, which sought to determine the effectiveness and sustainability of feedback practices within the program of investigation, the extent to which these practices align with socioconstructivist principles of teaching and learning, and the influence of sociomaterial factors on feedback practices. Both the scope of this study and its features mean that this study adheres to Yin’s criteria.

The second major proponent of case study research, Stake, provides two different classifications for case studies: intrinsic or instrumental (1995). For Stake, an intrinsic case is one that aims for a better understanding of the case being investigated. This study, therefore, fits the classification of an intrinsic case study by Stake’s conceptualization, since it seeks to reveal a more profound understanding of the place of feedback, its enablers and constraints, and the extent to which it can be considered sustainable. In this sense, it is the case that is of interest, rather than the case being instrumental to uncovering a greater understanding of the phenomenon.

A further point raised by Stake is that case study research concerns itself with the particular as opposed to the general (1995). The specificities that are lost in the process of abstraction with quantitative research are the very points that qualitative research hopes to unearth. By attending to a bounded research setting and interrogating the place of feedback within the bounds of the particular program and site in question, this study has endeavored to provide a sharper image of feedback at this site. This image can then be evaluated against conceptualizations of sustainable and effective feedback practices.

A related aspect is that case study research is bounded by nature. Miles and Huberman assert that the case is “a phenomenon of some sort occurring in a bounded context” (Miles & Huberman, 1994, p. 25). Stake (1995) notes the clearly delineated unit of study, while Merriam

(1998, p. 27) conceptualizes “a single entity, a unity around which there are boundaries”. She also warns that this boundedness is a necessary defining characteristic to qualify a project as a case study. The present study involves clear cut borders: a particular institution, a particular program’s general education curriculum and pedagogy, and how feedback practices are articulated within those boundaries.

A final key characteristic of case study research is its reliance on the analysis of multiple sources of data (Yin, 2018, p. 18). Bloomberg notes the importance of triangulation within case study research (2023, p. 84), asserting its ability to “obtain an in-depth understanding of the phenomenon under study”. This project aims to provide a more nuanced understanding of the program in question by examining how feedback is positioned, enacted, and construed using a variety of data collection methods.

Merriam (1998, p. 34) summarizes the three possible definitions of a qualitative case study “in terms of the process of actually carrying out the investigation, the unit of analysis (the bounded system, the case), or the end product”. This study encompasses all three definitions. The process aligns with case study in its systematic data collection from multiple sources, iterative coding cycles, and simultaneous processes of data collection and analysis. The unit of analysis is bounded in its focus on a particular program and the feedback practices associated with it. Finally, the end product is a deeper and more nuanced understanding of feedback practices.

The present study has been designed to be an evaluative case study. The extent to which formative feedback practices at the site can be construed as effective and sustainable is the overarching research question. Merriam states that “evaluative case studies involve description, explanation, and judgment” (1998, p. 39). Guba and Lincoln stress that the distinguishing factor is that judgment (1989, p. 375), making case study the ideal qualitative design for projects of an

evaluative nature. This case study has evaluated the extent to which the feedback practices espoused by the general education program at the site in question can be considered sustainable and effective.

Case Study Justification

The present study adopts a case study methodology, which is particularly well-suited for examining the complex interplay between human and non-human actors that shape feedback practices in a specific educational context. Yin (2018, p. 27) suggests five essential components of research design for case study research:

1. The case study's questions
2. The case study's propositions
3. The case(s)
4. The logic linking the data to the propositions
5. The criteria for interpreting the findings

The research questions of this study demand a case study approach because they seek to understand not only how feedback processes are framed and enacted within institutional policies and practices, but also how these processes are mediated through sociomaterial elements such as technology, time, space, and policy documents. This aligns with what Yin (2018) describes as exploration "in depth and within its real-world context" (p. 15).

The study's propositions extend beyond traditional socioconstructivist views of feedback as a human interaction. While the study acknowledges that feedback is an integral part of the teaching and learning process (Hattie & Timperley, 2007; Sadler, 2010), it also proposes that feedback practices are shaped by material conditions, technological affordances and constraints,

and institutional structures. This proposition requires a methodological approach that can capture the complexity of these entanglements.

The case is clearly bounded by the site (the Middle Eastern undergraduate university), the program (the general education program), and the phenomenon under investigation (feedback practices). This boundedness allows for an intensive exploration of how sociomaterial factors operate within a specific educational ecosystem. The course analysis—focusing on two courses from the second semester general education program—offers even more granular examination of how different disciplinary contexts shape the sociomaterial dimensions of feedback.

The logic linking data to propositions is strengthened by the multiple data sources utilized in this case study. Policy documents reveal institutional framing of feedback; faculty interviews illuminate lived experiences of negotiating feedback practices within technological and policy constraints; course documentation provides evidence of how feedback operates in specific disciplinary contexts; and the object interview with the platform itself offers unique insights into how technology mediates and shapes feedback possibilities. This multi-faceted approach is essential for a sociomaterial analysis that seeks to understand feedback not as an isolated human activity but as emerging from networks of human and non-human actors.

Finally, the criteria for interpreting findings draw on both socioconstructivist theories of learning and teaching (Bruner, 1998; Vygotsky, 1978) and sociomaterial perspectives (Fenwick & Edwards, 2010; Gourlay & Oliver, 2018). This dual analytical framework allows for interpretation that goes beyond merely describing feedback practices to understanding how they are constituted through complex relationships between people, policies, technologies, and institutional structures. The sociomaterial lens in particular provides interpretive criteria for

examining how non-human elements such as the learning management system, institutional policies, and temporal-spatial dynamics enable and constrain certain types of feedback practices.

This case study approach thus provides the methodological foundation necessary for exploring feedback practices as sociomaterial enactments rather than merely pedagogical techniques, allowing us to see how "social and material relations are constitutive of one another" (Fenwick et al., 2011, p. 3) in the specific context of feedback within this general education program.

Research Site

This study is situated in the general education program at a predominantly undergraduate university in the Middle East: Gulf University. The university was founded near the turn of the millennium. English is the language of instruction, although the university maintains a strong commitment to Arabic language and Islamic culture. It has become increasingly multi-disciplinary over the decades, adding study in the fields of computing science, business, and public health.

The institutional course catalog notes that Gulf University's guiding vision is the cultivation of leaders possessed of a passion for knowledge, innovation, and = (Institution Course Catalog, 2023). It aims to prepare its citizens to meet future challenges. It further notes the mission of the university is to enhance the educational experience through emphasis in research and continuous learning, both of which are aligned to the needs of the nation that it serves.

The university is largely undergraduate. 98% (n = 9292) of the student population in Fall 2022 were enrolled in undergraduate programs, with 181 students in graduate programs (Gulf University Factbook, 2023). Twenty undergraduate programs were available in Fall 2022, while

eight graduate programs had students enrolled at that same time. The student population is also majority female, with 84% of first-time enrollment undergraduates in Fall 2022. The vast majority are also citizens of the country where the institution exists (Gulf University Factbook, 2023).

The institution has strong links to the American liberal arts general education program for undergraduate education and has accreditation from US accreditation bodies and other international accreditors (Gulf University, 2023). It follows a traditional four-year undergraduate program, with initial general education compulsory before disciplinary studies commence (Institution Course Catalog).

During the COVID pandemic that ground face-to-face activities at the site in question to a halt, the then president made the decision to adopt a strategic plan through partnership with an external education provider (Gulf University Website Article Advertising External Partnership). Initially conceived of as an elite college within the larger institutional structure, the decision was later made to exclusively adopt the external provider's curriculum and phase out the existing teaching programs across the other colleges. Enrolment of new students effective the following Fall semester was only available to students enrolling in the new curriculum and the newly created college designated to hold this program. Plans to recruit faculty to the general education program of this college began, with internal transfers still requiring that faculty undergo the full recruitment process of application, interview, and practice teaching session. This is because the program is highly proprietary, and sets itself against what it construes as traditional, lecture-based higher education teaching practices as anathema (see External Provider's Manifesto data).

In the "fully active learning" of the external provider (External Provider Manifesto), pedagogy is guided by principles of flipped learning, of harnessing the power of technology to

ensure all students are fully engaged for the full lesson, and that frequent formative assessment is substituted for exams and tests. An important value in this curriculum is uniformity of educational experience for all students on a program. Lessons are scripted and the program takes a team-teaching approach, so that delivery is guaranteed to be as uniform as possible across various sections of a course (External Provider Manifesto). The emphasis on frequent formative feedback comes in the form of classwork-based grades that are assigned for each class period for each student. These grades are received on learning objectives associated with the lesson. Students are not aware which aspect of the class will be graded, but all students across the program are graded on that particular aspect for that class session. Faculty are expected to write feedback comments in tandem with the grade.

At the site in question, over-enrolments have resulted in class sizes that exceed the recommended cap of no more than 20 participants stipulated by the external provider. During the period of this case study, this meant that some faculty on first semester courses had class sizes of up to 28 students, of whom they were expected to give formative feedback for two class periods a week, translating into the formative assessment and provision of written corrective feedback to a population of anywhere from 75 to 100 students twice weekly. In addition, students have multiple assignments that are submitted over the semester that are graded across multiple learning outcomes. This assessment strategy combines to result in a significant grading and feedback load for faculty that is maintained throughout the term, calling into question the extent to which such a load can be deemed sustainable and whether such volume of feedback practices is effective as considered by the literature.

Data Collection Methods

Merriam notes that “throughout the process of conducting a qualitative study, investigators continually make decisions, choosing among alternatives, and exercise judgment” (1998, p. 71). In keeping with the methodological underpinnings of case study research, a variety of data collection methods have been utilized in order to investigate the positioning of feedback from multiple angles (Bloomberg, 2023; Denzin & Lincoln, 2011; Merriam, 1998; Stake, 1995; Yin, 2018). The process of reviewing the literature and developing research questions led to the selection of the following data collection methods: document review of the publicly available institutional documents that outline roles and responsibilities in the curricular and pedagogic spaces at the site in question, faculty and administrator interviews to examine subjective perspectives and perceptions of feedback practices at the site, a case-within-the-case analysis of two general education course’s internal institutional documentation, and finally, an object interview with the bespoke learning management software upon which this curriculum is run. The rationale behind each is discussed in more detail below.

Document Analysis (Pilot Study)

To consider the viability of document analysis as a legitimate source of data collection and analysis, a pilot study was conducted using publicly available institutional documentation. It explored the extent to which this documentation reveals a commitment to sustainable and active feedback practices at the site in question. In doing so, it provided evidence of the institutional culture within which feedback practices at this site exist. It offered an overview of the extent to which faculty and students are (dis)empowered to engage in active feedback processes that acknowledge and align with the purported curricular aims. Data from this pilot study also

contributed to refining the three research questions as well as addressing all three. The full pilot study is included as Appendix A.

Document Analysis Justification

There are several reasons why a document analysis approach was appropriate. The most important reason is that documentation is the locus of an institution's identity. As Prior notes, "a university is in its documents" (2003, p. 65), rather than its buildings and people. They are a record of the story the university tells about itself, what it values and how. A second reason is that they inform faculty and students with regard to the university's expectations about feedback. These expectations form part of the learning culture in which feedback practices take place, or what Winstone termed "feedback cultures" (2022). Learning is not a circumscribed event but is stratified and determined by a range of factors, including the individual actions and dispositions of teachers and students, departmental and institutional attitudes, resourcing, and quality assurance mechanisms. All of these actors simultaneously exert influence upon the system within which they are entangled. For James, this means that a learning culture is "much better understood as practices that both reproduce and instigate a set of beliefs and a way of doing things" (2014, p. 160). This way of doing things is in large part captured in the official documentation of the university.

For the purposes of this study, university documentation is considered a key determinant of its feedback culture. In the aggregate, these documents help construct feedback norms and expectations, helping to determine whether "a given culture might be more closely aligned with a transmission- focused approach to feedback, or might be more closely aligned with a learning- focused approach" (Winstone, 2022, p. 1110). A final advantage in this regard is that documents are not reactive – they do not change what they are doing according to observation; rather, they

are a more objective correlative to other research methods with which document analysis should be correlated, such as interviews and surveys.

Faculty Interview Protocol

The second data collection method involved the development of a faculty/administrator interview protocol. Stake proposes that “two principal uses of case study are to obtain the descriptions and interpretations of others” (1995, p. 64). The interpretations of faculty and administrative management employed by the program at the center of the case are of immense importance when considering the place of feedback. As this project aimed to elicit the perspectives and observations of the interviewees as opposed to their reaction to the position of the interviewer (Merriam, 1998), semi-structured interviews were conducted.

Interview Justification

Interviews provided the opportunity for participants to discuss their experiences with feedback provision and institutional and programmatic expectations. Yin avers that interviews are one of the most significant data collection methods in case study research (2018, p. 118). The use of interviews as a dataset provided the uniquely subjective experience that quantifiable data collection methods cannot reveal. In order to maximize the opportunity for participants to “define the world in unique ways” (Merriam, 1998, p. 74), a semi-structured interview is selected. This provided the opportunity to address the research questions from the perspective of faculty, while also affording data triangulation. In particular, interviews played a significant role in addressing all three of the research questions.

Semi-structured, open-ended interviews provided a number of key advantages. First, they were targeted (Yin, 2018), allowing the opportunity to focus on exploring how faculty perceive their responsibilities and enactments of feedback. They allow for detailed examination of a

complex interaction like feedback. Another advantage is the potential of interviews to provide the thick description that is a hallmark of qualitative inquiry (Geertz, 1973). The semi-structured interview protocol is included as Appendix B.

Interview Procedures

Interviews were held online using the videoconferencing platform Zoom in order to facilitate recording and transcription. This provided a number of significant benefits, including the opportunity to facilitate a face-to-face conversation that is recorded for transcription and analysis purposes, and provide a more cost-effective means of access when participants are geographically dispersed (Gray et al., 2020). Furthermore, research has not indicated that this method of conducting interviews has led to negative effects on the quality of interview or the ability to establish rapport (Deakin & Wakefield, 2014).

Interviews were transcribed using the transcription program Otter.ai before being lightly edited for grammar and meaning and to maintain confidentiality. Transcriptions were sent to participants to verify that the interpretation was an accurate account of their contributions (Dörnyei, 2014). Once the interviews were transcribed and approved by the participant, all identifying information was removed to ensure confidentiality of participants. Pseudonyms were used to protect participants' identities while maintaining careful records for later reporting. The pseudonyms were selected by participants. Transcripts were stored in a database on NVivo.

Course Analysis

A third means of data collection involved the retrieval and analysis of internal course-related documents attached to two general education courses during the spring semester of 2024: the first, a typical general education composition course, which develops students' abilities to critique and communicate in writing and orally, and one with a statistical, mathematics focus.

Faculty evaluations of their experience teaching the course, records of lesson plan revisions, and the asynchronous conversation held by faculty teaching on the course surrounding how to enact the learning objectives provided valuable documentation of how faculty and administrative management respond to and enact the curriculum at the level of individual lessons. Such records have the potential to reveal the actual as opposed to prescribed feedback practices within these particular courses, as well as contributed to addressing the main research question. They further contributed to triangulation of the data collected from faculty interviews (Yin, 2018).

Course Analysis Justification

The use of two distinct courses allowed for a broader understanding of how feedback is enacted across the general education program. Rapley and Flick note the contextually bound nature of documentation as a strength, positing that “they are always read or used in a specific way, to do specific work” (2008, p. 97). This sort of analysis afforded a means of considering the data from another perspective and provided further triangulation of data from offering a second means of learning about faculty perceptions of feedback practices using a different data set, since documents “are central to coordinating, constraining and enabling our actions and interactions” (Rapley & Flick, 2008, p. 98).

Interview with an Object

The fourth data collection method employed an innovative sociomaterial approach through object interviews with the learning management system (LMS) upon which the program operates. This method acknowledges that technologies are not neutral tools but active participants in shaping educational practices, including feedback processes. As Fenwick and Edwards (2010) argue, material objects “are not just things that humans manipulate, but are themselves actors that do things” (p. 3).

Object Interview Justification

Traditional data collection methods often focus exclusively on human perspectives, inadvertently overlooking how material objects influence and constrain human actions. The inclusion of object interviews addressed this limitation by directly examining how the technological platform mediates feedback practices. Adams and Thompson (2016) have developed methodological heuristics for investigating human-technology relations that “invite researchers to attend to the ways technologies and other nonhuman entities act in the gathering of human-technology practices” (p. 2).

This approach is particularly relevant for understanding feedback practices in the general education program, where the bespoke LMS serves as more than a passive conduit for feedback delivery. The platform actively shapes what kinds of feedback are possible, when feedback can occur, and how it is delivered and received. By treating the LMS as an interview subject, this study acknowledged the active role of technology in educational processes and responded to calls for research that “attends simultaneously to the specific situatedness of practices and to the spatial and temporal flows that move through them” (Fenwick et al., 2011, p. 129).

Object Interview Protocol

The object interview was conducted using Adams and Thompson's (2016) heuristics, focusing specifically on two of their eight suggested approaches:

1. **Listening for the invitational quality of things:** This heuristic examines how the LMS invites certain actions while constraining others. The interview explored questions such as: What kinds of feedback does the platform encourage? What is the platform discouraging users from doing? What modes of feedback delivery does it privilege? How does the platform's design guide or restrict faculty feedback practices?

2. **Discerning the spectrum of human-technology-world relations:** This heuristic investigates the relationships formed between users and the platform, addressing questions such as: How does the LMS mediate relationships between faculty and students? How does the interface shape feedback practices? How does it position faculty and students within feedback processes? What power relations are embedded in its design?

The object interview process involved systematic interaction with the platform while documenting its affordances, constraints, and implicit assumptions about feedback. This included:

1. Navigating through the platform's feedback mechanisms
2. Documenting the steps required to provide feedback
3. Analyzing the visual presentation of feedback (e.g., how grades are displayed versus comments)
4. Examining the platform's data analytics related to feedback
5. Identifying technological constraints on feedback modality and timing

Data were recorded through detailed field notes and screenshots (with identifying information removed). Due to the propriety nature of the LMS and the partnership with the site, screenshots have been treated as confidential data and have not been included in the study. The researcher approached the platform not merely as a tool but as an actor with its own "biography" (Kopytoff, 1986) and agency in shaping feedback practices. The object interview protocol is included as Appendix C.

Sampling Methods

The target population at the site includes the faculty of the general education program. Qualitative research employs purposeful sampling in order to identify cases that are rich in relevant information, so as to maximize the insights learned from the study (Patton, 2015). Sampling in this tradition is concerned with enabling in-depth understanding of the area of investigation.

Pilot Study Document Analysis Sampling

From a wider initial list, the following documents were selected for analysis as revealing sources of understanding the place of feedback at the site in question. They were selected because they provide an opportunity to uncover the “story the university tells about itself” (Prior, 2003, p. 65):

1. *General Education Program Course Syllabus* – information regarding course and tutor expectations; student expectations
2. *Institutional Student Handbook* – guidelines and expectations for student roles and responsibilities
3. *Institutional Course Catalog* – information about curriculum, pedagogy, policies detailing faculty and student expectations, course and program specific learning objectives and pedagogic practices
4. *External Provider Manifesto* – published book about the curriculum and pedagogy of the external provider, written and edited by the co-founders. It provides an explanation of the underlying curricular theories that form the foundation of the curriculum and the teaching approach.

For the pilot student document analysis, documents likely to reveal the implicit and explicit values and framings of feedback were selected. These included documents that govern teaching and learning practices at the site, as well as policies and procedures for students and teaching faculty. Documents like course syllabi, course catalogs, and institutional handbooks serve as potential sources of a deeper understanding of how feedback practices are enacted at the site.

Faculty Interview Sampling

To investigate the effectiveness and sustainability of feedback practices within this case, this study used a purposive sampling method focusing on the identification and analysis of typical cases (Flick, 2018). The aim was to uncover the individuals who are representative of the experiences of the general education faculty at the site in question. However, this also included an aspect of criterion sampling (Bloomberg, 2023), since inclusion criteria for potential participants required that a number of requisite conditions were met. The following criteria were identified as relevant factors in the selection of sample participants:

Faculty Interview Sample Inclusion Criteria

- Teaching on general education program at site
- Mix of new and experienced faculty (with experienced defined as those with more than one year teaching experience on the program)
- Teaching coverage across all general education courses

For interviews, qualifying criteria involved being faculty teaching on a general education course at the site in question. A selection of faculty who were new to the program and those who have been teaching on it for more than a year were invited for participation in order to account for the potentially significant departure from traditional teaching and feedback-giving practices that working on this program may involve. This was achieved in that the interviews included

nearly equal representation between faculty new to the program (n=6) and faculty with over a year's experience of teaching on the program (n= 4).

Desirable Criteria

- Mix of nationalities
- Mix of male and female faculty
- Equal representation across both campuses

Participation included representativeness that is indicative of the wider demographics of the college and site. Since the college is home to a diverse population of faculty, sampling endeavored to represent teaching faculty from a mix of nationalities. Representation was achieved as the faculty interviews included a near equal proportion of male and female faculty (n=4 males, n=6 females), and the multicultural representation was seen in the fact that interviews included four British nationals, two Lebanese citizens, one Gulf Arab, two New Zealanders, and one American. Finally, equal representation for both campuses was achieved, with five participants from each campus.

Research Participants

Participants at the site teach in an undergraduate general education program at a state university. The following data are relevant about the wider institution unless specified to be true of the college in question. All data come from the publicly available institutional factbook (Gulf University, 2023). Faculty originate from across the globe, resulting in a highly international culture. Table 3.1 below shows a breakdown of nationalities of faculty for Fall 2022. There is near gender parity, with 314 female and 284 male faculty in full time employment. The university employs a total of 598 faculty, of which 84 were employed in the particular college in Fall 2022. Faculty must hold a minimum of a master's-level qualification to be employed at the

site. The most current data available comes from 2022, and indicates that of a total 598 faculty, 189 hold a master’s level qualification, with 403 holding a doctoral degree. There is no further classification at the individual college level.

Table 3.1

Nationalities and representation across faculty at institution

Region	Number of Faculty
Africa	24
Asia	65
Australasia	29
Europe	144
Middle East & North Africa (MENA)	213
North America	130
South America	2

Interview Sample Size

The sample size was informed by two factors. First, within the case study design, sample size is determined by data saturation (Flick, 2018). Bloomberg notes that saturation “is an indication that the research sample has been adequately explored as no new codes or themes emerge from continued research” (2023, p. 269). Second, the sample size is informed by time and availability constraints. The number of participants in qualitative research were limited to avoid sacrificing depth of analysis and investigation. Given the use of four distinct data sets and the volume of work involved in managing these disparate sets of data, the project aimed to conduct between 5 and 12 faculty and administrator interviews representing a range of

experiences, teaching backgrounds, and length of time on the program. In total, 10 faculty interviews were conducted, with representation as already indicated.

Course Analysis Document Analysis Sampling

Document sampling relating to the course-within-a-semester analysis was also criterion based. These criteria included:

Document Analysis Sample Criteria

- One course with content and learning outcomes in a traditional humanities subject (the composition course)
- One course with content and learning outcomes in a traditional math/science subject (the statistics course)
- Policy documentation delineating policies and procedures related to teaching and learning
- Institutional documentation outlining course administration and academic matters
- Institutional documentation detailing course modifications and amendments made during semester and after
- Institutional documentation detailing grading and feedback decisions made by one teaching team during one semester.

Course Analysis Sample Size:

The course analysis sample consisted of:

1. Composition and Statistics course faculty review files for Spring 2024 semester
2. Composition and Statistics course lesson plan review documents for Spring 2024 semester
3. Composition and Statistics course policy documentation regarding assessment and grading practices for Spring 2024 semester

Unfortunately, a lack of course coordinator compliance with requests meant that only the faculty review course files for Spring 2024 semester were obtained for the Statistics course, limiting the ability to compare feedback practices across the two courses. The course faculty review files did, nevertheless, confirm the findings from the composition course documentation. The list of documents analyzed for the course-within-a-semester document analysis is included as part of Appendix D.

Recruitment Procedures

Since the case in question has a very specific target population, institutional communication channels specific to the general education program were utilized to recruit participants to the study. Official invitations to participate in research at the site in question were disseminated via email announcements. This was sent to all teaching faculty on the general education program via the college administrative officer, with the department chair's approval. The first email invitation was sent in May 2024, with a repeated invitation issued in August. No further calls were issued, as participation was successful, and data saturation was subsequently reached.

Site Permissions and Ethical Clearance

Permission to conduct this study was obtained from the site of the study through the submission of an ethical clearance application to the site's institutional review board (IRB). Document permissions were obtained in the same IRB application and then from the general education department chair. Approval to conduct the study was further obtained from Kansas State's IRB prior to data collection, which is included in Appendix E.

Data Analysis and Synthesis

In this qualitative case study, data collection and analysis occurred simultaneously through an iterative process (Charmaz, 2006; Miles & Huberman, 1994), consistent with established qualitative research practices (Creswell & Poth, 2023; Merriam & Tisdell, 2016). This approach was adopted in order to allow the study to be initially guided by the adopted frameworks and address the research questions while enabling flexibility in responding to the emergent themes as relevant (Saldaña, 2021). As previously discussed in the theoretical framework section, this study employed two complementary lenses: a socioconstructivist understanding of learning and a sociomaterialist perspective that acknowledges non-human actors. These frameworks informed but did not constrain the analysis process.

Analytical Scheme

This study employed a thematic analysis approach (Braun & Clarke, 2006) informed by the theoretical frameworks. This allowed for systematic identification of patterns across the dataset while maintaining sensitivity to both explicit and latent meanings (Bloomberg, 2023; Patton, 2015). The six-phase process outlined by Braun and Clarke (2006) guided the analysis: familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.

Coding Procedures

Since the research questions ground the study in effective and sustainable feedback practices from socioconstructivist principles of teaching and learning, initial deductive coding of the pilot study dataset was conducted focused on these aspects. A second round of inductive coding allowed further themes to emerge naturally from the data. A third round of coding of the pilot study was conducted by a peer reviewer (Bloomberg, 2023), which further established the

importance of expanding the analytic framework beyond solely socioconstructivist perspectives. These two cycles of coding resulted in the establishment of an initial codebook, centered on principles of effective and sustainable feedback from a socioconstructivist perspective. Subsequently, analysis proceeded as the project progressed to faculty interview data, further refining the codebook. The resultant codebook was subsequently used to analyze data from the two course-within-a-semester document datasets and the object interview.

Analytic Process

The analysis process involved multiple iterative phases:

1. Initial coding based on the principles of sustainability and responsibility in feedback events.
2. Further inductive coding to identify emergent themes and patterns beyond sustainability and responsibility of feedback provision
3. Secondary analysis through a socioconstructivist lens to examine alignment with sociocultural learning principles
4. Tertiary analysis through a sociomaterial lens to investigate the influence of non-human actors
5. Cross-dataset comparison to identify convergence and divergence across the four data sources
6. Development of integrated findings that address the research questions

This approach enabled a comprehensive examination of feedback practices that considered both human interactions and material influences, providing a more nuanced understanding than either framework could offer alone.

Data Integration & Synthesis

Multiple data sources (document analyses, faculty interviews, course-within-a-semester documents, and an object interview) were triangulated to enhance the credibility of findings. During synthesis, data displays were created (Miles et al., 2014) using NVivo software to

visualize relationships between themes and compare findings across different participants and contexts. The synthesis process paid particular attention to convergence and divergence in the data, noting both patterns that appeared consistently across sources and discrepant cases that provided alternative perspectives. This approach helped avoid oversimplification and preserved the complexity inherent in feedback practices at the site in question. Additionally, analytic memos were maintained throughout the analysis process to document emerging insights, methodological decisions, and reflections on how my positionality might influence interpretation (Bloomberg, 2023, p. 348). The Analytical Memo Log is included as Appendix F.

Faculty Interview Data Analysis

Faculty interviews, the second dataset, were similarly coded, using and iteratively building on the initial codebook established by the pilot study. The three main phases of coding implemented in the pilot study were incorporated to identify the extent to which there is convergence across data sets (Yin, 2018). These included using inductive coding strategies on the first pass through the data, followed by what Saldaña terms “a strategic amalgam of particular coding methods” (2021, p. 91) that seek to unveil how faculty perceive feedback processes and their role within feedback events at the site in question. During the coding process, analytic memoing served to act as a record of researcher reflection and reflexivity.

Course Data Analysis

Data analysis of the third dataset was conducted using the same framework and steps that were utilized in conducting the pilot study. This process uses iterative coding cycles that approach the data inductively, in keeping with the ethos of allowing the data to first speak for itself (Smith, 2008), before considering the data through the various lenses already described.

Analysis of Object Interview Data

Analysis of the object interview data employed the same iterative coding process used for other data sources, but with particular attention to materiality, affordances, and constraints. Initial codes focused on what the platform allows, encourages, discourages, or prevents in terms of feedback practices. Secondary analysis examined how these technological features aligned with or contradicted socioconstructivist principles of learning. Tertiary analysis explored power dynamics embedded in the platform's design and how these influenced feedback relationships.

The object interview provided critical insights that would have remained invisible through traditional human-centered methods alone, revealing how the technological infrastructure of the program both enables and constrains particular feedback practices and substantially influences the sustainability and effectiveness of feedback processes.

Trustworthiness

Yin (2018) outlines four key criteria that should be addressed in order to ensure research design quality: construct validity, internal validity, external validity, and reliability. Bloomberg notes that as qualitative research does not consider reality from a post-positivist perspective, the markers of quality in terms of trustworthiness are substituted for the following four criteria: credibility, confirmability, dependability, and transferability (Bloomberg, 2023, pp. 300–301). Further discussion of the considerations of each follows.

Confirmability / Construct Validity

Bloomberg notes that “confirmability is concerned with establishing that the researcher’s findings and interpretations are clearly derived from the data, requiring the research to demonstrate how conclusions have been reached” (2023, p. 303). Two main strategies have been used to achieve this.

The first main strategy involves the use of multiple sources of evidence (Yin, 2018, p. 126). For each research question, data triangulation has been incorporated. The first research question was addressed by document analysis including archival records and institutional documentation. Data was also taken from the external provider's manifesto. This data was triangulated in the faculty interviews and in the course-within-a-case analysis. Question two was also addressed by the initial document analysis, by the faculty interview data, and by course-within-a-semester document analysis. Finally, the third question was addressed by both faculty interviews and the object interview of the platform, which demonstrated the role of technology, time, volume, and policy in shaping feedback practices.

A second strategy to ensure confirmability involved maintaining an audit trail of all research decisions, data collection and storage. Maintaining careful records ensures complete transparency throughout the research process (Bloomberg, 2023, p. 298). In addition to this, analytic memos were regularly written throughout all stages of the data collection and analysis phases to ensure ongoing reflexivity (Saldaña, 2021, p. 58). Analytic memoing began with the pilot study and proved pivotal in shaping the ultimate direction of research, but it continued throughout all data collection, analysis, and synthesis stages. In total, 39 analytic memos were written during the data collection, analysis, and writing the findings process. Appendix F provides a log summarizing these. These strategies have been employed to ensure that the study achieves its aims (Tracy, 2010).

Credibility

Guba and Lincoln (1989) outline the importance of credibility in conveying trustworthiness in qualitative research. Bloomberg conceives of it as a congruence between the

researcher's depictions of the data and the participants' own perceptions of it (2023). Several strategies to ensure credibility have been adopted within this research design.

The first strategy involves detailed reporting. Tracy (2010) stresses the importance of detailed description in rendering a qualitative project credible. This is found in reporting of findings, but also in reporting on methods, which are detailed enough for researchers in another context to replicate the study and arrive at their own conclusions. Detailed reporting of both methods and findings have been provided within this study.

Another strategy for achieving credibility involves transparent reporting of the researcher's own positionality and inherent biases regarding the study. I have been transparent throughout the research process about my relationship to the educational context under investigation, my preexisting beliefs about feedback practices, and my positioning within the case being studied.

Data triangulation offered a third strategy implemented to bring credibility to this project. Data was collected from a variety of sources in order to provide multiple perspectives on the feedback practices of the general education program, adhering to what Tracy deems "multivocality" (2010, p. 844). Member checks further enhanced this multivocality, by providing interview participants with the opportunity to confirm or amend how their views have been presented ahead of inclusion and analysis in the data set (Dörnyei, 2014). All 10 faculty interview participants confirmed their satisfaction that the interview transcriptions accurately conveyed their views.

Dependability

Documentation is the key means of ensuring dependability (Bloomberg, 2023). Yin (2018) recommends the use of a case study protocol, which oversees the design, development

and implementation of the project. This has been implemented to maintain consistency and focus and is included as Appendix G. Second, the case study database was developed, careful records were kept of all data collected, and they were indexed using consistent terminology to facilitate accurate reporting and ease of retrieval. Yin recommends that tabular materials be organized (2018, p. 133), in order to tie any extracted data to its original source. To achieve this, the project utilized NVivo to store and maintain all data collection and analysis records. Finally, a chain of evidence was kept. Once again, NVivo was used to facilitate careful tracking. Detailed reporting of the circumstances in which data were retrieved and analyzed were also used. These strategies provided the audit trail. As mentioned above, member checks with interview transcripts provided participants with the opportunity to confirm an accurate representation of their views, which all ten participants confirmed.

Transferability

In qualitative research, transferability does not equate with generalizability, since individual subjectivities are recognized and celebrated. Instead, it refers to the potential for a critical reader to determine the extent to which the study and findings of the context reported can be determined an appropriate fit for their own context. Three strategies are used to achieve this. First, purposive sampling (Patton, 2015) was employed to enhance the quality of the data collected. Second, providing a thick description of all procedures implemented in this case contributed to enabling transferability (Geertz, 1973). Third, a depth of information was provided regarding the context, participants, and other aspects of the study. Taken together, all three of these have provided the reader with the information necessary to interpret contextual factors.

Ethical Considerations

It is important that ethical considerations are carefully attended to in any research study. The principles of respect for persons, beneficence, and justice have informed the present study. The study respects the privacy and autonomy of participants. To this end, pseudonyms have been used for faculty participants and the site, and the external provider and all details that could potentially identify the provider have been replaced. All efforts have been made to protect participants and their data from risk. Participants were selected on the basis of their suitability, and there are no perceived risks to participation in this study.

Ethical approval to conduct the study is required from Kansas State University's IRB and the IRB of the site in question. Ethical clearance applications were submitted in spring semester 2024 to both IRBs, detailing the procedures and aims of the present study. The Kansas State approval letter is included as Appendix E.

Individuals have the right to make free and informed decisions about their consent to participate in a research study. All participation was voluntary, which is especially important, given my working relationship with the faculty interview participants. The purposes of the research were explained, and informed written consent was obtained prior to each interview and before any other method of data collection occurred. The informed consent form is included as Appendix H.

Confidentiality of data were maintained. Participant identities have been kept confidential, and documentation underwent the removal of all potential identifiers. Pseudonyms have been given to the site, courses, documents, and participants. All data and associated records were securely stored on NVivo on the researcher's personal laptop, which is password protected and secure. No paper copies were kept. Recordings of the interviews were securely stored in an

encrypted drive on the researcher's password-protected laptop, which was accessible only by the researcher. Once each recording was transcribed using Otter.ai and approved through member checking, any identifying information was removed from the transcript and the recording was deleted.

Finally, I recognize the culturally situated nature of research projects that involve human subjects. As such, I took all possible precautions to ensure that my interactions with study participants were culturally sensitive and respectful of the cultural norms at the site in question. This included accounting for linguistic differences and the challenges of being interviewed in another language.

Researcher Positionality

Qualitative research recognizes the researcher's integral role as primary data collection instrument (Merriam, 1998). As such, it is important to consider the role of the researcher's complex and multifaceted identities with respect to the research project and context (Darwin Holmes, 2020). Awareness of the complex subjectivity of the researcher can cast light on potential biases and factors that influence how data has been interpreted.

I have been interested in feedback practices for the past seven years, reading deeply in the literature surrounding feedback practices. I have conducted initial action research-based projects for exploring the potential to develop feedback literacy in undergraduate students in my context. Feedback is something that I have been designing into my own curricula for several years, and my beliefs are informed by and strongly aligned with the current socioconstructivist-aligned literature regarding sustainable and effective feedback practices.

Throughout my professional career, I have gained extensive experience in educational settings. My background includes substantial time spent in the field related to this study,

providing me with comprehensive knowledge of teaching dynamics, cultural contexts, and relevant historical developments. My experience includes a period working directly within the program type being studied. This background placed me in an emic position, including relevant connections and firsthand experience with the phenomena being examined. It was also largely my own experience of adapting my teaching style to fit within the prescriptions of the program that led to my interest in investigating the feedback practices within this program.

While I have extensive experience in similar educational contexts, the specific institutional environment of this study represents a relatively recent development in the region, with a significant proportion of faculty being newly recruited. Others have come from different institutional backgrounds, which has limited prior professional interactions, since academic institutions in various contexts often experience limited cross-disciplinary collaboration due to disciplinary siloes (Shulman, 2005). Further, as has already been elaborated, the institution provides a richly international and multicultural environment, with colleagues from around the world. As such, my identities as new to teaching this specific program type interplayed with my identities as an experienced educator and my identity as a Western, female educator. My background as an English as an Additional Language (EAL) educator further contributes to how I perceive and am perceived, since this has a strong influence on how I view teaching and learning in higher education, and particularly the role of feedback.

Limitations and Delimitations

The study includes several limitations. First, as a qualitative project, it does not provide (nor does it aim to) transferability in the sense of generalizable results that have significance in other contexts. The intensive analysis required of case study research also means that the study included a limited number of participants and documents analyzed in order to produce the depth

and thickness of description that are advantages of qualitative research. Another limitation is that the study focused on the sustainability and effectiveness of feedback practices from institutional perspectives (through official documentation and faculty accounts), but did not consider the perspectives of students. As active and central participants in feedback processes, the student perspective on how feedback is enacted within the case under investigation is an important component.

The study also has several intentional and clear delimitations. It is limited to the site and context. Feedback practices at the wider institution level are not considered - those colleges currently teaching on more traditional degree programs - where faculty choice and agency may result in different feedback practices. The importance placed on uniformity of student experience within the prescribed curriculum is a component of what has made this program unique and ideal for study. A further delimitation is the selection of documentation that explicitly mentions feedback at the site in question. The scope of document analysis has been limited to those which may reveal an underlying value system within which feedback may be understood. Document analysis has also been limited to only documents that can be considered “live” or relevant to the current case. Participation was also limited to faculty teaching on the general education program, as they were the most likely informants of the positioning of feedback practices within this context. Finally, the object interview was limited to the bespoke platform, since that is the site of feedback practices in this program.

Chapter Summary

This chapter has outlined the methodology and research design utilized for this project. It situates the study within the qualitative tradition, justifying the selection of case study as the most appropriate research method and tying the selected data collection methods to the research

questions that have been outlined. The chapter has explained each data collection method and its associated procedures, delineating the role of the pilot study in contributing to subsequent data analysis procedures. It has provided context relating to the site and program and participants and explained sampling strategies and choices. The chapter has discussed how the research design has considered issues of trustworthiness and accounted for ethical considerations. It concludes by positioning the researcher within the project and listing the limitations and delimitations associated with the project.

Chapter 4 - Findings

Introduction

This study investigated the effectiveness and sustainability of feedback practices in the general education program in question. To understand feedback practices, the study adopts two analytical lenses: first, a sociocultural analysis of feedback practices. Second, the analytical lens is widened to allow for examination of non-human as well as human actors, such as the platform, program grading policies, and modality.

The study employs a case study approach involving four distinct data sets: institutional and external provider document analysis, faculty interviews, course-within-a-semester document analysis, and an object interview with the bespoke LMS. Each data set contributes to a stronger understanding of feedback practices within the general education program under examination.

The major findings based on the refined analytical framework will be presented, first answering the main research question: How sustainable and effective are the feedback practices of the general education program of the interdisciplinary college? This is presented in two categories: the first considering feedback practices from the vantage point of effectiveness and the second considering their sustainability. After that, the chapter considers the extent to which feedback practices within the general education program align with sociocultural theories of learning, answering the second research question: How do feedback practices align with socioconstructivist principles of learning and teaching? Finally, the chapter turns to considering the program from a sociomaterial perspective, answering the third research question: How do sociomaterial factors affect the sustainability and effectiveness of feedback practices?

The chapter now turns to a presentation of the main findings from the subsequent three datasets in relation to each of these questions. Findings are organized according to the research question and grouped according to the dataset.

The participants include a range of experience levels and backgrounds. They include representation from middle management and cover the courses taught on the general education program. In order to maintain anonymity for each, only aggregated data can be provided, but Table 4.1 below provides an overview of the range of experience and positions that the dataset includes:

Table 4.1

Faculty Participant Profile

New to Program Faculty (less than one year teaching on this program)	6 participants
Experienced on Program Faculty (more than one year teaching program)	4 participants
New to Institution Faculty (less than one year at institution)	2 participants
Experienced at Institution Faculty (more than one year)	8 participants
Administrative and Leadership Positions (course coordinators, department chairs)	4 participants
Range of general education courses taught	All general education courses represented

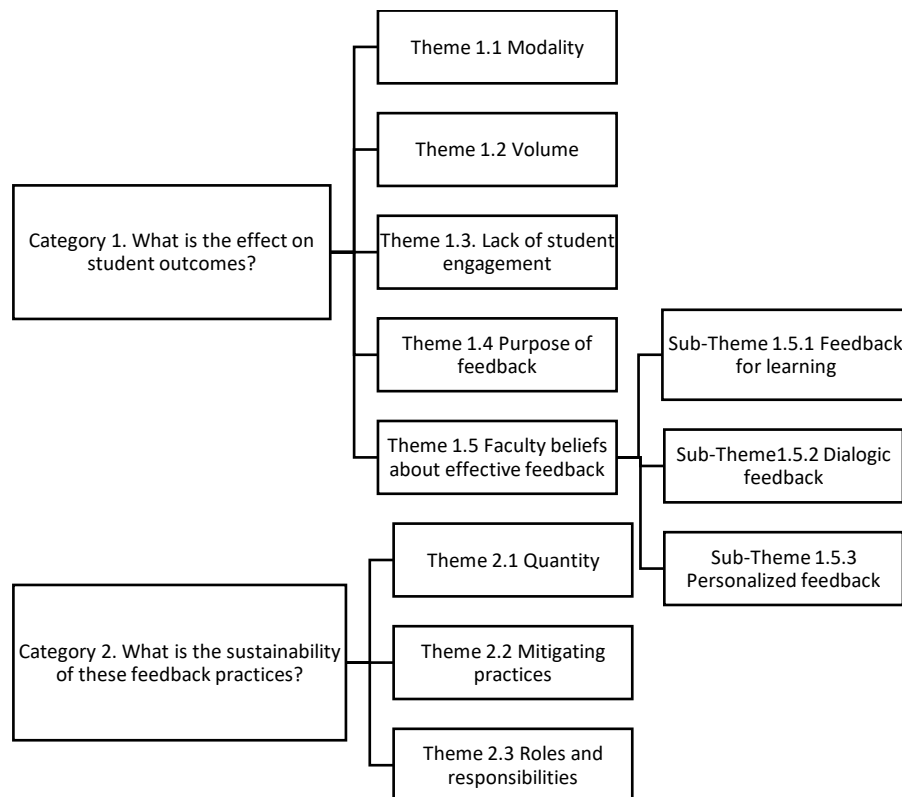
The findings address the main research question, before applying a socioconstructivist analysis and finally a sociomaterial examination.

Main RQ: How sustainable and effective are the feedback practices of the general education program?

Ultimately, the findings reveal that feedback practices within the program are not effective or sustainable. The main research question is addressed through two categories that consider feedback from effectiveness and sustainability, respectively. Figure 4.1 below illustrates how the categories and themes address the main research question. These categories and their underlying themes are discussed in more detail below.

Figure 4.1

Categories, Themes, and Sub-Themes



Category 1: What is the effect on student outcomes?

The first category considers the impact of feedback practices on student learning and outcomes. Faculty interview data revealed that faculty strongly suspect the effectiveness of the feedback practices of the general education program. Contrasted with teaching and feedback provisioning experiences in other educational programs at the same site, faculty expressed doubt that the feedback provided to students daily resulted in improved learning. These perspectives were further corroborated by course review documentation across both the composition and statistics courses. This category is further elaborated across the following five themes.

1.1 Modality

The first theme associated with the effect on student outcomes relates to the modality of feedback: feedback practices were found to be ineffective due to the overdependence on written feedback comments and the restrictions for multimodal forms of feedback. The code “Modality” was used 83 times in faculty interviews and occurred multiple times in each interview, with the highest number of instances in the first interview and three instances in the last two, which was further corroborated by the course documentation, particularly in faculty evaluations of the statistics course, where it occurred 12 times. The code also appeared frequently in the object interview data, occurring 16 times in the first and 14 times in the second.

Codes in the object interview data revealed the capabilities associated with feedback, indicating that feedback practices enabled during class activities provided a wider range of multimodality than those enabled outside of class. During classes, the platform enables opportunities for polls, audio/visual, reaction buttons, annotation on screen, typing in the chat, and announcements during breakout activities. However, outside of the class, the platform restricts feedback modality to written text-based comments that are associated with a grade.

Comments can be in-line, or they can be general comments, although all comments are formatted as a decontextualized summary to the right of the assignment on the platform. This stark difference in feedback affordances between synchronous and asynchronous contexts suggests that the platform's design prioritizes rich multimodal interaction during live instruction while defaulting to traditional text-based assessment methods for out-of-class activities.

In the end-of-semester course review for the statistics course, faculty frequently pointed to modality as significantly impeding their ability to teach and help students learn the course content. Frequent comments were made regarding the need for more in-person teaching, such as this comment:

This course has to be taught without any online setting. Instead, the first class of the week has to be taught using blackboard, pen, and paper, focusing on the concept. The other two sessions can then be focused on practice, as a sort of recitations, with a mix of computer programming application and on paper hand-calculation. (Statistics Course Faculty Review Summary Spring 2024).

Some faculty noted that the blended environment afforded the best of both worlds, noting that “The in-person lab sessions were very useful for delivering and discussing some of the complex topics and assignment discussion in the course” (Statistics Course Faculty Review Summary Spring 2024). However, the majority of comments concerning the modality of teaching and learning practices including feedback practices saw the online environment as an inhibitor.

Overall, faculty viewed the restricted modality of feedback practices afforded on the LMS as a significant impediment to their ability to provide effective feedback to students. While opportunities to engage in more multimodal feedback practices were extended during class

activities, these opportunities disappeared outside of class time. For faculty, this limited the perceived effectiveness of their feedback.

1.2 Volume

The second significant theme arising from the data is that the volume of feedback students receive inhibits its impact. Once again, this issue was noted in each faculty interview, with 21 instances in the first interview, and two in interviews three and eight.

For John, this was a defining characteristic of this program: “Well, the first thing you notice is the quantity. There is a lot more feedback required on this program than any other program I have been on in terms of summative assessments.” (John, Interview #1). For him, this volume did not translate into improved learning for students, but rather had the opposite effect:

They are overwhelmed with the amount of feedback, and the feedback itself is not particularly useful. And the feedback is also further a kind of lie, because it's not really connected to the piece of work, or it is connected to the piece of work, and therefore it's not connected to the LO [learning outcome], and therefore it doesn't have the transfer that the LO is supposed to achieve (John, Interview #1).

This view was further corroborated in a post-semester review document for the composition course:

Last semester, both students and teachers were swamped by the amount of grading and feedback. A written assessment after every single class takes too much time for teachers to produce and leads to us having to copy and paste stock responses in order to get it all done. Also, students do not have time to read it all, let alone digest it and act upon it.

(Composition Course Revision Document Spring 2024)

Across the faculty interviews, all faculty gave a strong impression that the amount of feedback required had a negative impact on its effectiveness and did not contribute to improved learning by students. Course review documents further expressed the same viewpoint.

1.3 Lack of Student Engagement

The third theme from the data involves student disengagement in feedback practices. Faculty believe that feedback practices are ineffective because students are not fully engaging with the feedback they receive. Often, this is because the feedback is attached to a grade, which takes priority. This perception is further explained as a lack of meaningful connection to learning activities. Starr recounts: “I don't know if they're benefiting from it or not. I don't know if they are even reading it or not, because once the class has passed, I don't think they're going back to see our feedback on this particular activity” (Starr, Interview #5). Starr portrays this feedback as divorced from meaningful, scaffolded, and connected feedback practices, which was echoed by other faculty.

The object interview data revealed that the platform’s design limits opportunities to engage with feedback outside of class activities. There is no mechanism for students to respond to feedback or elicit specific feedback on performance. Such design limitations restrict opportunities for students to engage demonstrably with feedback outside of class. This point was also mentioned in faculty course evaluations of the statistics course, for example: “We spend countless hours every week writing feedback for every single activity students do; students often don’t read it” (Statistics Course Faculty Review Summary Spring 2024). Institutional documentation seems to acknowledge this point in the faculty guidelines for grading and comments, under the guidelines for comments, where the ninth item listed reads: “Encourage your students to read your comments and the descriptors for the CLOs – this could be done at the

beginning of each Lab for the previous week's classwork and assignments" (General Education Grading Policy Document).

Ultimately, the lack of attention students seem to pay to written feedback comments within the program is agreed by faculty, by course evaluations, and by institutional policies.

1.4 Purpose of Feedback

The fourth theme arising from the first category relates to purpose of feedback. Data revealed that feedback was affected by its purpose, and that the purpose of the majority of the feedback was to provide evaluation, which negatively impacted its effectiveness. The code "feedback as evaluation" is the second-most common code in faculty interviews with 96 instances and recurring a minimum of three times in each faculty interview, with the largest occurrence in John's interview with 22 mentions. It is also prevalent in the object interview data, occurring 14 times in the first dataset and 29 times in the second. This code appears a further 21 times in the course review documentation for both the composition and statistics courses in the Spring 2024 semester.

Object interview data revealed that the platform structures feedback as assignment-based, post-hoc evaluation that is mediated through text-based comments. This distinguishes it from formative input that can improve performance. Faculty interviews (John, Interview #1, Dennis, Interview #10) suggested that because students seem not to understand how the formative classwork grade is calculated, it results in a focus on the grade as opposed to learning.

This is something confirmed in the object interview data, where the evaluation and grade were found to mediate between students and faculty and the feedback comments. Further, the platform design reinforces this message. Course-related analytics are provided and visual

elements such as color coding for different grade outcomes emphasize the evaluative aspect of student work (see Figure I.1, Appendix I).

Across all faculty interviews, faculty expressed the belief that feedback was not effective because its association with an assessment influenced how and whether students engaged with the written feedback comments. Course evaluations for both courses confirmed this viewpoint. This association is reinforced in the object interview data, which pointed to design features of the platform that highlighted an outcomes-based focus.

1.5 Faculty Beliefs about Effective Feedback

The fifth theme concerns faculty beliefs. In interviews, faculty expressed their beliefs about what constitutes effective feedback frequently. They contrasted the daily feedback provision with practices in other teaching contexts. Feedback that is on the spot, targeted to immediately perceived needs and explicitly linked to learning outcomes is viewed by faculty to be more effective than written feedback that comes in tandem with a grade. This theme is delineated across three sub-themes: (i) feedback for learning, (ii) dialogic feedback, and (iii) personalized feedback.

Sub-Theme 1.5.1 Feedback for Learning

The most frequent references to what faculty portray as effective feedback were those where feedback is provided during the learning process as opposed to during the evaluation process. The code “feedback for learning” is the second most common code within the interview dataset with 98 instances and a high frequency of mentions from each participant. Usually, these references were in opposition to their regular practice in the general education program. This code was also popular in the course evaluation data, with 42 instances across the documents for

both courses. By contrast, this code was rarely used in the object interviews, garnering three and five mentions respectively.

Faculty discussed effective feedback practices as embedded in their teaching practice. Effective feedback is construed as part of regular teacher-student interactions, with both Starr and David contrasting previous teaching practice of frequent formative feedback on drafts with the weekly grade with feedback comments of the program. David (Interview #2) also qualifies the need for feedback to be linked meaningfully to the next stage of learning: “I think if it's very targeted and they can see that it's leading into the next part of the assignment, then yes, I think it does. It does work well”.

Such feedback is conveyed as actionable by students, provided it is clearly linked to learning outcomes and course objectives. It comes ahead of, rather than in tandem with assessment and equips students for success. This feedback becomes more meaningful for students because they can see how it contributes to their overall progress. Faculty evaluation documentation frequently suggests different feedback practices that enable opportunities for students to act on in-time feedback. The object interview data, by contrast, reveal that feedback frequently comes with an evaluation, and much of it is delivered after students no longer have the opportunity to action it (see Figure I.1, Appendix I).

1.5.2 Dialogic Feedback

Faculty further emphasize the importance of dialogic feedback, where feedback is part of an ongoing conversation between the instructor and the student. Starr and Asma, both native Arabic speakers point to the value of providing first language verbal feedback to their students. Furthermore, Lesley and David both note that two-way feedback is more effective, with Lesley

providing this anecdote of students engaging in dialogic feedback to improve their understanding:

I've got like a group of, like three or four guys who are just like, "Miss, I've done it like this. What do you think Miss, I've done that? Is that okay?" at the end of the session, "Miss, this is what I'm going to do. Should I do this?" So they're getting that feedback they want. [...] They want to know they're on the right track, but they're also seeking that feedback from me to know that they're on the right track. (Lesley, Interview #8)

She notes this happens at the end of the class session rather than occurring within it. Later, Lesley highlights the benefit of immediacy of feedback practiced in this format:

"During the labs, it's probably the time where I had most opportunity to give feedback the way that I felt was more beneficial, probably because it's face to face. You've got them next to it at that time, you can see what they're doing immediately. You can respond to it." (Lesley, Interview #8).

The value of timeliness that is enabled through dialogic feedback practices is a point that is reiterated by John, Bashir, Angela, Connie, and Dennis, respectively. It is also repeated in the course evaluation documentation, garnering 16 mentions of the need to discuss performance with students.

The object interview dataset reveals that during class activities, there are multiple opportunities for students to engage in dialogic feedback, whether through questioning the instructor directly, raising a hand to invite the instructor into a breakout room, or using the chat box to get real-time text-based feedback (see Figure I.2, Appendix I for how these interactions are reported in data analytics on the platform). However, such affordances were not frequently mentioned in faculty interviews.

1.5.3 Personalized Feedback

Faculty repeatedly qualified effective feedback as being personalized or targeted at a specific learner's needs, both in interviews and in the course evaluation documentation. This sub-theme is found across several codes, including "feedback as subjective," "interpersonal," and "feedback as cultural," which are detailed in Table 4.2. The object interview did not reveal any instances of "feedback as cultural".

Table 4.2

Codes Pertaining to Personalized Feedback

Code	Faculty Interview Data	Object Interview Data	Course Evaluation Data
Feedback as subjective	51	9	5
Interpersonal	40	11	3
Feedback as cultural	17	0	2

Starr and Kay both stressed the need to conceive of feedback as personalized and targeted. Starr notes, of her feedback practices,

I would rather use feed forward, you know, so that I can really help them to do better on the assignment. But this is definitely not starting with the first assignment, because I don't know their level yet. So slowly, slowly, when you come to know your students better, you get to know their weaknesses or their areas of improvement, and you reach a conclusion on whether the student needs more, one on one feedback, or just group feedback, the general feedback that I give to the class. (Starr, Interview #5)

For Starr, effective feedback practice is integrally tied to knowing her learners as individuals.

This knowledge enables feedback practices that are specific to the individual learner's needs.

Kay, similarly, notes the importance of choosing feedback strategies according to a complex

range of variables including purpose, context, and the individual student. She contrasts this with the practice adopted by many colleagues on the program of providing comment-bank feedback, explaining:

What seems to me wrong about it is that if we teach the students one thing about writing, [...] we should be teaching them that that writing is communication, is meaningful, has an immediacy, is authentic. And then we're going to put copy-pasted bits of pre-made ready meals in response to their work? I just thought it's an insult. (Kay, Interview #7)

The lack of opportunity for faculty to personalize the space or to modify elements to meet their students' perceived needs and preferences suggests that this is not something valued by the creators and designers of the platform. Further, the object interview dataset also revealed other ways in which feedback practices are not designed to be personalized. While the platform enables many opportunities for dialogic feedback during class activities, they are all public and present a one-to-all rather than a one-to-one opportunity for feedback.

Category 2: What is the sustainability of these feedback practices?

The second category concerns the feasibility of feedback practices, particularly given time and workload constraints for faculty. Faculty interview data revealed that faculty found current feedback practices largely unsustainable and required resorting to an extensive range of mitigating practices, some involving technology. They contrasted this with pedagogically-designed feedback practices in other teaching contexts. Object interview data revealed how platform design contributed to the lack of sustainability.

2.1 Quantity of Feedback and Time Intensiveness

The first reason faculty attributed to the lack of sustainability of feedback practices was the amount of feedback they were expected to provide. "Quantity of feedback" is the seventh

most coded reference, with 98 instances. It is covered multiple times across all interviews, with 21 references in the first interview and ten in the sixth. It occurs 25 times in the course evaluation documents. In the object interview dataset, it occurs 5 times.

Time spent on feedback provision frequently bled into faculty's personal time, which featured strongly in faculty course evaluations: "Assessing every single lesson is excessive. It is creating a huge amount of stress for instructors. We can't keep up with that pace without working on the weekends." (Composition Course Faculty Review Summary Spring 2024). David recounts completing weekly grading and feedback on Sunday mornings, with Asma spending Friday evenings on the same task. This requirement to work during personal time is outlined in more detail by Bashir:

I will spend my weekend grading. I literally start grading maybe Friday afternoon, the whole of Saturday morning, of Sunday, I'll keep grading every item for three sections, almost like 60 something students. We have to grade them on at least three different items. So three different items by three sections, that's nine times you are opening the grade book, and then you're working with them. And if you have an assignment, we have [separate] learning outcomes or learning objectives [to grade]. The learning objectives [for each assignment] range between seven to nine learning objectives. So for each learning objective, we had to [...] select the objective, give them a grade, give them feedback, and try to map it with the rubric. (Bashir, Interview #3).

Bashir's account provided a quantitative analysis of how the volume of feedback contributes to an unsustainable workload. This point is echoed across the dataset: the quantity of feedback expected of faculty on a weekly basis is a major contributing factor to its unsustainability. It is repeated in the object interview dataset. In the first interview, volume of feedback is revealed to

influence how faculty provide formative evaluation comments and whether students engage with written feedback. In the second interview, when asked “who acts in feedback events?” the analysis revealed that the instructor, the platform, the grading policy, and time all come together to influence the instructor’s feedback practices.

2.2 Mitigating Practices

The second theme involves instructors’ efforts to cope with the heavy feedback workload. Faculty across the interview dataset expressed the need to resort to mitigating practices in order to cope with the heavy feedback load. Starr, likewise, expresses the need to adapt her practices to cope with the volume of feedback:

You end up giving, not the same feedback, but [...] how I do it is that I give three feedback: one for the high performing, mid, and low, and I end up copy/pasting and just change a little bit, but it's not really individual. It's not unique to every student. (Starr, Interview #5).

Here, the quantity of feedback necessary means that there is not enough time for Starr to give individualized detailed feedback. Several other faculty members referred to adopting a similar practice, including David, Connie, Asma, and Dennis. At times, comment banks were shared across teaching teams, as Dennis recounts:

Amongst our group, a lot of the experienced [college] guys shared their feedback bank from last semester, and because the tasks were the same, they said, "for this task, this is what I gave for a student that got a four, this is what I gave a student that got a three". So, I adapted that, and I just copied and pasted it in. (Dennis, Interview #10).

The unsustainability of the feedback and grading load is acknowledged in program policy documents, where the grading and feedback guidelines document notes as the fifth principle:

“Faculty Workload – Grading and writing comments should be as efficient as possible to minimize the amount of time it takes to do” and then as a guideline for comments, number 8 in the list allows “You can create and use a bank of ready-made comments relevant to the task and the CLO, but make sure that the feedback is tailored to the answer that has been provided – *Please do not give exactly the same feedback to a large percentage of the students in the same section*” (Gen Ed Grading Policy Document, emphasis in the original). As has been illustrated above, faculty compliance with the qualification to using feedback banks is varied.

These faculty interview examples outline what was also revealed in the object interview data. The platform’s lack of integration capabilities with other software and technology had a significant influence on feedback practices. The lack of multimodal functionality in feedback provision already discussed led to an increased use of comment banks. The lack of integrated comment bank functionality required faculty to create workarounds, such as copy/pasting feedback and then modifying it or sharing comment banks across teaching teams.

2.3 Roles and Responsibilities

Another major theme in the unsustainability of feedback practices stems from the fact that responsibility for feedback is placed solely on the shoulders of faculty and opportunities for more sustainable feedback practices are limited by the platform and program design and program policy.

John places feedback practices within the program as the responsibility of faculty: “As the giver of feedback, the onus is all on our faculty to produce those numbers” (John, Interview #1).

The platform design reinforces this onus. Outside class sessions, there are no mechanisms within the platform for students to elicit feedback, act demonstrably on it, or engage in other

more sustainable feedback practices. This, together with the practice of providing daily feedback and a grade on a component of the class performance exacerbates the faculty's responsibility of feedback provision. This is outlined in more detail by David, who frames the responsibility of giving students feedback as an implicit rather than explicit expectation when he states: "I think in [college] it's more specified, more explicitly, but again, we don't really have a clear job description. I think if we had a clearer job description, I think that could include more explicit mentions of things like feedback and student support" (David, Interview #2).

Starr contrasts instructor feedback with peer critique, which she positions as a powerful learning tool that enables students to think critically about their own work and the feedback provided to others, while simultaneously placing them as responsible for their own learning. In the anecdote below, she contrasts the superficial opportunities for peer feedback within the program lesson design with her previous practice in a different college at the same site: "For example, when I used to teach in the College of [Redacted], there were some assignments where I'd say, "60%, this part, [...] I'm giving feedback, but I also need 40% for the students to grade and give feedback to their peers" (Starr, Interview #5).

The platform does enable peer feedback opportunities during class sessions within breakout activities. Here, students can share their work with peers and make edits and suggestions for improvement. This mechanism allows for feedback provision to be shared across the class group and can reduce the teacher's responsibility for feedback. However, course evaluation documentation notes instances where peer feedback opportunities fail to contribute to effective learning, often due to a lack of time afforded to that part of the lesson or limited opportunities for faculty to teach and scaffold feedback-giving skills.

In summary, feedback practices in the general education program are viewed as unsustainable because the quantity of feedback required of the program is too time intensive for faculty to be able to engage in targeted and individualized feedback practices. As a result, they resort to different mitigating strategies, often strategies that produce more generalized feedback. Part of the problem for this lack of sustainability is that feedback practices are viewed as the full responsibility of faculty and learners are not encouraged to take a more active role or to solicit feedback from other sources such as their peers. By contrast, the LMS provides the opportunity to engage in peer feedback practices during breakout sessions where students can view and share each other's work. Such activities require planning and design ahead of the lesson so that they are designed into the scripted lessons that are uploaded onto the platform across the whole teaching team.

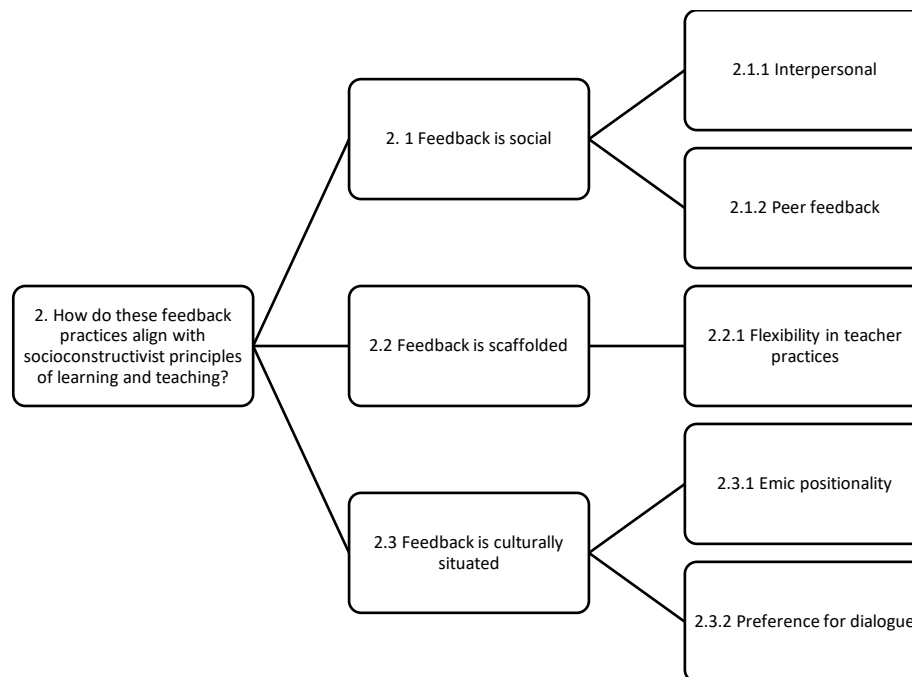
The findings now turn to review the second research question, interrogating the feedback practices within the program against a theoretical framework of socioconstructivist principles of teaching and learning.

RQ 2: How do these feedback practices align with socioconstructivist principles of learning and teaching?

The extent to which feedback practices are aligned with teaching and learning practices that provide an active role for the student is the second research question. This is because the program is premised on best practices in education as enabling a fully active student role. The findings reveal that feedback practices are not strongly aligned with socioconstructivist principles. Three themes emerge from the findings in response: feedback is social, feedback is scaffolded, and feedback is culturally situated, which are then further delineated. This is illustrated in Figure 4.2, below:

Figure 4.2

Themes Emerging from Socioconstructivist Analysis



2.1 Feedback is social

The first theme derives from a significant underpinning principle of socioconstructivism: learning is grounded in meaningful interactions with others. Feedback, by extension, is a social process grounded in interaction and dialogue. In addressing how feedback practices align with socioconstructivist principles of learning and teaching, the data reveals two key sub-themes: the interpersonal nature of feedback, and the value of feedback between peers. These sub-themes demonstrate direct alignment with socioconstructivist principles by highlighting how feedback operates as a collaborative meaning-making process rather than a one-way transmission of information. In both sub-themes, feedback practices were not found to be closely aligned with this principle. Each of these are examined further below.

2.1.1 Interpersonal

A common concern among faculty was of being able to meet the interpersonal expectations of students in feedback practices. As has already been discussed extensively, faculty described the importance of face-to-face conversations for effective feedback. Another aspect to this, however, is the social nature of feedback practices that occur through dialogue, as Dennis recounts:

I'm teaching just all back in the regular program now, and I can see my students, they feel good, and if they don't, then I'll hassle them about it, and go "Salama. You don't look very happy. You're not laughing at my jokes. What's the matter?" And something could be going on in the home life, you know? But with this, with [LMS], there was no time. Yeah, time was just so [...], the lesson plan on [LMS], every minute was taken out. There was not a lot of time to engage with them and give feedback from a humanistic point of view and just engage and be friendly and get to know them (Dennis, Interview #10).

For Dennis, being in the physical classroom with his students enables him to notice affective cues and paralinguistic communication that helps him to adapt his feedback practices accordingly and to relate to his students as humans. The object interview revealed that, while the platform design facilitates face-to-face-via-screen communication, it is mediated through the screen, which restricts much of the paralinguistic communication possible, an experience reiterated by faculty. Connie also notes the benefits of being able to physically show students how to improve their writing practice when talking about her preference for giving face-to-face feedback: "When I was talking to students face to face, obviously, there's a lot more benefits to speaking face to face with students, you know, tone of voice, eye contact, pointing things out, helping them on their actual laptops"(Connie, Interview #7). Connie's anecdote reveals the benefits of interpersonal communication and interaction for effective feedback practices.

2.1.2 Peer feedback

Another area in which feedback practices are seen to be social is in the opportunities that students have to learn through comparing their work with that of their peers. When discussing ways to promote more sustainable feedback practices, John pointed to the value of students in a transitional stage learning through this comparison process. Lesley also contrasts the feedback practices of the program with her practices in more traditional settings:

In the other world, feedback is in class, so it's more immediate. I give it verbally in class and written, because usually I design my class on any feedback task that I want to give to students with on a Google slide. So they have it immediately on the Google Slides, sometimes voice notes for them to come back to. They've got it verbally in class. They've got written feedback. They've got verbal recorded feedback on that document, and it's visible to all students, and students have a chance to respond to that feedback visibly as well. (Lesley, Interview #8)

In Lesley's class, she uses collaborative software tools to provide feedback that all students have access to and can read, enabling peers to learn from a shared pool of feedback. However, as the object interview data revealed, integration of other software technology into the bespoke LMS is not seamless and workarounds can be difficult or too unwieldy to enact, something mentioned frequently in faculty interviews.

Starr also notes that feedback practices within the program could be modified so that students benefit from peer feedback interactions:

One more thing, which is self-assessment: we don't have it either. This is part of feedback, you know. And new curriculum at schools, they start training students at an early age, to self-assess, to rate themselves, to reflect, you know, on what they did, in addition to peer

feedback and the teacher feedback. Whereas in [college], we don't have this. We don't have self- nor peer-, just instructor assessment. And this is limiting when we say that we want them, you know, to develop critical thinking and reflection. (Starr, Interview #5)

Starr notes that the addition of peer- and self-assessment and feedback practices would improve student learning because it leads to critical thinking and self-reflexive practice. While the platform enables live opportunities for peer review, opportunities for peer assessment or self-assessment are not features it possesses.

However, course evaluation data reveals that peer feedback does not always lead to positive outcomes. In one post-lesson comment of the composition course, a comment notes:

Students were not able to give useful feedback to each other. They focused on the wrong things. For instance, in the two examples we discussed in the debrief, both told each other they needed to add more evidence. One suggested revising the order of the evidence.

However, neither of them noted that they were both missing a topic sentence.”

(Composition Course Post-Lesson Review Document Spring 2024).

Here, peer feedback has been designed into the lesson but does not result in students learning from one another. In the course evaluation data, this is often attributed to a lack of time or space to spend time ensuring peer feedback is effective.

In summary, faculty do not portray feedback practices as social, often contrasting what is possible or expected within the program against what they view as better feedback practice. This includes greater interpersonal connection during feedback events and enhanced opportunities for students to learn by giving and receiving peer feedback. However, such opportunities require time and teacher guidance. Much of this restriction is revealed to be caused by platform restrictions and a lack of technological integration capability.

2.2 Feedback is scaffolded

The second major theme relating to the second research question is that feedback should be scaffolded. The concept of scaffolding is a key construct within sociocultural understandings educational practices. Scaffolding in feedback involves providing structured support that is gradually reduced as students gain competence. Within faculty interviews, faculty discuss scaffolding feedback practices when they have opportunities to engage in more flexible feedback practices, usually within the context of the face-to-face lab sessions, although sometimes within the online classes. Generally, though, they express difficulty with program restrictions that limit their ability to engage in flexible feedback practices to enhance learning. The object interview data reveal that these limitations are frequently due to platform design and capability. This theme of scaffolded feedback is further subcategorized into the sub-theme of flexibility in teacher practices, discussed below.

2.2.1 Flexibility in Teacher Practices

Scaffolded feedback practices are inextricably linked to adaptive teacher practices. Angela provides several anecdotes that relate to the importance of scaffolded feedback. She notes that written comments need to be explained and broken down in a conversation:

I just think they've got so much feedback coming at them from all of these classes. Where's the time for them to really sit down and understand it? Maybe it needs to be more of a mixture, so you can have both. You've got to have that written feedback that they can go back to and see, but you've also got to have somebody who's going to talk to them about it and help them through it. Say: "yes, I've written this, but do you know what it means? Do you understand what I was saying here?" (Angela, Interview #4)

Angela notes that written feedback comments have limited effectiveness and need scaffolding, which she also notes is time consuming and not enabled in the class session design. This point is reiterated in a course evaluation comment where a faculty member notes their inability to adjust their practice to meet student needs: “This was a small class and a number of the students in this course were not strong/not strongly motivated/suffered from learning difficulties. I would have liked more freedom to adjust the course/pace of the course/adjust activities to suit the class” (Composition Course Faculty Review Summary Spring 2024).

Dennis also explains that program design limited his opportunities to scaffold feedback practices appropriately:

There wasn't a lot of time built into the programs that I was teaching, that were writing programs, to give feedback. And I sort of brought it up in a couple of meetings, because obviously, when you're teaching in [LMS], you're encouraged not to talk much, and so you don't want to be giving feedback during that, otherwise your teacher talking time is going to skyrocket through the roof. (Dennis, Interview #10)

Here, the scripted lesson design and the policy of minimizing teacher talking time restrict Dennis’ opportunities to engage in scaffolded feedback practices within the online lessons. This is further reinforced by the platform, which collects data on teacher talking time. This data is displayed to the teacher as a percentage against the students’ talking time (see Figure I.2, Appendix I). Such analytics are also viewable by program managers and administrators.

Even in the lab sessions, however, Dennis contrasts how scaffolded his feedback practices can be with those in a traditional setting:

In the face-to-face class, and [the course] was structured in such a way that the students knew that it was coming up, and they had written something, like a draft or something, and

they knew that there was only one class to get feedback. So it was a little bit different [...] because one of my classes had [...] maybe more than 26 students, and there was only one class to give feedback, and it was 50 minutes. So, it was really short. Whereas, [...] now I'm teaching in my regular courses in the university, the feedback session could be over three days, and it could be 15 minutes per student, it could be group feedback as well, and it's quite substantial and feedback at different stages of the process. (Dennis, Interview #10).

While opportunities to successfully scaffold feedback practices within the general education program were rarely mentioned, Angela did provide one example of best practice that she had incorporated into the online classes. In the recount below, she explains how she scaffolded poll response participation and feedback by adapting a minor component of the lesson:

In the beginning of this semester, a lot of my feedback for those polls were probably actually focused a lot on how to break down the question. And I might give longer feedback at the beginning, and then in the classes, I might then go to the next class and be like, "Okay, we're going to look at this poll", [...] and actually, what I've often done is do two polls, even though you're only supposed to do one. I do two because I do one as a practice and then get the students to give feedback on the answers, and then I get them to do another one, and we grade the second one, even though we're not supposed to do that. (Angela, Interview #4).

Angela identified an opportunity to build scaffolded feedback practices into the online and scripted lesson environment. She attributes her flexibility with the platform and confidence to

modify lesson structure to her greater experience of using the platform and her former role in program leadership.

Similarly, David notes another successful opportunity for scaffolded feedback within the first and second semester writing courses, which have a writing journal assignment that builds toward a larger essay assignment:

I think probably the writing courses are a little bit different, because, as you know, the writing journal parts tend to be part of the writing process, don't they? So I think that works really well, because students can see the relevance of the feedback and then take it and then use it to do the next, next stage of the writing process. So generally, I think they they've taken on board my comments on the whole” (David, Interview #2).

For David, the design of this scaffolded feedback into the course allowed for students to engage with and build on feedback in a way that resulted in improved writing skills. However, he further notes that acting on feedback practices is something that should be further built into pedagogic design, noting:

They're not as systematic in dealing with the comments. So for example, we did the annotated bibliography, so there'll be comments about whether they use the APA citation correctly. And often you'd find that they then made the same mistake in the final essay. So obviously they didn't go through it with a fine-tooth comb and go, oh yeah, I need to fix that, that and that. So perhaps that's something we need to train the students to do. (David, Interview #2).

Here, David suggests a strategy for further scaffolding feedback practices to enhance student learning.

Ultimately, opportunities for scaffolded feedback practices within the general education program exist, and teachers can and do find strategies to engage in the kinds of feedback that support student learning. Knowledge and confidence with the platform can enable adaptive practices that scaffold learning for students. However, these opportunities are limited and often restricted by other aspects of the program design.

2.3 Feedback is culturally situated

The third theme addressing the second research question relates to the culturally situated nature of feedback. It is shaped by the tools, norms, and contexts within which it occurs. Faculty interviews place feedback practices strongly within a cultural context, though frequently this is in opposition to the types of feedback afforded on the general education program. Faculty strongly indicated that feedback practices were not aligned with expectations of feedback practices at the site. This juxtaposition is frequently framed as a strong understanding and appreciation for the dominant cultural norms, needs, and expectations of the student population. This is analyzed through two sub-themes: emic positioning and the preference for dialogue.

2.3.1 Positioning

The first sub-theme involves faculty awareness of local cultural expectations around feedback practices. Asma (Faculty Interview #9) made the most frequent references to feedback as cultural, with six instances. As a Gulf Arab, she occupies an emic position, since she shares a wealth of sociocultural capital with her students, including home language, nationality, and religion. She describes this affinity as a driver of how she engages in feedback practices, remarking:

Given that it comes from my background and trying to empathize, and like, use my empathy in terms of, especially with the language, to help the students. So even if I teach

courses that had nothing to do with writing, I do remember that it's one of those things that I need to emphasize. Like today, I talked to them about email writing. How do you give a title to your professor? What do you write? What's the difference between all of these formalities? (Asma, Interview #9)

Asma, notes that she moves beyond the traditional confines of the curriculum in terms of her feedback practices to address anticipated needs that she can recognize thanks to her shared cultural background. Her insider status is also helpful in accounting for potential reasons why students may not engage with written feedback comments, stating: “That was cultural, I think. The grading, I think, some families here stress on that component more than improvement and progress. So it's always the grade” (Asma, Interview #9).

Here, she attributes to a lack of engagement with feedback to the family (arguably the most significant construct in Gulf Arab society) as sometimes more preoccupied with evaluation and grading. This is something that the object interview data confirm, as analysis shows that the platform emphasizes the assessed and quantified aspects of learning such as the student’s overall course grade.

2.3.2 Preference for Dialogue

Another reason that feedback practices were often found wanting in terms of their cultural appropriacy related to the modality afforded in the program. The preference for dialogue represents the second sub-theme related to culturally situated feedback practices. As has already been discussed, object interview data show that the platform and program design strongly prioritize written feedback comments from the teacher to the student. However, faculty hold these in marked contradiction to what they view as the preferred modality of feedback for students.

The importance of having opportunities to discuss feedback occurs frequently in the course evaluation data, with faculty expressing a preference to use lab periods to engage students in feedback discussions, stating that the program “should also provide more lab time for writing skills, working to improve their skills through face-to-face guidance which will have a better impact on CLOs” (Composition Course Faculty Review Summary Spring 2024). Similarly, from the statistics course evaluations: “Students may benefit from increased classroom discussions in the lab sessions, to better understand the concepts, as this is a technical course.” (Statistics Course Faculty Review Summary Spring 2024).

This is something that is not easily facilitated by the platform. Object interview data reveal that the LMS design with the pre-loaded lesson plan require advance planning by course builders (individuals with access to creating and modifying the lessons on the platform) to enable breakouts. If an individual breakout is part of the lesson design, the instructor can meet each student in a private, more dialogic space. However, this is restricted by the amount of time afforded the breakout and the number of students in the class.

In summary, faculty demonstrate a keen and nuanced understanding of how the cultural milieu informs their feedback practices. They demonstrate an appreciation for student preferences, and work to modify their feedback practices so that they can meet their students in a manner most in keeping with student desires and expectations. While the platform enables dialogic feedback during class activities, the decision to enact these does not sit with the individual teacher but must be scripted into the lesson design for all teachers. This uniformity is at odds with a more personalized, culturally situated approach to feedback practices.

Summary of Socioconstructivist Findings

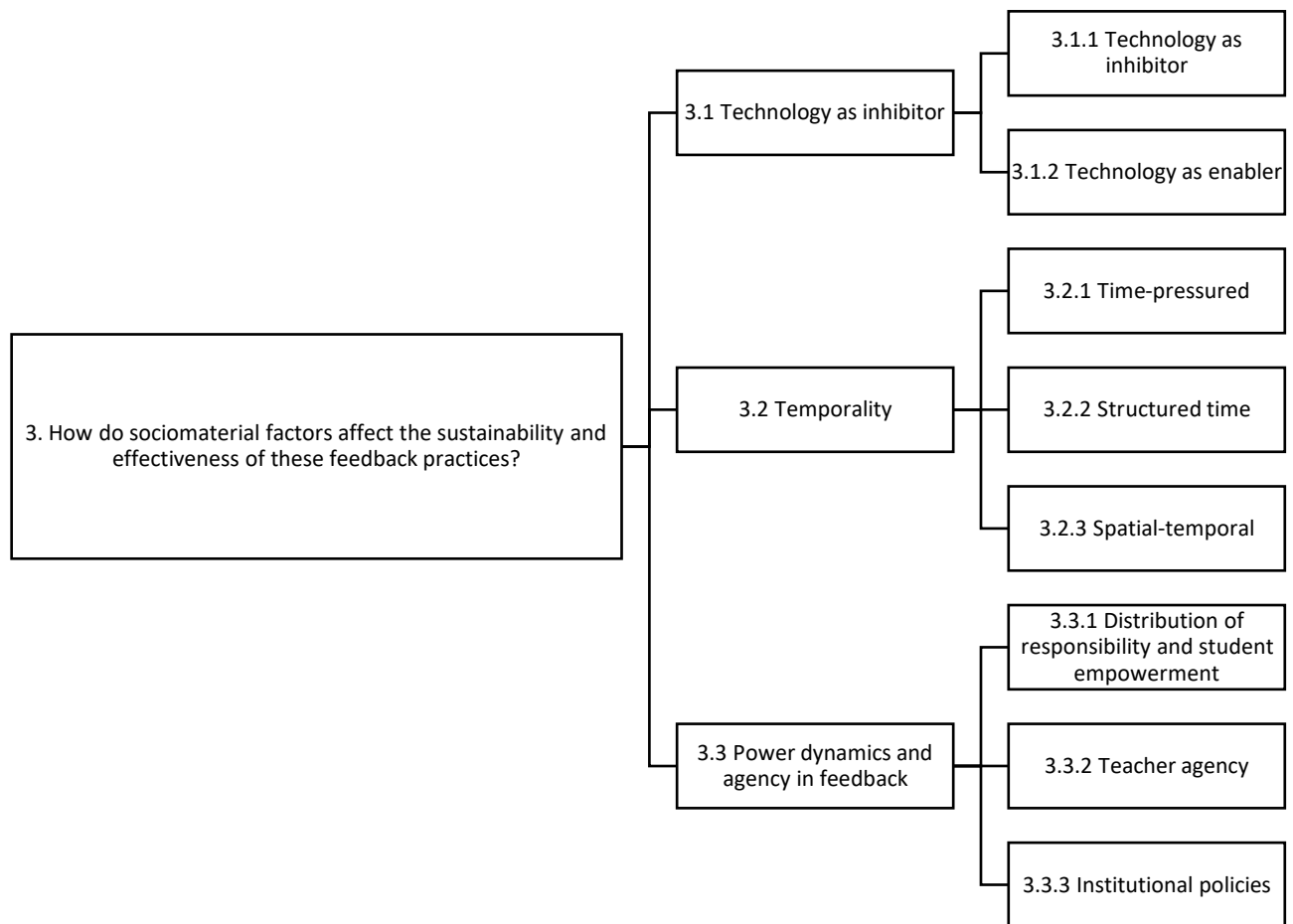
Viewing feedback practices through the three themes presented here provided a more in-depth analysis into the extent to which feedback practices align with socioconstructivist principles of learning. Overall, the analysis demonstrates that faculty see a disconnect between the feedback practices afforded in the general education program and the underpinning principles of socioconstructivist teaching and feedback practices. While some practices do align with a socioconstructivist view of feedback, especially in the instances where faculty identify and act on opportunities to provide scaffolded feedback, largely the program design, platform, and other program-related policies serve to reduce opportunities for feedback to align with sociocultural theories of learning. First, this is observed in the social sense, where students can engage in meaningful co-construction of their own learning through active dialogue with their instructor and peers. Second, it is seen in the reduced opportunities for faculty to adapt their practices to provide scaffolded feedback support, and third in the lack of culturally-suited practices as evidenced in the programmatic preference for written feedback comments that limit relationship building and interpersonal connections.

RQ 3: How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices?

The third research question considers how feedback practices within the general education program may be impacted by material as well as social forces. To investigate this, three themes emerge from the analysis of the data. These themes are further developed in sub-themes. This is illustrated in Figure 4.3 below.

Figure 4.3

Themes Emerging from Sociomaterial Analysis



3.1 Technology as Actor

The first theme considers the extent to which technology is a significant actor in feedback practices. In particular, technology was found to have influence in two major contributions: its role as inhibitor to feedback practices, and its role in enabling feedback practices. In the faculty interviews, the role of technology, particularly the LMS, was found to be largely inhibitory to effective and preferred feedback practices, although the data also reveal some innovative practices that serve to enhance, streamline, and automate feedback practices.

3.1.1 Technology as inhibitor

The first sub-theme in which technology's role is explored can be seen in its framing as an inhibitor of feedback practices. We have already seen that this is largely tied to the modalities

of feedback it affords and those it restricts. This is evidenced most strongly in the interviews of John and Bashir, both who express a clear preference for adopting other feedback practices.

Bashir notes that technology may impede individual student's ability to participate in class activities such as timed poll responses, by explaining: "Some of them are fast typewriters. Some of them are slow and one finger typewriters. Then four minutes does not make any sense. That is another difficulty, I have seen that students, they do not write a lot, but, yeah, this is the expectation" (Bashir, Interview #3). Here, touch typing ability is a pre-requisite to full success for students, especially when an activity is timed and graded.

In another example, Bashir offers some of the restrictions imposed by the platform on his ability to provide formative feedback during online classes. When asked about the types of feedback he can offer students, he replies:

As feedback, my boxes are always text based. Okay, maybe I can do this in class when I can import a whiteboard and I put it there, even the feedback on the assignment, which should be clarifying for the students, is all text based. I cannot import even mathematical symbols like, you know, X is different from $\bar{x}$ in math. In statistics, I cannot import this into [LMS Name]. I just have to choose x and put between brackets (bar), just to show them that this is not the x we usually refer to as a variable. (Bashir, Interview #3).

Bashir's feedback to students is limited to text-based comments, despite his subject area regularly making use of common mathematical notations such as distinguishing x from $\bar{x}$. He must find ways to work around this restriction in order to communicate the appropriate feedback for his students.

John recounts a similar restriction of the platform to act in organic and adaptive feedback practices in response to in-class events:

Feedback is a way of, kind of developing students in terms of increasing their level of quality. Imagine you're in a lesson and you notice a kind of a gap in some area, and you wish to address that gap, and you wish to do this by introducing another aspect which is not on the lesson plan. You can't do it. You can try and do it, but to try and do that on the fly is A) very difficult. B) you stand a good chance of missing out one of the mandatory class assessments. C) putting the actual new materials on [LMS]. It's very, very difficult. So, that kind of the contingent aspect of classroom feedback is mitigated by the platform. (John, Interview #1).

John refers to three ways in which the technology acts as inhibitor to formative feedback practices by making it difficult to integrate responsive activities or examples from a technical standpoint. First, he notes the challenge of thinking-on-your-feet for instructors during an online class, since multitasking informs a large component of facilitating a lesson on the LMS. Faculty are simultaneously leading the conversation, monitoring talking time of each student, considering how to segue into the next task, and responding to the emoji buttons and monitoring the chat box. Further, as the object interview data show, the platform is not designed for individual teachers to produce and embed their own materials, since lesson plans are standardized across courses. Controls exist to share screen and upload files, but their functionality is limited and glitchy. This is also confounded by the fact that each stage of each lesson is timed, and the platform monitors this for the instructor in the form of a timer in the top right corner of the screen that color codes according to whether the instructor is on-time or over-time. The timer is green if the instructor is within the acceptable time range of that segment of the lesson. It turns orange and then red the further out-of-time the segment runs. This strict

timing means any deviations from the plan could result in missing a task or activity that should be assessed.

The examples from Bashir and John and the object interview data illuminate the ways in which technology exerts a strong influence on both teacher's evaluative and summative feedback practices. What it affords and what it constrains then shapes how teachers engage with students and the platform in feedback events.

3.1.2 Technology as enabler

The second sub-theme explores the ways in which technology acts to enable feedback practices. While the platform was commonly positioned as restricting feedback practices by faculty, this was not unanimous. In composition course evaluation data, one comment notes “[LMS Name] is a very effective delivery platform, and this is effectively augmented with the one f2f class” (Composition Course Faculty Review Summary Spring 2024). Further, there were instances where faculty noted the use of technology to enable feedback practices. These cases were usually in response to another actor: feedback workload, or the volume of feedback that faculty were required to provide daily.

Several faculty members noted making use of the affordance of the platform to provide “Apply all” comments to a task, then either making individual revisions per student or in some cases, not. Lesley explains the process:

I would do a quick read through, like a quick check of what the responses were. I found that quite easy, because it's only like a couple of sentences. I had about 18 students, so it wasn't too difficult to do a quick skim through. And that would give me a general idea about what people had written. Then I would put a like, a mark all, you know, that check

box we do feedback tool. Then I would put some comments that referred to specific elements of the question in that respond to all, add it to everyone. (Lesley, Interview #8)

The platform's affordance of "Apply all" feedback and grades allowed her to facilitate more sustainable feedback practices that reduced the amount of effort she had to exert in this process, although she does caveat that her smaller number of students further helped facilitate the process. The object interview data reveal that this button enables a way of providing the same feedback and grade to all students in a section, expediting the feedback process. This acts together with the volume of feedback faculty are required to produce to manufacture and deliver similar feedback to all students, as faculty have reported.

In other cases, faculty reported using generative AI programs in innovative ways to enable more sustainable feedback practices, as is related by Connie:

I would do what the students were doing. I would take the question, and I would ask any AI platform to create a response for me. And then I would ask the AI, 'okay, what would you consider to be, you know, possible good responses to this? etc.' I would ask it to create a rubric for me from zero to four, and then I would rewrite the feedback itself. And then, for students that did a really good job, I would give them the general four, and then the students that needed a little bit of work, I would give them the two or the three, it was usually the zeroes and the ones that I had to give a lot more specific comments or feedback to, because there was always a really specific reason for why they scored such a low mark. (Connie, Interview #4).

In this example, Connie found ways to use technology as an enabler of more sustainable feedback practices to manage her workload, although the technology in question was not a component of the platform.

3.2 Temporality and Feedback Workflow

The second theme explores how time and feedback workflows intersect and interact in feedback practices. The notion of the timing and temporality of feedback, viewed from this lens, suggests that it can be interrogated further as another significant actor in feedback practices. In interviews, faculty references to time and its connection to their feedback practices are frequent. It is also a common theme across the data related to course evaluation. The time intensiveness of providing text-based comments is referred to 39 times in the interview dataset, while temporality is coded 23 times. References to the time intensive nature of writing feedback occurs 17 times in the course evaluation documents, while temporality occurs 8 times. Both appear in the object interview data as well, with time intensive appearing 7 times and temporality 11. Together, these notions of time interplay with feedback-in-the-moment and feedback-after-the-fact as well as the space within which this feedback exists. Time is further examined through the subsequent three sub-themes of time-pressured feedback, structured time, and spatial-temporal dynamics.

3.2.1 Time-pressured feedback

Most common among references to time were comments pointing to the amount of time devoted to the written feedback workload. As has already been discussed in detail, faculty felt pressure to complete the workload. Object interview data illustrated that factors like the two-week turnaround expected for grading restricts opportunities for faculty to engage with each student's work. This deadline is color-coded on the platform, with the due date starting green and turning orange the closer the deadline looms and turning red once the deadline has passed. Figure I.3 illustrates how color is used to prompt and influence faculty action (see Appendix I). Taken together with the priority of written feedback comments and their volume, this created a

significant sense of time pressure, which faculty noted blurred the boundaries of work-time and personal time.

John, David, Bashir, and Connie all made reference to needing to work during time traditionally bounded as not-work-time. John noted that coursework grading and assignments would result in the full surrender of all his available time for a week, while Bashir recounted spending his full weekend providing feedback alongside grading. In a lengthy comment in the course evaluation data for the composition course, the beginning notes: “I found the grading in the 2nd half of the course very taxing. This was in part because of the students’ use of AI but also because of the complexity of the assignments [...] and the pace we were expected to grade at” (Composition Course Faculty Review Summary, Spring 2024).

Faculty who expressed a greater confidence in their ability to manage time pressures usually attributed it in part to some reduced teaching workload on the program. Angela commented:

I think I've been in a bit of a more privileged position, because I've been teaching less than others. I haven't had to grade as much just because I've been [in a leadership position] so my workload in terms of grading, is lower than most people. I think the workload for me was harder when I first started teaching the course, because it was new to me. (Angela, Interview #4)

Angela makes a direct connection between teaching load and its impact on time due to grading. She also expressed resistance to the time-pressure of the feedback load, articulating her belief in the importance of work-life balance: “I worry about some people who have said, I take hours and hours over doing this, I don't think that's practical, and I need a work life balance” (Angela, Interview #4).

The time pressures associated with feedback practices and expectations were experienced differently by faculty who responded in various ways, sometimes adapting their time to fit the workload, at other times, adapting their feedback practices to reduce the time. Further, the platform is designed to prompt faculty to attend to grading deadlines. In this way, time and the feedback workload are strongly entwined.

3.2.2 Structured Time

Another common issue in the faculty discussions involved the issue of time in the program itself. This represents the second sub-theme: structured time. Faculty frequently referred to their experience of time, both in the physical classes, but especially in the online lessons. Course evaluation data reveal that both general education course teams found the pacing of both courses to be too fast. Object interviews revealed that time is strictly controlled, and the platform is designed to prompt faculty to adhere strictly to the suggested timings of each lesson section.

Dennis explains how time occurred in the face-to-face labs:

I spent a lot of time during that day, when we met the students, giving individual feedback to students during that time. But, you know, [...] Sometimes there were other things that we needed to get through. And sometimes other people came to talk about the internship thing. [...] and I was a bit wary of giving feedback when they had to work on their

[Program Component]. (Dennis, Interview #10).

Dennis talks about harnessing the factor of co-presence to be able to engage in his preferred feedback practices but then describes the ways in which this was curtailed and restricted by other programmatic requirements that he understood as occupying temporal space more primally. He was reluctant to infringe on the temporal space demarcated to those events in order to discuss

feedback with students individually and in person. Program structure and its conceptualization of how in-person time should be spent acted on his feedback practices.

3.2.3 Spatial-Temporal Dynamics

The third sub-theme involves spatial-temporal dynamics. Throughout the faculty interviews, faculty reveal the ways in which the spatial affordances of the digital learning environment and the temporal realities act on feedback practices. In an account that covers the three aspects of temporality noted by faculty as influencing feedback events, Bashir explains how the time pressure restricted his opportunities to provide feedback he recognized students as needing:

If you divide the time that I see my students into thirds, like two out of three, I see them online. Usually, students have another class directly after, so they cannot stay after the class. And on [LMS Name], you know the timing, like controls everything, so you cannot go beyond the time. And for the face to face, we had, [...] usually the agenda for the lab is overwhelming. [...] I have to cover some things that we have haven't seen before, coming in the next question, or next sessions, or coming in the next assignment. So, I have a lot of explanation, about two hours and 30 minutes. [It's a] long lab, but the students are always required to do something. Also, the instructor has to cover something. It's not up to us. So even if you see somebody who's struggling, maybe you will have only a very short period of time to tell them, "Okay, please come to my office. You need this." and then leave it to the student whether they are responsible, whether they want to come, whether they want to follow up or not. (Bashir, Interview #3).

In this example, we see modality of spatial-temporal issues mediated online as restricting opportunities for formative feedback in the online environment. The modality and the students'

schedule intermingle with the lesson plan to preclude opportunities for Bashir to help students in a personal and individualized manner. While time and co-presence appear to offer an opportunity in the lab session, he notes that the time has been structured and organized by the program, with future time, such as future class assignments or graded polls, dictating how Bashir spends his present time in the labs. Opportunities for personalized feedback, then, are pushed to the margins of office-hours time, something that students may view as their personal time or non-study time, which then, together co-acts with the strangeness of being in the instructor's physical office to restrict the likeliness of the student acting on the request to meet in office hours.

Throughout the data, time is referred to as a resource in which faculty were lacking. The platform reinforces a sense of urgency through its color-coded timers and deadlines. Their time outside of class is spent attending to feedback that is written and associated with an evaluation. Their time in class is shaped by the heavy content load of the lesson plan and the program design, with future time obligations (often in the form of assessed work) imposing on present time during classes, including the face-to-face labs. Time invokes a strong mediating influence on feedback practices for faculty.

3.3 Power Dynamics and Agency in Feedback

The final theme considers distributions of responsibility and who and what is (dis)empowered in feedback situations. Within the analysis, how power is (re)distributed and whose agency is constrained and/or enabled is discussed. Faculty discussed the ways power and agency in feedback situations are mediated. They demonstrated the ways they felt their professional agency was restricted through the platform and program design. They talked about the ways in which feedback situations rendered students as passive recipients of feedback, which is reinforced in the object interview data where the platform's design does not enable an agentic

role for students in feedback processes. Faculty also spoke to the influence of institutional policies and a pervasive sense of surveillance as impacting where and how feedback practices occurred. Again, the platform's data analytics and the program's policy of collecting and disseminating this data confirm this influence. Power dynamics are examined through the three sub-themes of distribution of responsibility and student empowerment, teacher agency, and institutional policies and feedback practices.

3.3.1 Distribution of responsibility and student empowerment

The first sub-theme relating to power and agency involves the responsibility for feedback. Faculty repeatedly acknowledged responsibility for feedback as part of their role. They viewed it as a pedagogic duty, something inextricably linked to teaching and learning events. Teachers view feedback practices relationally, as embedded in the co-practices of teaching and learning.

Starr, explaining why feedback is her responsibility, recounts: "It's the responsibility of the instructor. Let's say I'm teaching this class. I'm not going to ask you to give feedback to them, because you don't know them. You don't know their level, you don't know you know their strengths, their weaknesses" (Starr, Interview #5). Starr's relationship with her students is what best qualifies her to give feedback.

The object interview data also show that the platform design strongly reinforces this view of feedback as the onus of faculty. As has already been mentioned, no mechanism exists for students to elicit feedback or seek support on the platform. Students cannot respond via the platform to the feedback they have received. Such lack of functionality and features renders students as passive and unable to share responsibility for feedback.

Student agency in feedback practices within the program are problematized. In both the course evaluation and faculty interview datasets, faculty expressed frustration with how feedback and assessment practices on the program position students to constantly receive feedback that they are rarely empowered to act on. John explains: “They're passive recipients of feedback. Like I say, and they're drowning in it as well. But it's not just passive. It's passive drowning. They do not actively seek it. They do not actively engage with it on the whole unless it's connected with an assignment” (John, Interview #1). Here, far from empowering students, feedback practices, especially those associated with in-class activity grades, are construed as negative and detrimental to student performance. The volume of feedback and its role as evaluation are acting to restrict how students engage with feedback and whether it has a positive impact on their performance.

Kay takes this further, suggesting that the formative assessment practices of the program are not designed for learning, but rather to incentivize and reward certain behaviors of the students:

One of the administrators actually said to me, when I went to say I was leaving, ‘you know, we know it's too much grading’. So, I think they know it's too much grading for the teachers. Whether they've thought about whether it's too much grading for the learners is a whole other story. It's all designed to force the learners to do the pre-class coursework as far as I could see, rather than anything else. So, you kind of blackmail them with marks to do the work, which I suppose we do as teachers. (Kay, Interview #7)

Kay expresses doubt that the feedback she engaged in so deeply is designed for learning so much as the grade is provided to incentivize or penalize students who do or don't do the pre-

class work. As such, the evaluative component of feedback acts to prompt desired behaviors among students such as completing pre-class activities.

Dennis takes a slightly more ambivalent view below, explaining how he viewed the fact that something would be assessed each class, but the students did not know what from two viewpoints:

It could have been a negative, but I saw it as a positive, that it kept them on edge a little bit. I sort of saw the everyday assessment thing as a means to motivate the students to respond, because they didn't know what was going to be assessed, so you're going to do your best on every single thing. So, I don't know whether that's a negative or a positive. I kind of saw that as a positive, but maybe some of them saw that as a negative, because, you know, they felt a bit stressed. But then other students just didn't bother about it and just said

‘whatever's assessed is assessed’ and relaxed into it. (Dennis, Interview #10)

Dennis outlines the many ways in which various actors influence student engagement and empowerment in feedback processes. He notes how the policy of grading daily classwork encouraged participation in online classes, acting as a positive motivating force. However, he also acknowledges the potential psychological impact of constant evaluation.

Overall, opportunities for students to engage actively in feedback practices are construed as severely curtailed by faculty respondents and the course evaluation data. Object interview data reiterate this, showing that feedback flows from the instructor to students, but not from students to one another or from the student to the teacher. Faculty attribute this limitation to program design and the heavy weighting of formative grades.

3.3.2 Teacher agency

A second key sub-theme concerning power dynamics and agency regards the teacher's role. Kay's experiences of teaching on the program are expressed in strongly negative terms throughout the interview, and she frequently frames this as the consequence of how the program is designed. She expressed doubt in the pedagogic robustness of the curriculum, coupled with a lack of agency afforded to her to adopt practices that she believed were effective:

The learning outcomes seemed to me to be pulled out of the sky and have nothing to do with anything. I had no control over that, no power. I mean, that was generally a problem with that course, no power to focus on what I, as a human being, thought was important for the students that I was teaching in any particular moment in time. But I had to go with this external thing. (Kay, Interview #7).

Kay contrasts what her subjective and contextualized beliefs (that relate to the students and the material and the specificity of the course she was teaching) against the lack of control she had to shape how that teaching unfolded. This is a frequent theme across faculty interviews.

Connie relates an anecdote where she received criticism on a teacher observation evaluation for not letting students orient themselves to the task first and instead spending a few moments to verbally set the task and relate it to the pre-class work. The action she was critiqued for can be interpreted as a form of formative feedback, or feedforward. She explains the observation encounter and the feedback she was given by administrators:

They were pointing out to me that I was over explaining things, and they felt that I was over lecturing. And I remember the one lesson that they did review in my first semester, and I was teaching three sections of [Composition Course] at that time. They decided to review my second or third section of [Composition Course] that day. So, it's not that I want to over lecture or over explain the activities. I felt that there was a need to do that because

of students' abilities to understand the material. A lot of the time they just didn't do any reading. And a lot of the [External Provider's] platform itself is banking on the fact that the students are doing the reading, the course materials, etc. They cannot engage in the polls. They cannot engage in the breakout rooms. You can't really debrief or give feedback or apply their opinions to anything if they haven't done the readings. So, if they haven't done the readings, then that creates a larger problem for the lecture itself, which is all based on that material. Then that means we have to kind of make sure everyone understands what the material was talking about before we can go on to asking about the polls, or me throwing them into the breakout rooms, because then there just ends up being a sense of mass confusion. And I do get a lot of students raising their hands asking me to go into their breakouts, asking me to explain certain things. And so instead of me just explaining it per breakout room and wasting everyone's time, I just do it all right before I throw them into the breakout. (Connie, Interview #7)

She provides a detailed account of the many factors of which she was privy to and their influence on the pedagogic decisions she was making *in situ*: first, her knowledge of this lesson's success or lack thereof gathered from her experiences in the previous sessions that day. Next, her knowledge of whether or not her students do the flipped learning work ahead of time, and her experience of how that renders the educational opportunities meaningless. Third, her experience of the impact on time and her knowledge of a means to shortcut this loss of learning opportunity. Connie's explanation outlines her confidence in the pedagogic choices she is making as a teacher, to exercise her agency and transgress the policy boundaries of teacher talking time so that the learning outcomes of the session can be achieved, something that is not acknowledged by the criticism that she was over-explaining.

Continuing the account, Connie explains how she responded to the criticism, resisting the impingement on her professional agency:

I told her, “Listen, you came in on my second or third class that day, me teaching the same class, I witnessed the chaos in my first section of me not doing, of me doing what you've suggested, which is to not explain it with the students [and let them] figure it out on their own. And I've tried to engage in that type of teaching practice where I take a step back and I give students more autonomy to do that, but I just don't feel that we have a particular set of students for a number of reasons. They just need extra, they just need extra lecturing. They need extra help. They need a little more explaining that I have to give, and I believe as a role, as instructors, isn't that what we're supposed to do? Teach?” (Connie, Interview #7)

Here, we see Connie pushing back against the constraints on her teaching agency, the program's policy of restricting and monitoring teacher talk time and not lecturing. In this encounter, it is the policy that is uniformly enforced. However, its enforcement is relationally at odds with the particulars of the specific learning moment in which Connie found herself. Not explaining contradicts what Connie knows, from her professional experience, to be in the best interests of her students and the overall lesson's success.

Object interview data and the course evaluation data also demonstrate that teacher agency and performance are strictly monitored through the collection of metrics like teacher talking time and observations of the recorded lessons, lessons which faculty may not be aware are being monitored until after the fact. In this case, the platform, the policy, and observation and the data collection all act on the teacher's ability to choose formative feedback practices that she believes are best for that particular learning moment.

3.3.3 Institutional policies and feedback practices

The example above also points to another factor: the ways institutional policies act on, and afford some feedback practices, while simultaneously constraining others. This presents the third sub-theme. The third most common code across data was “feedback as quality control,” with 145 instances. This code referred to all instances where feedback is used to maintain program quality or to prompt student participation. This is distinct from feedback for learning, which concerns feedback that results in closing the gap between current and desired levels of student attainment. Feedback as quality control occurs multiple times across all faculty interviews, with the most frequent instances occurring with John (19), Kay (14), David (8), and Starr (8). It occurs 22 times in the object interview data.

Object interview data showed that the platform is designed to monitor and evaluate the extent to which faculty are adhering to the underlying curricular principles and pedagogic beliefs. John brings up the platform’s affordance of grades and feedback monitoring as an actor influencing his feedback practices:

Because there's a grade attached, you have to justify the grade with the feedback is one thing, and that predominates over the feed forward aspect of feedback. And it also predominates not just because of the student, but because every grade you give is observed by multiple people, the course coordinators, the chair of the department, the people at [External Provider]. (John, Interview #1).

John’s feedback practices are influenced first by the association of the feedback with the grade, which he explains is what students will interpret first. Next, he relates the various other program actors whose ability to monitor his grading and feedback also act on his feedback practices. In another recount, he explains the extent to which these actors shape his feedback:

If we think, for example, in terms of the fact that it's constantly observed, there is that panopticon effect, then, as I said, you're obviously justifying the grades, but you're sometimes leaving clues as to the reason for the grade that you can't say overtly to the student, but the person watching should understand, because they're a teacher. So for example, with uses of AI, I might use coded language for that. (John, Interview #1).

John relays the program as one in which his practice is constantly under observation, a “panopticon effect.” In this example, his feedback practices are so shaped by the perceived surveillance of the program that the language he uses in his feedback comments is modified to address this hidden yet suspected secondary audience.

In another common refrain, faculty frequently discuss the pressure they felt to keep their grades low, again, for quality control purposes at the program level. This was a point of contention across the course evaluation data, with the course evaluations for the composition course in particular emphasizing that faculty felt “The ‘encouragement’ to grade hard” (Composition Course Faculty Review Summary Spring 2024). Object interview data indicated that grade analytics are collected and measured by the platform, a point that was corroborated in the course evaluation documentation. These metrics are monitored and sometimes disseminated by program managers. John, Kay, and Dennis all refer to the pressure they felt at the course level to keep grades low.

Kay explains that the monitoring was regularly stressed, with teaching teams being shared spreadsheets of the different classes and the average grades:

You remember the way all the grades were sent out and we were put in order, as I recall, highest to lowest, and there was kind of grade shaming going on. That's how I perceived it. I think that's how a lot of us perceived it. And certainly, as a new teacher on the program, I

was absolutely terrified that I was going to be grading too high. It was very much transmitted, that it was shameful. (Kay, Interview #7).

Here, the spreadsheet of grade averages acts to police how faculty evaluate their students.

The practice of grade monitoring and the program's stress on grading averages acted as a significant influencer of feedback practices. It also had a negative impact on teacher's experiences of practice, causing them to feel in conflict with what they had come to believe constituted effective grading and feedback giving.

Summary of power and agency theme

Ultimately, power and agency as enacted in feedback practices are entangled in a wide range of actors that mediate who has power in feedback encounters, how responsibility is distributed, and the opportunities for teachers to engage in agentic teaching. Connie, similarly to Starr and Lesley, justified the reason feedback responsibility is part of a teacher's role:

I believe we have the most intimate knowledge of who our students are. We spend hours a day in the classroom with them, but I believe the, not only coordinators, but the [LMS Name] platform themselves, they know this as well. But when they give us feedback, for some reason, I have noticed that they haven't taken these factors into account. They know we're here in the Middle East. They know that our students are not English speakers. They know the challenges of the K through 12 system that exist. They know issues with the registrar and the types of students that are being allowed into the university. They know that there're extra students that have been allowed into the university. There're all of these factors that I believe they understand, but then when it comes to their feedback to us, that those are not taken into account. And of course, all of these factors influence the means by

which we're able to give feedback to our students because of the time constraints. (Connie, Interview #7)

Here, Connie provides a detailed account of how responsibility for feedback is distributed and mediated at various levels. She takes personal ownership of the responsibility for feedback for her students on a relational basis, since she connects with them in ways that allow her greater access to insights that will help her provide effective feedback. However, she then contrasts that with the ways in which power and agency are taken up and disacknowledged by the platform, the institution, and the policies governing teaching and learning and feedback practices. She notes a list of variables that inform how and why she is best positioned to make informed judgments about how best to approach feedback practices. She contrasts her expertise with her lack of agency as expressed in her performance evaluation feedback. Her agency is constrained by evaluations that do not acknowledge her positionality and relationality to the teaching event.

Chapter Summary

This study investigated the effectiveness and sustainability of feedback practices within the general education program of the interdisciplinary college at the site in question. Feedback practices were not found to be effective or sustainable, as outlined across the various datasets largely because the program prioritizes written feedback comments associated with every formative assessment. Since formative assessment is provided to each student for each class, the heavy load is unsustainable and leads to mitigating practices that reduce feedback effectiveness.

The study also utilized first a socioconstructivist and second a sociomaterial perspective to determine how feedback practices aligned with the program's goals of active learning facilitated by educational technology. Ultimately, the findings reveal that feedback practices do not closely align with the underpinning sociocultural principles since feedback processes rarely

harness sustainable and active positions for students in feedback situations, instead assigning faculty the sole responsible party for feedback provision.

The sociomaterial analysis revealed several nonhuman actors exert a strong influence on feedback in the general education program. The platform, program policies, and the quantity and pacing of feedback interacted to restrict feedback's effectiveness and sustainability. Modality also acted as a key influence on feedback practices. The study now turns to discuss the findings and situate them within the extant literature concerning feedback in higher education.

Chapter 5 - Discussion

Summary of Findings

This study sought to address the main research question: How sustainable and effective are the feedback practices of the general education program? It found that feedback practices within the general education program are neither effective nor sustainable. Data showed that this was largely because of the amount of feedback faculty are giving daily, the mode in which this feedback is delivered, and the fact that this feedback occurs after performance and alongside evaluation, both of which exert a powerful influence over how they are perceived by faculty and faculty's beliefs about student perceptions. Another significant reason for the lack of both sustainability and effectiveness was found to be that the full responsibility for feedback lies with the instructor, instead of that onus being distributed across the instructor, classmates, and the student herself.

These findings were corroborated across datasets; codes initially generated in the pilot study document analysis were used to analyze the faculty interviews, the course-related documentation, and the interview with the bespoke LMS. Together, they paint a picture of faculty who are working extremely hard to demonstrate professionalism but are finding it challenging to deliver effective feedback because they are required to give too much, in a format and at a time that are not conducive to learning. This volume and modality of feedback is further complicated by the policies governing the program and the practices of surveillance made possible by the learning platform that prioritize certain data analytics over others.

The study has adopted two analytical frameworks to examine feedback practices. First, a socioconstructivist approach is applied, since the curriculum and pedagogy are premised on active student learning principles. A socioconstructivist analysis allows us to consider how the

pedagogy and curriculum as delivered on the bespoke LMS should ideally facilitate meaningful social interaction and feedback practices. Ultimately, these findings reveal that the feedback practices of the general education program of this study are not aligned with socioconstructivist theories of education. The program positions feedback as a formative tool for learning yet fails to consider the student's role in feedback practices. This analysis addresses the second research question: How do feedback practices align with socioconstructivist principles of learning and teaching?

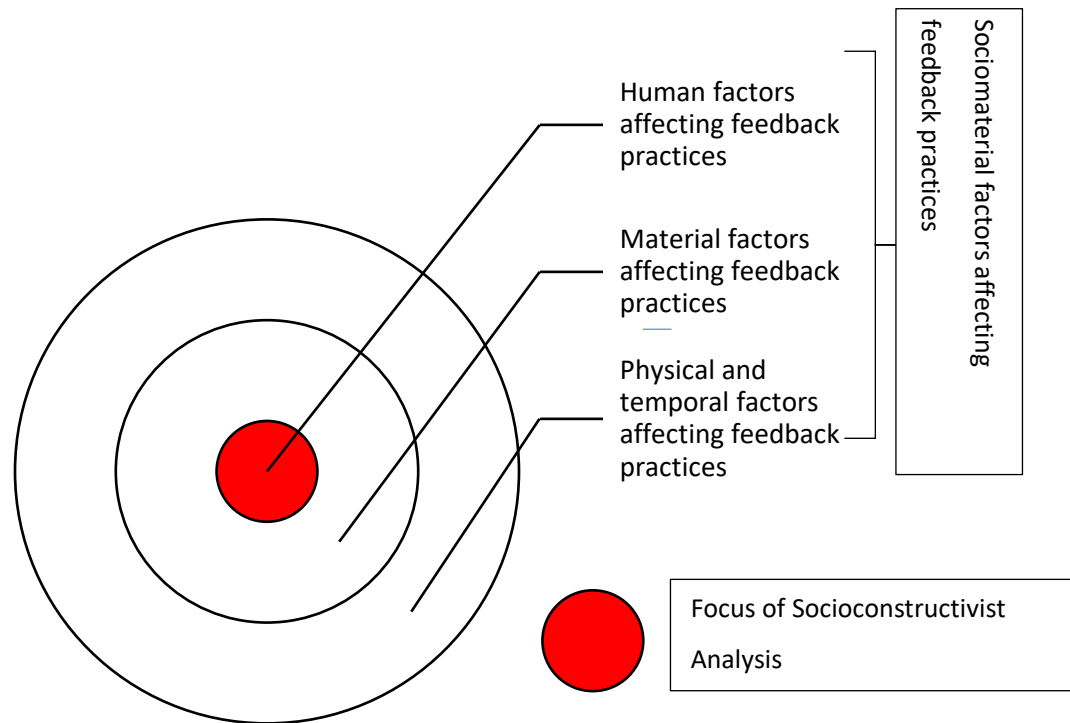
Second, a sociomaterial analysis allows us to discover how the LMS, curriculum, and pedagogy actually shape feedback events in practice by turning our gaze from the abstract and universal toward the immediate and local (Latour, 2007). A sociomaterial analysis reveals the otherwise hidden role of technology and surveillance in constraining certain behaviors while enabling others of faculty and students. This second layer also helps to explain why there is misalignment with the principles underpinning socioconstructivist theories of learning, by demonstrating how the place of feedback within this program is more aligned with neoliberal educational premises of uniformity, marketization, and teacher control and deprofessionalization. This analysis addresses the third research question: How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices?

The analysis that follows will first provide a more in-depth discussion of the ways in which feedback practices diverge from the tenets of socioculturalism. After that, it will delineate the ways in which a sociomaterial analysis reveals the role of non-human actors in shaping feedback practices. Finally, it explores how power is distributed within feedback practices to demonstrate the neoliberal underpinnings of the program, revealing that the educational practices of the larger

program, more generally, align with a technocratic, neoliberal approach to education, feedback practices included. Figure 5.1 illustrates this analysis.

Figure 5.1

Analytical Dual Framework



Socioconstructivist themes

Applying a socioconstructivist (or sociocultural) theoretical lens provides several reasons for the lack of effectiveness and sustainability of feedback practices. This theoretical framework is premised on several key tenets. First and foremost, sociocultural views see knowledge as actively constructed by learners working alongside their educators. Knowledge is not transmitted from teacher to student, but is actively co-constructed through meaningful interactions (Bruner, 1998; Vygotsky, 1978). Vygotsky emphasizes that learning occurs through interaction, stating that developmental processes “operate only when the child is interacting with people in his

environment” (p. 90). Yet traditional written feedback practices as found in this study often reduce this rich interaction to one-way transmission of comments, eliminating the collaborative meaning-making Vygotsky viewed as essential. Similarly, Bruner (1998) argues that knowledge is actively constructed through dialogue and negotiation of meaning (p. 148). This stands in stark contrast to current feedback practices where teachers deliver pre-packaged written evaluations, sometimes with copy/paste comments, assuming students will passively receive and implement them.

The feedback literature argues that the student’s role is central “in sense-making and using comments to improve subsequent work” (Carless & Boud, 2018, p. 1315). Thus, learning, including engaging with feedback, is primarily social. This social dimension requires active participation from both teacher and student in the feedback process, with opportunities for dialogue and clarification (Nicol, 2010). As Henderson et al. (2019, p. 4) note:

This shift of thinking from a teaching-centered process to a learning-centered one, means we have to look to new ways of thinking about the quality of feedback. [...] Instead of only focusing on the quality of the teacher’s input, we need to consider the quality of the whole process, including the active role of students.

However, the findings of this study reveal that current practices prioritize one-way communication, with limited opportunities for students to engage in dialogue about their feedback. The emphasis on written comments delivered through the LMS platform further reduces the social dimension of feedback to a transmission model, where students become passive recipients rather than active participants in the feedback process. This contradicts established principles of effective feedback practice, which emphasize the importance of student engagement and dialogue in making feedback meaningful (Winstone et al., 2020)

Second, sociocultural theories of learning posit that the learning that occurs through these meaningful interactions is possible because they have been carefully scaffolded to become more comprehensible. Vygotsky termed this the zone of proximal development (ZPD) where students are made capable of achieving more through meaningful interactions with a more capable other (Vygotsky, 1978, p. 84). Bruner, similarly argued that “Learning in its full complexity involves the creations and negotiation of meaning in a larger culture, and the teacher is the vicar of the culture at large” (Bruner, 1998, p. 84). Bruner positions the teacher’s role as fundamentally to act as the cultural contextualizer whose scaffolding enables learners to assimilate new learning into their prior experiences. As the findings have revealed, such scaffolding is not often feasible, given the overwhelming volume of written feedback comments faculty are expected to produce on a daily basis. Further, the literature on feedback literacy and effective feedback practices argues for students to be provided with opportunities to learn through exposure to quality work in the form of carefully staged activities involving exemplars and peer feedback (Nicol et al., 2014; Sadler, 2010). The analysis revealed that the materials and learning practices of the external provider do not make use of exemplars, and peer feedback is unstructured, reducing its potential for effectiveness. Thus, learning and feedback for learning are scaffolded within a socioconstructivist paradigm, which is not evidenced within the present case.

Thirdly, sociocultural theorists emphasize that learning is culturally situated and firmly rooted in prior experience and current environment (Bruner, 1998; Lave & Wenger, 1991). Feedback practices, by extension, occur within a specific cultural site and are informed by cultural expectations of roles, responsibilities, and appropriate forms of address (Eriksson & Maurex, 2018; Winstone & Boud, 2019). Within the present study, these cultural dimensions manifest in several ways. The institutional culture of the general education program, with its

emphasis on standardization and high-volume feedback, creates a context that shapes how feedback is both given and received. Faculty interviews revealed tensions between their professional understanding of effective feedback practices and the cultural expectations embedded in the program's structures. Therefore, learning, including engaging with feedback, is informed by cultural context.

Students in an (In)Active Role in Feedback Practices

While the general education program is premised on aspects of sociocultural theories of learning that center students in an active role, this seems to be the extent to which the program aligns with socioconstructivist principles of learning. Not all three of the key tenets have been considered: the learner's social role in feedback practices is ignored, while opportunities to scaffold feedback are curtailed by both volume and modality, and the program prioritizes consistency of experience over the culturally situated nature of all educational practices, including feedback encounters. During class activities and in the flipped learning philosophy of content delivery, students are intended to be fully active, which is something that is lauded in the external provider's manifesto as "vastly superior" to a much-vilified lecture-based instruction (External Provider Manifesto, p.143). The feedback students receive, by contrast, is premised on post-hoc, evaluative judgments in a written format and exclusively from the instructor and tightly dictated at the program level in terms of focus. This is seen in the fact that the activity to be evaluated and the learning outcome that will be used to evaluate the activity are decided at the course level, which then predetermines the substance or area of feedback focus. All students, regardless of perceived or actual need, receive feedback comments on one specific learning outcome. Such feedback fits more appropriately into the transmission model paradigm that is critiqued by sociocultural educational theorists (Bruner, 1998, p. 21). Interestingly, transmission-

model instruction is also repeatedly critiqued within the external provider's manifesto (External Provider Manifesto, 2017).

Furthermore, one of the ways in which student participation is enforced is through the practice of daily grading of in-class or pre-class activities. The reason for this grading is twofold. First, it will encourage the kinds of behaviors that result in deep learning, according to the research and educational philosophies underpinning the program developed by the external provider (see External Provider Manifesto, chapters 11 and 12). Second, this grade contributes to a longitudinal measure of performance over time, ensuring that students always know how they are doing with the course content. The underpinning philosophy is that frequent, low-stakes incremental grades are a more valid measure of knowledge and skills than snapshot, high-stakes summative assessments under controlled conditions such as exams and tests. An argument is made that the feedback provided in tandem with this classwork-based evaluation is a "powerful tool to enhance student learning" (p. 146). However, *how* this feedback functions as a powerful tool is not delineated, nor is the student role in this feedback situation acknowledged.

This approach makes several problematic assumptions. First, it assumes that students will be motivated by learning itself and will use the frequent instructor feedback to adjust their learning strategies. It assumes students will understand both the feedback and how to adjust their learning strategies. It assumes they will agree with and value the feedback, and that all of this results in deeper learning and improved far transfer. Further, it seems to assume that there is only one type of student. As we have seen from the extensive literature on the problems with feedback uptake, such a view is simplistic at best.

What this approach fails to consider, first, however, is whether students occupy an active role in feedback practices. As the findings illustrate, faculty strongly suspect the extent to which

students engage with instructor feedback, providing several possible explanations for this lack of engagement. These reasons include a lack of time, a feeling of drowning or being inundated with feedback, and a lack of obvious connection and benefit of the feedback with future learning activities. Further, the nature of the daily graded classwork feedback, by virtue of being graded, means that any comments on performance and learning are interpreted through the grade, which undermines the classification of such comments as formative as opposed to summative.

The wider body of feedback research supports the view that students should be in active, agentic positions in feedback situations (Boud & Molloy, 2013; Carless & Boud, 2018; Winstone et al., 2020). The program's practice of daily grading precludes this opportunity, since the feedback and associated grade are given by the instructor. Within this program, students are not provided a mechanism that enables them to respond to or act on feedback on the platform. They must use external channels, such as email and office hours to follow up on any feedback they have received. These are communication and feedback channels that faculty repeatedly indicated students failed to utilize. However, an analysis of the wider educational experience provides a plausible explanation. If students do choose to visit an instructor during office hours to discuss a grade and its associated feedback comments, in the meantime, they are likely to have received another grade with another set of associated comments. Such grades and comments quickly accumulate, and this is only for one of the four courses being taken concurrently. It quickly becomes unfeasible for students to respond or to attempt to engage actively on feedback that was unclear, misunderstood, or disagreed with. The volume of feedback essentially enforces a passive positionality for students.

Lack of Opportunities for Socially-Situated Feedback Practices

Another issue is that of the deeply social nature of learning from a sociocultural perspective. While the class activities provide opportunities for students to learn through scaffolded interactions with one another during class sessions, these chances are minimally afforded with feedback practices. While the program is designed to harness peer-to-peer learning, feedback practices are instead premised on a transmission model where information about performance is transmitted from teacher to student via a grade and written comments. This seems to be a remarkable oversight, given the vilification of lecture-based teaching and the primacy of student activity for learning processes that is consistently expressed throughout the external provider's manifesto.

Grading decisions about which class activity is graded according to which learning outcome are made at the team-level and all sections must follow the same lesson plan sequence in the same order. Lessons are highly controlled. All of this is in service of providing a uniform experience for all students so that the program can guarantee that students have covered learning outcomes in their foundational studies at later stages of their education (External Provider Manifesto, p. 146). The tight control of the program fails to address individual needs by prioritizing a uniform experience. This uniformity inhibits relationality, since classes are scripted, pre-formatted, and monitored on several metrics. This uniformity is valorized as a means of providing “comparable learning outcomes for students in different sections of the same course and to ensure that the science of learning is being systematically operationalized in all sections” (External Provider Manifesto, p. 143). As faculty have reported in the findings, they are often reluctant to act on informal feedback opportunities because of the recorded nature of the class and the type of data analytics being monitored. These faculty are worried that they will

be negatively judged for their “teacher talk time” percentage and accused of lecturing. This approach is deeply at odds with the view of learning as a social enterprise, where individuals interact meaningfully with one another. When such interactions are tightly controlled and opportunities to engage in more relational ways are proscribed, learning is not social because the social cannot be so tightly regulated. As Bruner explains:

[T]he rules common to all information systems do not cover the messy, ambiguous, and context-sensitive processes of meaning making, a form of activity in which the construction of highly "fuzzy" and metaphoric category systems is just as notable as the use of specifiable categories for sorting inputs in a way to yield comprehensible outputs. (Bruner, 1998, p. 5)

Together, the tightly scripted lesson plan and the predetermined graded activity and learning outcome fail to acknowledge the messy, ambiguous, and context-sensitive processes at work. Instead, this highly scripted environment severely restricts opportunities for effective feedback practices.

The program not only constrains opportunities to engage with individual students according to their unique work and situation, it also restricts opportunities to adapt pedagogic practices according to the perceived needs of a group of learners or an individual learner. Again, it is the privileging of uniformity of experience over differentiated learning strategies that is the cause: the manifesto boasts that “[u]sing the same lesson plans helps us reduce variability across different sections of the same course, helping all students to have comparable experiences” (External Provider Manifesto, p. 144). As has been mentioned already, parts of this comparable experience means that all students must also be graded on the same activity for each lesson, whether this is the activity that the student would most benefit from feedback on or not.

Feedback practices, then, cease to act as scaffolding for learning. As was revealed in the findings, some faculty adopted an extreme version of uniform feedback practices by using feedback comment banks and copy/pasting practices, further reducing opportunities for a scaffolded and specific response to student performance.

Lack of Culturally Situated Feedback Practices

A final explanation for how feedback practices within the case at hand fail to align with sociocultural theories of learning comes from the lack of attention paid to the specific and situated culture of the program. Sociocultural theories of learning argue that our reality is shaped through the symbols and ways of meaning-making that are shared in our culture. As Bruner notes “Meaning making involves situating encounters with the world in their appropriate cultural contexts in order to know ‘what they are about’. Although meanings are ‘in the mind,’ they have their origins and their significance in the culture in which they are created” (Bruner, 1998, p. 3). The curriculum developed by the external provider fails to acknowledge this cultural situatedness. The program is a transplant from a different, American, educational context. It brings with it certain assumptions about what type of student is the ideal student. For instance, the manifesto boasts of its program design that “Students must be prepared when they enter class and must remain engaged throughout every class. They cannot be passive back-row observers. The key to active learning is that the more students pay attention and work through material, the deeper their learning becomes” (External Provider Manifesto, p. 145). Such views of the ideal student are rooted in normative beliefs about the attributes of the ideal student. These beliefs are not universal.

By contrast, faculty frequently conveyed an awareness of a level of student discomfort with the public nature of the activities and learning environment, with Asma (Faculty Interview

#9) referring to a sense of “being in the box” when online and Kay (Interview #7) describing the sense of vulnerability she perceived in the online learning environment. In this sense, faculty express an awareness that some aspects of the program design may not be culturally suitable for this particular context. This is a context where personal privacy is valorized, something which local citizens tend to guard carefully, often avoiding the use of their faces for profile images, for instance. In such a context, it is logical that faculty would at times perceive student discomfort with being visually at the center of attention in a recorded online class.

The program is also not culturally appropriate in that it is also a transplant in terms of cultural content and linguistic content. The external provider operates from the United States and the materials assume certain cultural capital is part of students’ prior educational experiences, but this cultural capital is largely western-centric. By contrast, the site of this study is a Middle Eastern university operating as an English-medium university where the majority of the student population are Arab nationals whose first language is Arabic and have a distinct wealth of cultural capital that is not often drawn from. This distinction was highlighted in the dataset, when, in a lesson that used the example of Neil Armstrong and Buzz Aldrin, one student astutely remarked to Asma “oh, we also have astronauts. So, we also have the first astronaut as well.” (Asma, Interview #9). These distinctions alone mean that the materials will not be received in the same manner by students at the site as in other contexts.

Perhaps a less visible but no less an educational challenge occurs when the pre-selected materials rely on assumptions of shared cultural capital that do not necessarily occur. As such, the program and learning materials within it are culturally situated. This is a particularly poignant blind spot that was frequently alluded to by faculty, who stressed that activities and materials were frequently unsuitable for the students in this program at this institution. An

additional linguistic load is leveled at students who must operate across linguistic resources while learning, all while demonstrating this learning through observable (and assessable) interactions. This additional load is acknowledged in Asma's practice when she armed her students with pre-set phrases in English that enabled them to respond in real time, while stalling for time to think.

To summarize, the program's premise of fully active learning applies a very selective interpretation of sociocultural tenets of education. The curricular principles are founded on students who are fully active during learning activities. However, feedback practices as they have been designed into the program's structure and the LMS place students in a fully passive role for feedback - what is purported to be "a major benefit of the platform and a powerful tool to enhance student learning" (External Provider Manifesto, p. 146). Instead of opportunities for personalized and specific interactions, feedback practices are standardized across teaching teams in order to ensure a more uniform experience for all students. Feedback practices specifically, and teaching and learning more generally, are not scaffolded because they are not adaptive and differentiated. Finally, feedback practices are not cultural because they do not acknowledge the culturally situated status of this course, fail to acknowledge the linguistic differences, and do not seek to draw from the cultural capital of the student population at the site in question.

Sociocultural theories of learning view the learner as an active co-constructor of knowledge through meaningful and scaffolded interactions that are culturally situated. The external provider, similarly, argues that students should be seen "as active builders of knowledge rather than receivers. We are all constructivists in this sense; we agree that knowledge cannot merely be received. Instead, it must be examined, critiqued, contextualized, applied, and synthesized with other knowledge – and students are the ones who must do this work" (External

Provider Manifesto, p. 168). However, this view of students as active co-constructors does not extend to feedback encounters, where students are passive recipients of feedback. Feedback information is given to students, but what they are expected to do with it is not given consideration. Further, the volume of feedback received, together with the mode of delivery actively constrain opportunities for students to examine, critique, or otherwise engage with the information on their performance. Despite frequent exhortations against lecturing or viewing the instructor “primarily as a facilitator rather than as the source of knowledge” (p. 168), feedback is positioned as information that is received by students from the instructor. That information, furthermore, is assumed to be assimilated into student knowledge and skills unproblematically.

Sociomaterial Interpretations

The second theoretical framework widens the analysis beyond human actors to include the influence of non-human actors such as time, space, and objects including technology. Taking a sociomaterial perspective illuminates the role of these actors in constraining opportunities for effective and sustainable feedback practices. Sociomaterial theory is relational: it argues that it is impossible to understand the “human” except as inextricably embedded within the material world (Law, 2009). Such a view rejects a more dualistic world of interior life of cognition and exterior material world. Instead, thinking and all other human activity occurs in relation to interactions with the material. Indeed, all traditional binaries and reductions are fundamentally challenged by critical theorists (see for instance, Braidotti, 2019). For sociomaterial theorists, the concept of “human” should be understood as emerging through environmental interactions (Latour, 2011), and this should never be considered from a universal and abstracted perspective, but only from the local and specific. In this sense, a sociomaterial perspective also leverages a

critique at sociocultural theories of learning, for often failing to acknowledge the multitude of individual subjectivities present in any given educational context.

If we accept this view, it becomes logical and even necessary to consider the role of these factors in shaping the feedback practices under investigation. As the findings have illustrated, feedback practices within the general education program at the site are strongly influenced by these sociomaterial interactions, especially by the technology employed to facilitate teaching, learning, and assessing activities, by the modality and purpose of feedback within the program, and by temporality, both during teaching and learning activities, and also outside of in-class time. This section examines each of these factors, before addressing the wider political implications of how power is distributed across feedback practices.

Technology's Influence

Technology is a key driver shaping how feedback practices occur within the program. The program runs on a bespoke platform designed by the external providers to facilitate their active learning pedagogy. This technology acts to distribute power in several ways that have been intentionally designed into the platform. The manifesto devotes an entire chapter to explaining the development of the bespoke LMS, outlining how it was created and refined to afford certain capabilities while constraining others. At its core, the LMS was designed to facilitate the “fully active learning” pedagogy promoted by the external provider. It was designed to “nudge” both students and the instructor into certain behaviors while discouraging others (External Provider Manifesto, p. 225). This was designed to achieve three clear goals: observability, automated technology that minimized instructor cognitive load, and data analytics for later access.

Observability, which is construed as “sitting near the professor” in the manifesto, relates to how the technology is designed to promote visibility of all students at all times. Premised on Bloom’s 2 sigma problem (1984), where one-to-one tutoring was found to result in massive educational gains two standard deviations beyond outcomes achieved in traditional classroom settings, the LMS is set up so that all students are visible on screen at all times. This technology is designed to enforce participation, with functionalities that include monitoring individual students’ contributions as measured in relative talk time. Another feature is that the technology has been designed to frequently select quiet students who have not participated (through the metric of speaking) to be featured on the main panel of the screen. This panel provides a close-up of the student’s face for the whole class to focus on, and it is appropriately referred to as the “stage” (see, for instance, External Provider Manifesto, p. 205). The stage enables participation according to the ways in which it is valued in the program.

Similarly, the technology has been designed to automate certain features in order to free up instructor focus and effort (External Provider Manifesto, chapters 14 and 15). Planning, materials selection, and dissemination associated with individual lessons are all centrally facilitated. The lesson plan is pre-formatted into the platform, with breakout groups subdividing the class determined by an algorithm. Such functionalities are intended to remove the downtime that occurs when the instructor is responsible for enacting these tasks. The timer automatically resets when the instructor advances the lesson to the next stage but uses color-coding to let her know when she is extending a stage beyond its expected length. This is also intended to obviate instructor focus on timing and staging with the goal of ensuring that the lesson’s activities, and by extension, learning outcomes, have been achieved. These automations do not mean that the individual instructor has no flexibility to modify and adapt lesson activities according to

perceived need; teachers can choose to reorder the lesson activities, skip stages, or change how they are facilitated depending on individual class needs (External Provider Manifesto, p. 198). Nevertheless, a core design intention was to remove administrative load to enable instructors to focus on facilitating active learning activities.

The technology has also been developed to facilitate data analytics that can be used for continuous improvement and quality control purposes. The manifesto notes: “By coupling the lesson plan creation with the teaching environment, we are also able systematically to gather data and subjective feedback – which allows us constantly to improve the courses” (p. 207). The capabilities of such data analytics can be seen across a wide array of features on the LMS. Distribution graphics let faculty consider holistically how a student is being assessed on an assignment while assessment is being conducted analytically (see Figure I.1, Appendix I). Faculty and management can select from bird’s eye views of various course analytics or individual student metrics ranging from participation to absences to individual and aggregate grades (see Figure I.2, Appendix I). Such data on faculty feedback practices can be scraped and used to ensure policies are being carried out according to program design.

This illustrates the ways in which technology does not exist as neutral background in educational contexts but serves to shape educational practices. Technology influences how teachers act during their professional duties. Calderwood (2023), for instance, notes that technology can influence a teacher’s very sense of professional self, as competent or incompetent, relative to their confidence using a platform. Fenwick (2016b) has demonstrated how social media algorithms influence how we engage with the platforms in professional contexts. Gourlay has demonstrated that students and faculty alike engage in complicated webs of relations with and across platforms and materials when engaged in “online” educational

practices (2020), and then arguing further that even “virtual learning” is bound up in material objects (2021). Gravett and Ajjawi (2022) demonstrate that the sense of belonging that is central to some conceptualizations of the student experience is not stable, but is highly context-dependent, especially when considering online learning settings. These, and many others, illustrate the ways that technology influences educational practices.

In terms of the feedback practices of this study, we see that technology actively constrains feedback practices by centering them firmly in post-hoc, evaluative judgment settings and translating feedback into the narrow confines of a pre-selected learning outcome. The size of the text box and the lack of capability for using mathematical notations influence faculty feedback practices. Like the influence of the algorithm on our interactions with social media content (Fenwick, 2016b), the affordances and valences of the LMS shape how feedback practices occur within this program, dictating what, when, where, and how feedback is enacted.

These findings suggest that while LMS platforms offer tools for feedback delivery, their design choices significantly influence the sustainability and dialogic quality of feedback practices. This underscores the importance of examining technology not as a neutral facilitator but as an active participant in shaping educational interactions.

The Role of Modality

Modality also exerts influence in the networks of feedback practices. As has been discussed, the technology limits feedback information to written comments that are translated through the learning outcome and an associated score. This written mode influences how faculty provide feedback. David mentions that his feedback tends to be more formal than voice recordings because academic writing is also more formal. Other faculty mention that they provide less feedback, while others capitalize on the modality to provide copy/paste feedback

information to entire class groups, exploiting the technology's capability of replicating written comments across class sets.

These findings stand in marked contrast with the role of feedback comments as construed within the external provider's manifesto. The manifesto explains that feedback performs an important role within the program, singling out the modality afforded as an advantage: "... the [LMS] not only allows faculty to teach better (because of the various tools built into it) but also, and more important, allows students to learn more effectively, in part because of the sorts of feedback it allows us to provide" (External Provider Manifesto, pp. 136-7). In this context, the ability to provide instructor comments on in-class performance interacts with the affordance of a class recording to enhance each student's awareness of their performance at any given point in the course. However, faculty interviews and document analysis suggest that this is not often the case, as many faculty believe that students do not engage with written feedback comments.

Modality also renders the feedback as perceived differently, which aligns with the existing literature on written corrective feedback comments. This literature includes a lengthy debate about the relative merits and challenges of feedback comments and has attempted to account for the frequent impression by teachers that their written feedback is unread. In the broader educational context, Biesta has spent considerable time outlining how and why this is the case. He explains: "The most important argument against the idea that education is a causal process lies in the fact that education is not a process of physical interaction but a process of *symbolic* or *symbolically mediated* interaction" (Biesta, 2010, p. 34, emphasis in the original). In the context of written feedback comments, no matter the frequency of receiving written feedback comments, they must always be interpreted by students who use their experience and world view to interpret the comments. As the feedback literature has shown, such interpretations may lead to

confusion, misunderstanding, disagreement, and demotivation (see, for instance, Ellis, 2009). As faculty in this study have noted, the majority of students on this program seem to interpret the assigned grade as sufficient information on their performance and frequently do not bother to engage with the associated feedback comments.

This grade leads to another issue with the modality of feedback comments. The sociomaterial analysis reveals that comments function often to provide justification of evaluation to the student but also as justification and acknowledgement of surveillance to unseen observers such as course managers and other middle management. This is something corroborated in the literature. Howard and Samala (2024) found that LMS data analytics enabled both vertical and horizontal forms of surveillance – from management and from colleagues teaching on the same program. The faculty interviews in this study also position the data collected from this platform as a form of surveillance that shapes their interactions during feedback processes. John explains that he uses the comments to provide subtle cues to unseen observers about the suspected integrity of the submitted work (John, Interview #1). In this sense, the modality of feedback comments renders it quality control and evidence to uphold forms of academic integrity and to demonstrate John's compliance with these aspects of his role.

While the manifesto positions feedback as a powerful formative tool for learning that is enabled by the technology of the LMS (External Provider Manifesto, p. 146), the data reveal that feedback's evaluative purpose acts together with modality and technology to fulfil very different roles of surveillance, quality control, and data analytics.

Temporal Influences

The sociomaterial analysis also revealed that time acted significantly on feedback practices, participating together with modality, volume, and purpose to shape feedback events.

Sociomaterial research into the interaction between academic work and time reveals that there are a range of perspectives and experiences pertaining to temporality in higher education (Ylijoki & Mäntylä, 2003). Such a view contrasts other beliefs of time as an asset democratically experienced by all.

Time is acknowledged as a significant factor influencing feedback practices within the external provider's manifesto: "Of course, evaluating students after class requires considerable faculty time. Every class is ninety minutes long, and it takes at least an hour to review a class (sometimes at double speed) and identify which student contributions to annotate with specific comments" (External Provider Manifesto, p. 146). However, this acknowledgement is justified by an appeal to ethos, or the purported shared values of the community: "We have found that because we have hired well, and our faculty are truly devoted to teaching and facilitating student learning, they adopt these methods easily and well" (ibid). The external provider seems to imply that their faculty are superior because in their commitment to excellence in learning, they are willing to devote significant amounts of time to these feedback practices.

The findings in this study reveal, however, that faculty on the program under investigation are equally committed to delivering excellence in their roles, but nevertheless, they find this time pressure difficult to manage, particularly with regard to meeting written feedback expectations. The time pressure is felt throughout several other temporal components of the program. This aligns with sociomaterial analyses of temporality in higher education. Rather than be understood as a resource democratically available to all, time is experienced relationally and has a profound impact on our encounters with others and objects alike (Bennett & Burke, 2018, p. 3). Factors like the time taken to travel to university for a student who lives a considerable distance away, or whether a student has carer responsibilities in her family mean that time is not

in fact a resource equitably distributed to all, and that as a result, academic study time may occupy a differing place of priority for different students.

Similarly, time is experienced differently by faculty for an equally varied number of reasons. In this study, a common theme was found to be how teaching time was experienced differently during recorded class sessions, which resulted in differing approaches to on-the-spot formative feedback. Time exerted its influences during class sessions, where faculty were reluctant to “take” time away from the structured lesson in order to correct perceived misconceptions or to exploit a teaching opportunity. From this perspective, time is seen as a commodity and one of which faculty are constantly lacking. This point is seen in the dataset, which repeatedly indicates that faculty felt time pressure to complete their feedback and evaluation duties. This pressure came at the policy level, with grade publishing deadlines encoded as best practice, and from the platform itself, with features that nudge faculty to comply with these policies such as color coding of impending grade release due dates or the dashboards displaying the metrics of teacher talk time.

This time pressure is in keeping with the wider sociomaterial literature on higher educational practices, which reveals that time is another component that acts dynamically and often powerfully to shape educational practices. Within the feedback practices of faculty, timing and grading acts to shape how time was bounded. Ylijoki (2013) reveals the ways that time pressure within higher education shapes how academics conceive of, spend / waste, or demarcate their time. She found that academics respond to the sense of accelerating time pressure from two perspectives: total commitment that accepts academic work is all-encompassing and all-consuming, or a viewpoint that seeks to insert a boundary between work-time and personal-time. These dual perspectives were also seen regarding feedback practices within the findings. Some

faculty recounted the heavy time pressures and the toll on their personal time that daily grading and feedback required. Others, such as Angela (Faculty Interview #4), sought to resist the imposition of work duties on personal time and found ways to withstand grading and feedback pressures to maintain the boundary between her work time and personal time.

A second perspective considered by Ylijoki (2013) involves the distinction between “real work” and wasted time. In her research, “real work” refers to duties that academics associate with the core function of their role, such as research and teaching, while “wasted time” refers to externally imposed managerial and administrative duties, or tasks perceived as needless bureaucracy. Ylijoki notes this as a consequence of the tendency towards managerialism in higher education and the need for greater accountability (Ylijoki, 2013, pp. 249–250). This managerial turn will be taken up in the subsequent section. This second perspective of work time versus wasted time is further mirrored in the faculty perspectives on feedback practices, with many discounting feedback as a pointless, performative exercise. Starr described it as “homework you need to do and you don’t really see the value of” (Starr, Interview #5), demonstrating that the daily feedback was perceived as wasted time and a pointless bureaucratic exercise.

Finally, the timing of feedback influenced how it was practiced and engaged with (or not). Post-hoc, evaluative comments associated with a grade were viewed as ineffective because they came after the fact and had little perceived relevance or value for students later in the course. David (Interview #2) contrasted the daily classwork feedback with feedback practices where the feedback was formative in the sense that it led more meaningfully into a future assignment. In such a case, temporality is the key influence on the extent to which feedback can be considered effective. Further, faculty frequently indicated that students were not engaging

with feedback, viewing the score as sufficient input, something that is also substantiated in the feedback literature (Glazzard & Stones, 2019; Henderson et al., 2019; Nicol, 2010). Here, the timing of feedback interacted with its association with evaluation, and the modality to shape feedback's place in ways that differ markedly from the intentions outlined in the manifesto.

In summary, the sociomaterial analysis revealed the influence of non-human actors and factors in shaping feedback practices within the general education program. Far from representing neutral context, the technology used to enact feedback practices exerted a strong role in shaping and constraining how these practices occurred. Modality, itself in turn shaped by technology, also affected feedback practices. These were also caught up with various aspects of temporality that enabled and constrained feedback practices. Taken together, these three components demonstrate that non-human actors exert significant impact on feedback practices.

The next section now turns to offering a potential explanation for the tension in what the program purports to offer and what it actually provides by considering how the program reveals a closer alignment to neoliberal views of education.

Underlying Neoliberal Tenets

Ultimately, the analysis has shown that the program does not align with an educational philosophy founded on sociocultural or socioconstructivist theories of learning. Instead, the program is more closely aligned with a technocratic view of education more associated with current wider societal trends towards neoliberalism. Despite a vocal advocacy for fully active learning, the program adopts a one-size-fits-all approach to education that is more in keeping with technocratic views of education. We can see this in how technology is portrayed as the answer to educational challenges. A technocratic view of education holds that challenges to education can be addressed through innovations in technology, managerialism, and data

analytics. In such a view, human agency is viewed problematically, because human error can be detrimental to uniformity and efficiency, and so human agency and professionalism are tightly curtailed. The analysis that follows will illustrate the ways in which feedback practices within the current general education program adhere to a technocratic view of education and fail to align with a sociocultural understanding of teaching and learning.

The “Science of Learning” & Evidence-Based Practice

The first major indicator that feedback practices specifically, and teaching and learning more generally, are aligned with technocratic beliefs about education can be seen in the prioritization of active learning. The external provider’s manifesto pedagogy, premised on “the science of learning” (a review of the empirical literature of what results in the biggest recall and application outcomes), argues that students learn best when they are actively involved in learning activities. They define active learning as follows:

Learning is *active* to the extent that it engages the cognitive processes associated with comprehension, reasoning, memory, and pattern perception (External Provider Manifesto, p. 165, emphasis in the original).

Interestingly, this definition betrays a contradiction in thinking in two ways. First, active learning is described as a cognitive process, something potentially hidden from view and occurring within the learner’s mind. This runs counter to the claim that the underpinning educational philosophy is “constructivist” (External Provider Manifesto, p. 168). In feedback practices, however, the student is not positioned to act but to passively receive, with no explicit consideration given to how or whether students respond to the feedback. A second paradox can be seen in the fact that the active learning processes delineated in this definition are very much unobservable. This

stands in contradiction to the focus in pedagogic activities on facilitating and enabling activities where students must demonstrate their process.

Moreover, such a view of education can be (and indeed has been) problematized on the very basis of “evidence-based” practice itself. Biesta (2007, 2010) has provided an explanation for why using evidence as a basis for practice has its limitations for education. He argues that education is unlike medicine (the originator of evidence-based practice) in several important ways. First, what counts as evidence in education is different from what is accepted as evidence in randomized clinical trials (RCTs), which are often considered the gold star of empirical research. A causal relationship is nearly impossible to establish in education, since education operates in an open as opposed to closed system. As Biesta notes:

This first problem with this approach is the role of causality: apart from the obvious fact that the condition of being a student is quite different from that of being a patient – being a student is not an illness, just as teaching is not a cure – the most important argument against the idea that education is a causal process lies in the fact that education is not a process of physical interaction but a process of *symbolic* or *symbolically mediated* interaction. (Biesta, 2007, p. 8 emphasis in the original)

For learning to occur, students must interpret and make sense of what they are taught, something that is acknowledged in the external provider’s own definition of active learning. Such interpretation is mediated through the student’s own experiences, expectations, culture, and semiotic systems. Feedback, too, is mediated and interpreted through these elements. This interpretation is infinitely complex and cannot be predicted with precision. Biesta argues that teaching interventions, thus, should not be considered “as causes but as opportunities for students to respond and, through their response, to learn something from them” (2007, p. 9). However,

feedback practices do not afford the student any recourse or response on the platform. The system has not been designed for students to (re)act to feedback. The assumption seems to be that delivery of feedback is sufficient for learning to occur.

Second, Biesta questions the limitations imposed by such a view on educators to exercise their professional judgment in particular and always unique settings. For Biesta, education is foremost a moral practice as opposed to a primarily causal and technical practice. At times, therefore, what the evidence might show to work may work at the detriment of greater educational aims or values. In those cases, an educator might choose not to act. As such, he argues that

The most important question for educational professionals is therefore *not* about the effectiveness of their actions but about the potential educational value of what they do, that is, about the educational desirability of the opportunities for learning that follow from their actions (and what should be prevented at all costs is the situation in which there is a performative contradiction between what they preach and what they practice). (Biesta, 2007, p. 10)

The question of what is educationally valuable is raised in faculty interviews when teachers express reluctance to provide immediate verbal feedback during the online class sessions out of a concern for students' feelings, confidence, and morale. They demonstrate that they see their role to include a significant moral decision, which sometimes leads them not to act on feedback opportunities. In this way then, considering the evidence for what has been effective in prior educational settings is only part of what needs to be considered. An equally important consideration involves that of whether a particular action is ideal in this particular context, what is appropriate in this instance, what Biesta refers to as the educational ends (2010) is equally

important. Within this program, the ends of feedback practices do not seem to have been taken into consideration.

Third, Biesta illustrates how even procedures and policies derived from evidence are still applied uniquely in individual contexts. This is true, even in medical situations, as has been demonstrated by sociomaterial research into the multiplicity of clinical practices. Mol (2002) demonstrates how disease diagnosis, monitoring, and intervention differ depending on which department of the hospital is dealing with the patient. Fenwick (2010), similarly, points to research showing that CPR protocols are still variably applied, according to the unique context in which they are enacted.

Educators, too, draw on a range of feedback practices that are enacted at specific moments. Connie provides an effective overview of this in her interview when she contrasts her previous practices with what is available to her in the present program.

I would say there was a there was a drastic difference in the way and ability that I was able to give feedback, to give some context, the university that I taught at didn't have the same structure that the [provider and LMS] had. I had the freedom to create my own classroom materials. I was the one that was creating the assignments, the rubrics and the lesson plans, all of that. I had the freedom to teach the assignment, explain the assignment how I wanted to, and then on top of that, the access to platforms and programs for feedback was different. (Connie, Interview #7)

Connie describes the various components of being an instructor in a traditional setting as the freedom to exercise her professional judgment, going on to provide several examples of differentiated feedback practices in her prior role. In the prescribed general education program by contrast, this variability is denied room to influence educational practices. Instructors are

permitted little leeway to exercise professional judgment about how best to create learning opportunities for individual students who have their own experiences and expectations that feed into their performance in class activities. They are then further denied flexibility in how to respond to this performance and how to provide feedback in a manner they deem best. As the data has shown, instructors routinely draw on a range of practices to support feedback practices. Professional educators like Connie routinely differentiate their feedback strategies according to perceived need. However, opportunities for such differentiation in feedback practices are intentionally limited within the program out of a preference for uniformity of student experience and the higher priority of other values such as frequent low-stakes assessment. While the provider seems to endorse the “science” of learning, they seem to have a much harder time endorsing those “scientists” enacting the science.

Professionalism, Managerialism, and Teacher Agency

As we have seen, the general education program’s underlying philosophy more closely aligns with neoliberal beliefs about best practice in education. This is keenly evidenced in the ways in which the instructor’s role is prescribed and constrained. The program adopts a managerial view of education, prioritizing consistency and frequently equating this with evidence of quality. As such, efforts to maintain and enforce quality control are seen throughout the program design. This emphasis on uniformity is translated into a need to manage the educational experience in order to ensure consistency of educational experience for students. Such management is directly translated into heavy monitoring of learning materials, practices, and interactions. This consistency extends into feedback practices in the form of uniformity of format and focus: all feedback is associated with the same learning outcome(s) for all students on a given course in a semester.

The efforts to ensure consistency are part of the paradigm of distrust that Macfarlane (2017) argues leads to a surveillance culture. He draws on Foucault's elaboration of the concept of the panopticon (Foucault, 1977) to illustrate the ways that efficiency, control, and a lack of trust are used in neoliberal educational systems to restrict professional agency and autonomy. The teacher is not trusted to act in ways that will ensure optimal educational practices, so surveillance strategies are employed to ensure compliance.

Calderwood (2025), in researching the influence of surveillance technologies on LMS on teacher professional practice, finds that teachers are acutely aware of this, recounting: "One teacher also expressed feeling less trusted to practice their profession despite their extensive experience: 'I've been hired as a professional to do something that I've devoted decades to improving at, yet I'm increasingly trusted less and less to practice that' (Teacher 5)", (Calderwood, 2025, p. 15). For Calderwood, this sense of distrust and the apparatus of surveillance lead teachers to self-censor their own practices, something reiterated by faculty interviews in this study. In the curriculum and pedagogy of the external provider, technology exerts a significant role in this reinforcement, since the data analytics and LMS design act as powerful influences on instructor practice and interactions during learning activities. The technology acts as a means of surveillance that teachers then internalize and use to self-censor.

Biesta explains that this deprofessionalization of teaching has the troubling impact of encouraging teachers to act in ways that go against their professional judgment:

Teachers and educational institutions have been maneuvered into a position in which they have to go along with the customer and meet customers' needs. As a result it has become more and more difficult for them to make use of their professional judgment if this goes against the apparent 'needs' of the learner. (Biesta, 2010, p. 70)

In the program under investigation, this management extends to feedback practices in several ways. First, the form and focus of feedback content is tightly controlled; faculty must provide written feedback comments on the prescribed learning outcome for all students across all sections on a given course. Secondly, these feedback comments are monitored; middle managers such as the course coordinator and department chair, as well as the Dean's office, have access to view the feedback provided by all instructors on the course, without the instructor's knowledge. Instructor-provided feedback is further delineated into data analytics by the LMS that quantify not only the average grade distribution per section, but even the average number of words per feedback comment and the average length of time before grading and feedback comments are released to students.

Biesta associates this managerialism with the issue of accountability. Consistency is seen as evidence of quality and so this quality is monitored through managerial practices. He notes that "the question of good education has been displaced by other questions – such as questions about measurement and evidence- that are fundamentally unable to generate answers to the question as to what is educationally desirable" (Biesta, 2010, p. 50). This measurement and evidence come from accountability, which Biesta argues has two key, yet disparate, definitions: "In general discourse, accountability has to do with responsibility and carries connotations of 'being answerable-to.' The technical-managerial meaning, on the other hand, refers more narrowly to the duty to present auditable accounts" (2010, p. 50). For Biesta, the two have been conflated, and the narrower, numeric meaning with origins in financial accounting auditing is now used in place of the more general meaning. The effect of this has been to bring educational accountability practices more in line with the auditing practices of financial records as opposed to the opposite. As Fenwick articulates so clearly:

The logic of accountability frames practice through economic concerns for standardized, measurable priorities and rationales, and economic processes of external audit and counting. The logic of responsibility, on the other hand, frames practice within a language of values and integrity, contextual nuance and relationship, and processes of situated judgement and negotiated standards. (Fenwick, 2016a, p. 9)

Within the study in question, we see the narrower definition employed in several practices associated with feedback. These practices include the monitoring of analytics associated with feedback timeliness (when teachers release their grades and associated written comments for student access), average grade monitoring and dissemination (when teaching teams receive partially anonymized grade distribution results to compare their grading practices against the team average), and even feedback quantity (the average number of words per evaluation is monitored and accessible by educational managers such as course coordinators or the Dean's office). Indeed, as Biesta would no doubt wryly note, the only thing not measured within these feedback practices seems to be the question of feedback *quality*.

Another example of the narrow technical-managerial definition of accountability (Biesta, 2010) can be found in how teaching teams decide which learning outcomes are assessed (and by extension, given feedback on). Assignments are evaluated on the basis of selected learning outcomes, they are scored, and these scores are explained. Feedback is fixed to learning outcomes. This quantifies the areas of an assignment which demonstrate the given learning outcome, rendering the rest of it unquantified and therefore unimportant. This is an example of valuing what can be measured as opposed to measuring what we value. As instructors, our real responsibility to the student's work is obviated or at least mitigated by the accounting standards we must adhere to. We cannot account for its qualities unless those qualities are accountable.

Quality is now rendered as the basis of processes and procedures, as opposed to content and broader educational aims.

These controls and the management act to curb teachers' ability to exercise their professional judgement, and even to normalize what is considered professional behavior. Fenwick (2016a) argues that professionalism itself is transformed by the systems and practices that are used to measure and monitor it. For her, this presents three problems. First, that being a professional means to "exist as multiple fluctuating identities positioned in a variety of discourses," yet professionals must present themselves in evaluative contexts as possessed of a single, stable identity – one that adheres to culturally normative values (Fenwick, 2016a, p. 30). Second, the stable and restricted concept of the professional, the individual practitioner is measured, often in deficit terms. Third, Fenwick astutely notes that this process of "self-regulation locates the system's problems in the bodies of individual professionals" (2016a, p. 30). In the present case, systematic problems with how feedback is implemented are translated into individual faculty shortcomings. This is further exacerbated through the process of quantifying performance through data analytics.

Indeed, we have seen this articulated across the dataset. The impossibility of delivering targeted and specific feedback for every individual student for every class period ceases to be a system failing and becomes the question of individual instructors' time management. Teachers expressed the pressure to conform to the norms of the program by ensuring they did not grade too highly as determined by the course grade averages rather than the exercise of their professional judgment, and that they adhered to compliance guidelines of grade and feedback release. A focus on these metrics rendered an individual in or outside of acceptable markers of professionalism in feedback practices – once again, without any examination of the substance of

feedback information. Teacher agency to respond to students using professional judgment is curtailed and policed by these metrics.

Performativity & Coercion

This tight regulatory approach to teacher agency leads predictably to problems of coercion and performativity. Within this approach, the “science of learning” is then applied to encourage certain observable actions, in ways which may be interpreted as coercive. The sociomaterial analysis of the data reveals that technology does not provide a neutral background but exerts powerful influence on educational practices. The bespoke LMS includes a “feature quiet students’ tool” (External Provider Manifesto, p. 174) that instructors can use to select reticent students for cold calling during live class sessions. However, this tool has also been automated into the platform’s design itself. The system will select individual students whose talk time contributions are lower than average and place their video feed in the center of the screen, what is referred to on the platform as the “stage”. According to the external provider’s manifesto, this automation ostensibly “allows the instructor to dedicate more attention to facilitating the activity” (p. 174) rather than keeping track of individual contributions.

There are several issues with this automation. First, it fails to allow for the instructor to use her professional judgment to decide whether that individual would benefit from being selected for this focus. There are a whole host of factors that may mean an individual may not be the best choice to be featured. The student could be experiencing technical issues, could have individual learning differences that mean they require different forms of learning and/or participation, or they may experience social anxiety when being placed in the spotlight. In fact, all of these scenarios have occurred within this program. One faculty member recounted the experience of teaching a student who is mute on this program. The student engaged in class

activities by utilizing the chat function. However, the LMS's built-in "feature quiet students" tool meant that after each activity, this student was always spotlighted on the stage because they did not participate in ways that were measured and valued by the system. In a sense, the student was being publicly shamed by the LMS on a consistent basis for failing to demonstrate the norms established by the platform's design, despite finding alternative pathways to engage in the kinds of behavior valued in the curriculum.

While the example of a student who is mute might appear to be an extreme exception to expected circumstances, it does reveal the coercive nature of the program. For Macfarlane (2017), this is evidence of the "paradigm of distrust" (p. 40) seen in the broader education landscape and fails to respect students' rights as autonomous individuals while oversimplifying complex (and sometimes still unknown) educational processes into binaries of active and passive students. The mute student did participate, but the paradigm of distrust meant that the technology constantly sought to coerce her into the normative means of participation.

The program further acted to influence teacher feedback practices by requiring a certain mode of feedback within a certain timeframe and within particular confines, such as the predetermined learning outcome. Data analytics and its use for surveillance purposes also acted to influence evaluation and the quantity of feedback delivered. Teachers expressed pressure to conform to these expectations, and the LMS' design served to reinforce these expectations through, for instance, the color coding of approaching grade release deadlines or the visualization of grade distribution.

An educational culture that prioritizes demonstrable forms of participation leads to a culture of performativity. This performance can be seen in the kinds of behaviors that are rewarded and incentivized and those that are discouraged. Macfarlane (2017, p. 46) explains:

Conventionally, a student's 'performance' at university is associated with formal, individual assessments leading to the award of a degree. Yet the trends identified so far in this chapter are part of a notable shift from the idea of learning as a private activity undertaken by a student reading for a degree, to one based on giving a public performance. In this scenario, it is the doing that is rewarded, rather than the learning, something that has been intentionally designed into the lesson plans, assessment methods, and even learning technology of the external provider. This extends to feedback practices, where teacher focus must be tied to some observable aspect of a class period. The behavior that is being rewarded on the teacher's side relates to compliance with providing daily feedback and evaluation according to the specified learning outcome and within the specified timeframe.

Gourlay argues against what she has termed "the tyranny of participation" (2019, 2020). She explains that the current focus on student engagement is problematic since the term carries normative weight, acting not only as a causal explanation for how learning occurs, but rather "is used as a proxy term for a range of student activities and behaviors which describe how students approach their time at university" (Gourlay, 2020, p. 48). This focus on interactivity is coupled with a worrying lack of focus on the content of learning, as she notes "there is a collapse into a reification of pure process, and a positioning of interaction, interlocution or posting online as the *learning itself*" (Gourlay, 2020, p. 57, emphasis in the original). The preoccupation with observable student action seems to be conflated as evidence of their learning.

In the program under investigation, this can be seen most clearly in the practice of assessing students' verbal contributions. In order to do so, the video recording of the class session is accessed, and the audio and video are parsed by the platform so that the session can be replayed either as one video or sorted by individual contributor. These contributions are parsed

and quantified by number of seconds and certain system settings enable the instructor to modify the length. Once again, the emphasis is on the performance as opposed to the content of the performance. Students are doing, so they must be learning; faculty are giving feedback, so the feedback must be working.

For Gourlay, this emphasis on participative and measurable forms of student engagement is unfair because it excludes private and quiet or unseen forms of learning and study, such as private reading and contemplation. It fails to provide a space for all forms of learning. She does not argue against an advocacy for interaction in higher education classrooms, but she worries that “[a] strong emphasis on interactive work, as the activity to be prized above all others in higher education, can lead to a stance in which both ‘teaching’ and ‘lecture’ become dirty words” (Gourlay, 2020a, p. 52). She argues that this can lead to a scenario where teaching is construed as “fundamentally problematic” (ibid, p. 52), something taken up previously by Biesta (2012).

This scenario mirrors the general education program in question, where the findings have revealed that teachers felt keenly their role was reduced to that of an online facilitator and teaching and lecturing were framed pejoratively. Kay articulates this view when she declaims:

I think that the students’ role is that when I say ‘jump’, they say ‘how high?’ That was one of the things that really struck me when I first went into those courses, was how the good students were able to kind of hold forth in a somewhat unnatural way, not really related to any sort of real-life situation. They would present a little potted answer that I would find quite hard to do. [...] I think that was what they wanted the students to do, to be able to perform on the click of a finger. And the grades were there as the carrot or the whip or whatever you wanted to call it, to make sure that they did, that they did their circus performance. (Kay, Interview #7)

Kay's argument supports a view that what was being measured (and therefore valued) in the program was the performance as opposed to the content of the performance.

Macfarlane categorizes student performativity into three strands: bodily, participative, and emotional (2017, p. 51). Bodily performativity is seen in policies such as compulsory attendance, while participative performativity involves the requirement that students interact in activities such as discussions (including online forums) or other class activities such as oral presentations. Emotional performativity can be seen in self-reflection tasks such as reflective journals. While none of these activities is problematic for Macfarlane *a priori*, it is the coercion forcing students to engage in all three that he finds troubling. For students who wish to engage in these activities it is one issue. For those who do not, it is quite another. In the case of the external provider, students' wishes are not considered a relevant part of the equation, as the following excerpt, exhorting the benefits of online breakout activities, illustrates:

Breakout groups play a role in fully active learning in part because students cannot easily hide from their peers and there is social pressure not to be a 'free rider.' This is especially the case when the groups are small, with as few as two to three students per group. Such groups facilitate learning even when none of the group members has a solid grip on the material at the outset (Smith et al., 2009 as quoted in External Provider Manifesto, p. 176).

Here, the coercive nature of the platform and pedagogic design is conveyed as a benefit of the bespoke curriculum. Students who may prefer not to engage in such activities are portrayed as unable to "hide", suggesting that such a behavior is passive and therefore retrograde. This passage indicates that effective learning can mean forcing students who may not fully understand the content to work together using whatever means of coercion are available. The passage seems

to suggest that it is still preferable for the proverbial blind to lead the blind than for the teacher to reassert a more traditional role in education.

It is not only performativity of the student that is the issue. Teacher performativity is evidenced throughout the dataset within feedback contexts. The practice of adapting a set bank of feedback comments demonstrates a form of going through the motions, as does the practice of sharing feedback banks across teaching teams. Faculty who reported such practices frequently defended these choices as being justifiable on the pointlessness of the activity and the lack of perceived learning benefit that they believed resulted for students. This performativity in feedback contexts is further acknowledged by the LMS design, which includes the “Apply All” functionality to copy to all students a particular comment and grade. Such functionality belies an implicit acknowledgement that at least some of the prescribed feedback and evaluation could be classified as compliance.

A final issue with this emphasis on performative instances of student engagement is that it also privileges one particular subjectivity over others, a form that may advantage some students while disadvantaging others, such as in the case of the mute student who nevertheless found strategies to participate. Faculty interviews frequently raised objections to feedback and other educational practices within the general education program as inappropriate or unsuitable for “our students”. Part of this objection was found to be culturally motivated, as has been discussed under the socioconstructivist analysis, but this is indicative of a larger failure to recognize the multiplicity of subjectivities that exist which is symptomatic of a technocratic view of education. A key criticism Gourlay levies at both sociocultural and technocratic models of education is the tendency to a reductive portrayal of the student into a very specific sort of student, what she terms as “restrictive, culturally specific and normative notions of what constitutes ‘acceptable’

student practice” (Gourlay, 2015, p. 403). Further, Gourlay argues this student is “conjured as an idealized neoliberal subject, free from the ‘bounds’ of context, the social, the material, and the body itself” (2020, p. 6). Within feedback settings, this is evidenced in the expected feedback competencies implied. Students are assumed to dutifully read (and understand) all feedback comments, reflect on how they can use this information to improve their performance, and always manage their affective response to evaluation.

This restrictive and fictive notion of the ideal student has been seen repeatedly throughout the dataset and is in evidence throughout the external provider’s manifesto. Arguably one of the most culturally egregious examples can be seen in the excerpt below. In a section explaining how the external provider selects potential students from applications, the following acknowledgement about differences across cultures is made:

With more than 70 percent of our applicants coming from outside the American educational system, [External Provider] has an interesting challenge in this component of the admissions process. We ask students around the world to articulate their accomplishments. The first step is to define what an accomplishment is, for the concept of accomplishment is understood differently around the world. [...] Cultural differences mean that students may have very different approaches to representing themselves or talking about themselves. In the United States, most students have an easier time talking about their impact or the importance of a role they played, whereas students in Latin America or Europe are less likely to share certain significant details because they are not trained to do so or do not want to appear boastful. We often have to reach out to teach applicants how to be their own best advocates. (External Provider Manifesto, p. 284).

This excerpt reveals an understanding that other (non-American) cultures may operate differently. Further, they acknowledge that American applicants account for less than a third of potential students. However, rather than modifying admissions guidelines and training admissions staff to recognize and interpret applications accordingly, the external provider reveals that they choose to offer potential students advice for how to make themselves more “American” in their means of self-expression. This seems reminiscent of Macfarlane’s (2017) concept of performativity, since it is a particular type of performance, and only that performance, that is valued and accepted. Students who are more circumspect in their self-advocacy are offered guidelines for how to be better performers. This excerpt also provides a sobering illustration of how reductive such a view of education can be.

Feedback practices in this program, when viewed through a socioconstructivist lens, reflect an educational philosophy that limits student agency while reinforcing a managerialist approach to feedback delivery through platform design and policy that encourages some forms of feedback and discourages others. These findings highlight the tension between the program’s innovative intentions and its lack of alignment with socioconstructivist principles of active learning and agency.

The Limits of Standards and Quality Criteria

The audit-based model of accountability leads predictably to the development of policies and standards by which educational practices and outcomes are measured. When a system needs to demonstrate accountability, a set of guidelines or standards for that accountability are put in place. Fenwick adopts Bowker and Star’s (1999, p. 13) definition of standards: “Any set of agreed-upon rules for the production of (textual or material) objects” before explaining that they function across a range of actors to exert influence or power. As she terms it “The purpose of

standard-setting practices could thus be described as an attempt to order practice at a distance” (Fenwick, 2010, p. 119). As such, educational standards fulfill an important function. Apple explains that “These policies have been strongly regulatory and have been quite instrumental in reconstituting common sense” (Apple, 2001, p. 190). Essentially, the standard becomes educational common sense, or what is valued by stakeholders. However, as a sociomaterial evaluation makes clear, for standards to persist, they must be locally interpreted.

This is important when considering feedback practices within the general education program. As has been illustrated, feedback practices here exist within a tightly structured and highly regulated system. The feedback practices associated with evaluation are interpreted through the learning outcome rubrics, a form of standard. This standard is centrally regulated – it is part of the educational product copyrighted by the external provider. However, this centrally regulated standard still undergoes a series of interpretations. First, at the course-level when norming and discussions of grading practices. In some course teams, this is delivered in a top-down managerial approach from course managers, while in others, it is arrived at more by group consensus. Interpretation also occurs at the most local level: by individual instructors in response to individual student performance. Further, the instructor chooses how to contextualize the application of this standard through the associated feedback comment. As the data set has revealed, this tightly regulated standard is nevertheless enacted at the local level in myriad ways. Some faculty apply uniform feedback comments. Some share across teaching teams, while others write lengthy and specific comments for each student. Some faculty find ways to resist the constraints of modality, using face-to-face labs as an opportunity to challenge the modality and timing of their input on student performance. Just as Fenwick (2010) demonstrated with

educational standards in a school context, the existence of a standard does not necessarily guarantee that its application will look the same in different contexts.

The external provider's manifesto describes the educational standards and the underlying justification for them that structure their bespoke pedagogy and curriculum. At its core, the justification for these learning outcomes is far-transferability and future workplace applicability. However, such transferability also does not exist in a vacuum: people respond to necessarily specific and situated events in necessarily specific and situated ways. We are influenced by the people, systems, environments, policies, technologies, and material objects that we encounter in educational and professional settings, all exerting influence on what is and is not possible or desirable in a given context. This dynamic is complex and incapable of being predictable. A standard that has longevity, then, must be capable of a high degree of flexibility to persist.

This leads to what is perhaps the fundamental flaw with how feedback practices have been positioned within this curriculum: standards are incapable of expressing every potential instantiation of that which they propose to order from afar. Educational standards are inherently context-dependent, something that Sadler (2014) outlines in great detail. He notes that "a higher education institution may deliberately take into account the social backgrounds and entry levels of its students and interpret the outcome specifications accordingly" (p. 281). He does not note this as a critique, but as an example of legitimate practice by experts.

The program in question is premised on consistency of experience which guarantees students have learned the same skills in the general education program, as delineated by the learning outcomes. The learning outcomes are assessed using the same rubric, regardless of assignment or course or any other contextually relevant detail, despite that context being the very fabric that gives rise to the need for the given learning outcome's particular instantiation. This

creates a fundamental disconnect between the abstract framework of assessment and the nuanced realities of actual learning experiences. As Sadler notes, “Although codification may purport to increase the efficiency of informational exchange, even a fully effective formulation ... would come at a potentially significant cost – rigidity and uniformity” (2014, p. 282). This uniformity and rigidity are exemplified throughout the curriculum: feedback content is reduced to decontextualized learning outcomes, which seems to render it both ineffective and unsustainable.

Instead, there is evidence to support a loosening of the strictures binding educational practices more broadly and feedback practices more specifically. Sadler (2014) argues for the exercise of professional judgment when assessing student performance, having written extensively in the past on how this is what a teacher does when evaluating student work (Sadler, 1985, 1987, 1989, 2013). For Sadler, it is impossible to contain all of this professional knowledge, what he terms “guild knowledge” (1989, p. 126), in a mere rubric. Teachers as professionals draw on their wide array of experience to notice, respond to, and evaluate student work in ways that are not possibly contained within a rubric.

Further research supports this. Mulcahy (1999) found that vocational teachers in Australia drew from an intricate range of factors beyond the scope of standards when teaching and assessing student chefs. In research concerning the implementation of medical protocols, Fenwick (2010) explains how CPR protocols were found to be widely interpreted according to the different specific contexts in which they were implemented. She argues that the same flexibility should be afforded to professionals working in educational contexts:

Similarly with educational standards: as a fluid object, a standard for practice or for learners’ competency can mobilize and link together extended networks that maintain key

continuities even though practices at different nodes may look very different. (Fenwick, 2010, pp. 127–128)

Applied to feedback practices, the argument becomes: effective feedback may look very different for different students in different cases all while adhering to the broader underlying principle. Greater flexibility in interpreting the role of feedback in this program should be afforded to faculty to exercise their professional judgment. Fenwick notes that

teachers draw from accumulated experience of watching and assessing students' growing capacity, for example, knowing when students have come to embody acceptable performance in some aspects of a skill while they may not quite master other aspects. Teachers' work with students, then, is unfolded through embodied negotiation of these different forms of standards, such that no one formal standard or term of competency becomes privileged over another. (Fenwick, 2010, p. 128)

This insight echoes Sadler (2014). However, such variation in feedback practices becomes more difficult in the case under investigation. The tight controls in place limit teachers' ability to highlight aspects of student performance that their professional experience intuitively would benefit from focus because the areas for focus are already pre-determined and the means of addressing them have already been prescribed.

Conclusions

An instructor's ability to exercise professionalism does not appear to feature as a significant concern within the educational products provided by the external provider. Despite claims that their hiring process and careful onboarding result in exceptional faculty who wholeheartedly subscribe to their underlying tenets (External Provider Manifesto, p. 146), both the socioconstructivist and sociomaterial analyses have demonstrated that the program restricts

teacher agency widely, inclusive of feedback practices. This indicates a deep-seated suspicion of the role of the teacher and the ability of the teacher to practice effectively, which can be seen when, amidst an assertion that the provider's teachers subscribe to the teaching philosophy and principles, it is noted: "But old habits can die hard, and sometimes faculty members need feedback on their teaching to stay on course" (External Provider Manifesto, p. 141). This suspicion results in practices of surveillance and quality control that are facilitated through data analytics and internalized by instructors themselves to modify their practices.

Such suspicion and constraints on teacher action lead, unfortunately, to a restriction of teachers exerting professional judgments. As was clear in the dataset, teachers on the program frequently and intentionally acted against their own professional judgments out of a desire to comply with the course and programmatic regulations. This leads to an unfortunate scenario where teacher practice does not match what they profess (Biesta, 2007, p. 10), something that several faculty throughout the dataset expressed discomfort with. For instance, Dennis and Kay recounted failing to take up opportunities to provide formative feedback during class sessions out of a desire to be compliant with program regulations concerning teacher talking time (Faculty Interviews 10 and 7). Both expressed this (in)action as running counter to their instincts as instructors or what they believed to be best, based on their professional judgement.

This was a general impression from the dataset; faculty were working incredibly hard to act in ways they deemed to be professional, however, the tight controls of the program made this very difficult. Document analyses of course-related documents showed that faculty regularly engaged in constructive solution-focused feedback cycles regarding both pedagogy and curriculum. Faculty drew on their extensive professional experience to adapt their feedback practices according to perceived needs, relying on a wide array of strategies, technologies, and

beliefs. Kay recounted the use of on-the-fly activities in traditional class settings to help course correct when perceiving that half of her class was confused and off-task. Connie referred to differentiated feedback practices that relied on multimodal strategies. Starr and John referred to peer feedback practices. David and Lesley discussed the use of technology to implement targeted feedback. Asma used her emic positioning to help students' cross-cultural expectations in feedback situations. Dennis explored how to harness generative AI to help students better act on feedback. The one thing held common was a sincere desire to enact the highest quality possible feedback practices, a hallmark of professional behavior.

The changes in teacher practices could be viewed as progressive development if they had not simultaneously diminished opportunities for effective and sustainable feedback. Analysis indicates that the formative feedback system in this program, though promoted as an essential learning tool within the external provider's alternative curriculum, has largely been found to be ineffective and unsustainable, not least because students seem not to engage with it. It seems that not only do these changes fail to result in effective feedback, but instead they make feedback practices worse. The emphasis on consistency appears to have produced a standardized approach that, while achieving uniformity across the program, may not adequately address individual student needs. The focus on aggregate outcomes potentially compromises the capacity to meet specific learning requirements of each student.

Biesta (2012, pp. 44–45) writes that

The problem with these lines of thought is that they miss what I have suggested to be at the very heart of teaching, which is the need for concrete situated judgements about what is educationally desirable, both with regard to the aims of education and with regard to its means. While some insights from research might feed into such judgements, they can never

replace such judgements, particularly because in some cases the judgement may well go against available evidence (emphasis in the original).

This is the sum of the contradiction of why a curriculum and pedagogy wholly focused on the science of learning (or what the empirical evidence says constitutes effective practice) does not translate into an educational silver bullet. For Biesta, the science of learning cannot replace the importance of teaching. However, such wholehearted endorsement of the science of learning naturally leads to the restriction of teachers' opportunity to exercise professional judgements. What value can one individual's opinion have in the face of the empirical evidence? When every decision is premised on what the evidence suggests, other considerations are not taken into the equation.

Biesta (2012, p. 45) differentiates between two types of judgement about teaching. First, there are technical judgements (*techne*), which focus on the "how" of teaching as a production process. The second type of judgement is normative (*phronesis*), which is focused on the "why" of teaching, viewing it as a practice oriented towards human good and requiring practical wisdom. The key point in this context is that teaching decisions are not merely technical but fundamentally involve ethical and philosophical considerations about the purpose and value of education.

This was exemplified, perhaps most eloquently, by Connie. It is useful at this point to revisit the anecdote of her teaching observation/performance evaluation where an observer, employed by the external provider, gave her feedback on her teaching of the program. The feedback, mostly positive, also included some cautions about her propensity to "lecture," which is something she recounts she was evaluated down for on the performance appraisal. Despite its length, reviewing Connie's full response to the external observer is merited:

I told her: Listen, you came in and my second or third class that day, me teaching the same class. I witnessed the chaos in my first section, of me doing what you've suggested, which is to not explain it with the students, to let them figure it out on their own. And I've tried to engage in that type of teaching practice where I take a step back and I give students more autonomy to do that, but I just don't feel that we have a particular set of students for a number of reasons. They just need extra lecturing. They need extra help. They need a little more explaining that I have to give, and I believe as a role, as instructors, isn't that what we're supposed to do? (Connie, Faculty Interview #7).

Here Connie explains the impossibility and impracticality of following a science of learning approach blindly. She refers to the experience she drew on, perhaps consciously or perhaps not, of the class session failing to achieve its objectives because students are ill-prepared or confused by the instructions. She defends the exercise of her professional judgement as the moral duty ascribed her role, what she is supposed to do. In this anecdote, Connie recognizes the value of her professional judgement as an asset, beyond a core duty. Connie illustrates with a concrete example what Biesta, Fenwick, and Sadler have all alternatively described as the true role of the teacher.

The analysis has revealed that feedback practices within this program lack effectiveness primarily because they are constrained by the inability of teachers to exercise their professional judgements in creative, unique, and specific ways. Within the sociocultural framework, this manifests in feedback practices that lack personalization and fail to position students as active participants. Students' own cultural capital and ways of knowing are not harnessed to shape feedback practices, and feedback events have limited social opportunity and minimal

scaffolding, since the majority are confined to evaluative written comments from the instructor on predetermined areas of focus.

The sociomaterial analysis has further demonstrated how feedback practices are fundamentally shaped by the technology that enables them and determines how, when, and why they are delivered. The constraints of the platform's design influence both the quantity and modality of faculty responses, while rigid timing requirements impact the nature of feedback delivery. These technological and structural constraints not only render much of the feedback less effective than desired but also create an unsustainable workload for faculty, leading them to adapt practices that prioritize managing volume over enhancing student performance.

The ultimate irony of this system lies in its fundamental contradiction: in attempting to maximize educational effectiveness through empirically-based standardization, the program has created feedback practices that actively obstruct the possibility of meaningful engagement by both teachers and students. By prioritizing consistency and measurability over professional judgment and personalization, the system has diminished the very effectiveness of the formative feedback it was designed to enhance. This demonstrates how an overreliance on the “science of learning” without any consideration for the art of teaching can undermine both the effectiveness and sustainability of educational practices.

Implications

The findings discussed raise a number of implications for feedback at the practice, platform, and policy level. The following recommendations are drawn on the basis of the conclusions. First, feedback practices within the program at the site in question will be discussed. After that, recommendations for integrating educational technology meaningfully within

feedback practices will be explored. Finally, the implications will consider policy changes that may better accommodate effective and sustainable feedback practices.

Improving Feedback Practices within General Education

Feedback practices can be made more effective and more sustainable within the existing educational framework of the general education program. This involves several strategies. First, feedback should be meaningfully embedded within the curriculum and integrated into the lesson plans. This integration should come with the intention of enabling a more agentic role for students. With a curriculum premised on active learning, opportunities to engage actively in feedback practices would consolidate the learning activities and the feedback information itself. The literature abounds with case studies where this has been successfully implemented. Winstone and Carless (2020), in their book devoted to this very topic, include case study vignettes with each chapter that outline successful strategies across a range of contexts and disciplines. They suggest that assessment strategies can be designed with feedback in mind, through traditional drafting and feedback cycles, through to innovative suggestions such as collaborative parallel exams where students must negotiate a question or task as a group. Such strategies give students greater opportunities to act and respond to feedback, increasing its efficacy.

The existing research is replete with further successful examples of effective and varied feedback practice that place learners in more agentic roles (Nicol, 2021; Nicol & Boyle, 2003; Nicol & Kushwah, 2024; Nicol & McCallum, 2022). These strategies range from designing discussion and comparison feedback activities into large engineering classes, to using educational technology to support peer- and self-learning, to a pedagogic design that builds students' opportunities to learn through comparison of their work with their peers, to learning

through scaffolded reflection against exemplars. All of these are pedagogic strategies that place the student in an active role in feedback practices while reducing teacher responsibility for one-to-one feedback. They provide examples of how feedback can be scaffolded into the specific course and context. Moreover, these strategies can be integrated into many of the existing general education lessons of the program in question.

A further consideration should be to actively seek opportunities for the feedback received in one context to inform student action in another. In an interdisciplinary program, especially one that has been intentionally designed to build iteratively on concepts and learning outcomes introduced at the foundational stage, opportunities to harness feedback from previous learning should also be implemented. Winstone and Carless (2020) provide an example of this in practice in a case study that analyzes a nursing program where students use feedback from previous assignments in prior courses to help understand a major research assignment in the current course.

Opportunities to harness feedback across the curriculum already exist. First, the program's design is a source of unexploited strength in this regard: it is premised on the assessment of learning outcomes that are revisited across courses, which ensures that several courses feed logically into one another, enabling this kind of feedforward (Myers & Buchanan, 2022) design that could help enhance student uptake of and engagement with feedback information. Second, several courses deal with similar content, which enables the likelihood of similar or iterative tasks to be used to build effective feedback practices. In the first year, for instance, students take consecutive composition courses with similar assessments across the first and second semesters. Both courses require students to complete annotated bibliographies, essay outlines, and research essays. These courses could be minimally redesigned to incorporate

feedback cycling across the curriculum, where students could engage with feedback from the first course's annotated bibliography task when preparing for the second course's annotated bibliography. Such feedback cycling could ensure that students are engaging with feedback longitudinally and presents interesting pedagogic opportunities such as reflecting on feedback, comparing feedback, and critiquing feedback. Such activities build feedback literacy, afford learners a more agentic role, and ease the feedback load for faculty.

Transforming Feedback on the Platform

The second recommendation involves the bespoke platform created by the external provider. The analysis of the findings has shown that the platform acts to significantly shape feedback practices across learning activities within class settings and outside of class. The restrictions it imposes on modality and student action make it ill-suited for the kinds of feedback practices valued by students in the literature and corroborated by the findings. The literature consistently reveals that students prefer multimodal feedback (see for instance, Ducasse & Hill, 2019; Glazzard & Stones, 2019; Schilling, 2016; Wood, 2021, 2022), which is something that is not supported by the current platform.

Instead, an alternative LMS should be adopted for the program, one that allows teachers more flexibility to adopt feedback practices according to individual preferences and perceived student need. Faculty interviews revealed that there is a wealth of diverse feedback practices already established that harnesses a range of technological and multimodal strategies. These strategies included using platforms like Showbie for drafting work to enable voice and video feedback as well as annotation (Interviews #2 and #8), creating comment banks using Turnitin (Interview #6). The current platform does not easily nor effectively integrate with these strategies, but the institution also subscribes to an alternative platform, which does provide these

strategies and better integration capabilities. Further, the bespoke external provider platform does not enable students to respond to feedback agentially. Therefore, the recommendation is that the program migrate the current courses to the alternative LMS.

While the migration will involve curricular work, this presents an important opportunity to address many of the challenges for feedback practices revealed in the findings. The migration will mean reassembling lesson plans, which provides the opportunity to choose more culturally appropriate materials and also to design feedback practices into the activities thereby rendering them more effective and more sustainable. This does not mean sacrificing the principle of active learning, but instead of enriching it by more closely aligning feedback practices with this principle. Perhaps most importantly, it provides an opportunity to reduce the tight controls on teacher agency, by allowing them more flexibility in choosing how to implement feedback practices. This would enable many of the feedback practices recounted by faculty participants in the interviews that are currently precluded by the existing LMS and program structure.

Incorporating Feedback into Policy

The third recommendation is to account for feedback practices at the policy level across the program. At present, feedback serves as a significant factor in the program – the basis of much assessment and a significant component of faculty workload – yet it is not given explicit attention at the policy level beyond fleeting references in several course and program documents. Instead, as the findings have shown, institutional documents position students in passive roles, acknowledging the heavy workload in some places but simultaneously reasserting the responsibility of feedback to be the work of the instructor. Instead, policy that asserts the need for students to have agency in feedback practices should be put in place to better align with overall program principles. This is further supported by Henderson et al. (2019), who note that

“Institutional policy has an influential role in embedding effective feedback principles in processes, systems and culture” (p. 11).

Winstone (2022) has demonstrated that the policy documents of an association of universities in the UK have encoded feedback practices into their policies. Her analysis builds on Trigwell and Prosser’s (1999) distinction between “transmission-focused and student-focused approaches to education” (Winstone, 2022, p. 1108) where the former involves teacher delivery of content. Conversely, the latter prioritizes student engagement in activities. Winstone links this to the feedback literature before turning to examine how the language used in policy documentation positions students in feedback events. Her analysis has also found that the majority of these references to feedback construe feedback as transmission-focused as opposed to learning focused (pp. 1115-1116). She calls for the need to intentionally position feedback in more learning-focused language in HE policy documents since “Strategy documents are not static and inactive; they work to frame and position actors in particular ways, convey what is valued, and actively impact the beliefs and practices of those enacting such documentation” (p. 1121). She provides a framework for examining the extent to which policy documents construe feedback practices as transmission-focused or learning-focused using guiding questions around three key areas: feedback design, feedback practice and purpose, and development and evaluation of feedback processes. The guiding questions are posed on a continuum from more transmission-focused to more learning-focused.

In the general education program, policy changes could be made using Winstone’s (2022, p. 1123) framework to move feedback from a transmission-focused component to a more learning-focused component. For instance, the second category: Feedback practice and purpose could be used to interrogate existing feedback practices within the general education programs

against the underpinning pedagogic principles. The first guiding question asks, “To what extent do feedback processes focus on enhancing students’ learning rather than the transmission of information?” which, as the findings of this study have shown, reveal that feedback processes are considerably more transmission-focused. The second guiding question, “To what extent are practices such as formative feedback, self-assessment and peer review embedded within programs?” helps to uncover gaps in agentic opportunities for students to engage in feedback practices. Such analysis would be helpful in ensuring that the vital role of feedback on this program aligns with the overall educational principles.

Further, critical examination should be given to policies that influence feedback practices. These include the mandate to grade students daily on an aspect of their performance and to provide written comments, to consider the use and dissemination of data analytics, especially as they pertain to grade distribution and timings, and finally to rethink the role of non-human factors in feedback practices, such as the use of decontextualized learning outcome rubrics across a wide variety of contexts of use.

Limitations and Recommendations for Further Research

This study has examined the effectiveness and sustainability of feedback practices in the general education program of the interdisciplinary college at the site in question. As such, it represents a deeply situated and specific analysis, and the findings and analysis should be interpreted within this light. It is important to acknowledge that several limitations exist. First, the study focused on feedback practices from the vantage point of institutional documentation and faculty voice. No student voice is present in the dataset, despite students being the key stakeholder in feedback practices. Future research should be undertaken to investigate the student perspective, for instance, to confirm or disprove faculty perceptions such as their level of

engagement with feedback practices. Second, the study is limited by the number of participants and the sources from which data were derived. Third, the study was hampered by a lack of access to course data from the statistics course. This was due to a regrettable lack of cooperation on the part of course managers for the course, which limited the opportunity to provide a more in-depth analysis of the course as documented by one semester's official document trail. Nevertheless, perspectives from faculty teaching on the course in question were obtained through participation in faculty interviews as well as through the aggregated report on faculty reviews of the course in question.

The study points to a research agenda that considers feedback practices from a range of methods and perspectives. Comparative studies are one example: the external provider includes partnerships with universities around the world. In fact, these partnerships number 25 in total and span the globe, indicating that this program has significant impact (External Provider Website). Given this influence, it would be beneficial to learn the extent to which the structured curriculum and pedagogy's feedback practices are experienced similarly or differently in other contexts. Alternatively, a closer comparison could be made between feedback practices on the program in question and those of the general education program on the more traditional curriculum at this study's site. The recommendations to redesign the general education curriculum leads to the opportunity to critically explore how feedback can be designed into lessons. Finally, longitudinal studies could explore whether faculty adapt their practices as they become more confident of their capabilities on the platform.

Concluding Remarks

This study has investigated the feedback practices of the general education program, interrogating their effectiveness and sustainability. It has considered the extent to which the

practices align with principles of socioconstructivist education and has found that feedback practices do not closely align. It has also considered the role of technology, timing, and other material factors in shaping and constraining feedback practices, finding that these factors all exert a tremendous amount of influence on the effectiveness and sustainability of feedback practices. Furthermore, the features and functionalities of the bespoke platform on which the program runs (and which is the site of feedback practices) encourages feedback behaviors of performativity through designed-in features that promote managerialism, restrict teacher opportunities to exercise professional judgment, and reduce educational and feedback practices to data points. These findings indicate that the feedback practices of the general education program align more closely with neoliberal principles of education.

The final implication of this study is theoretical and concerns applying the principles of socioconstructivist theories of learning. As professionals, it is our duty to engage deeply and critically with the underpinning principles that provide the foundation of why and how we teach. This project has raised broader questions about an unquestioning and uncritical adoption of so-called active learning principles, and whether they are in fact aligned with socioconstructivist beliefs about teaching and learning. As the findings have suggested, an excessive focus on observable forms of learning may have unintended negative consequences. It may lead to punitive perspectives on alternative forms of learning and can increase performativity among teachers and students alike, where compliance to the data analytics occurs at the expense of genuine learning.

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Appendix A - Pilot Study

Pilot Study Research Purpose

The purpose of the pilot study was to examine the place of feedback within the prescribed program, as seen from the perspective of faculty and administrative stakeholders and to examine the underlying assumptions implied by the positioning of feedback practices, roles, and agencies. The pilot study focused on developing a contextual understanding of the structure, place and beliefs concerning feedback within this institution.

Pilot Study Research Questions

At the time of the pilot study, the initial research questions were:

1. How does the institution frame feedback practices?
2. How does the institution frame faculty roles within their conceptualization of feedback practices?
3. How does the prescribed curriculum and pedagogy situate feedback within their program?

Document List Overview

Within the broader case study, documents can be a rich source of data (Bloomberg, 2023). Studies in the UK have investigated policy documents to interrogate the positioning of higher education students vis-à-vis teaching and learning practices and assessment (Smith, 2008; Voce, 2015). Similarly, another UK-based study examined the language of policy documents in the UK HE sector to determine the extent to which active and effective feedback practices were presented in the documentation (N. E. Winstone, 2022b). This pilot study built on this framework to examine the documentation of the site in question.

The following documentation were instrumental in revealing the nature of feedback within the interdisciplinary context of our institution. Examination of the below sources helped to determine the extent to which feedback practices align with active student engagement (i.e. feedback literate (Carless & Boud, 2018a)) processes that are the foundation of the general education curriculum. While Bowen (2009) notes that document analysis offers important advantages, including availability and stability, he also cautions that it can include significant limitations, including lack of sufficient detail, low retrievability, and biased selectivity (p.32). As such, the document analysis is not the sole data source. Instead, data from the pilot study served as a means of triangulating data derived from other sources in the broader case study.

From a wider initial list, the following documents were selected for analysis as revealing sources of understanding the place of feedback at the site in question. They were selected because they provide an opportunity to uncover the ‘story the university tells about itself’ (Prior, 2003, p. 65):

5. *General Education Program Course Syllabus* – information regarding course and tutor expectations; student expectations
6. *Institution Student Handbook* – guidelines and expectations for student roles and responsibilities
7. *Institution Course Catalog* – information about curriculum, pedagogy, policies detailing faculty and student expectations, course and program specific learning objectives and pedagogic practices
8. *External Provider Manifesto* – published book about the curriculum and pedagogy of the external provider, written and edited by the co-founders. It provides an explanation of the

underlying curricular theories that form the foundation of the curriculum and the teaching approach.

Pilot Study Data Collection & Analysis

The pilot study was conducted to determine an initial assessment and overview of whether the place of feedback within the general education program constituted a viable project. An initial proposal was drafted to review how feedback was construed within the scope of general education course related documents and official institutional documentation. Since the curriculum has been adopted from an external provider with a proprietary curriculum and pedagogy, the published manifesto detailing the educational philosophies and rationales driving curricular and pedagogical creation and decisions was also included.

Initially, the conceptual framework sought to examine the extent to which feedback practices within the structure (as specified in official documentation) were in fact aligned with the underpinning educational philosophies associated with active learning.

Initial Coding Strategies

Initial coding strategies involved in vivo coding of a first semester course syllabus within the program. A frequency count of instances of feedback mentions was also included, and this information was further contextualized by placing it within the relevant section. This coding strategy was replicated for the second document: the institutional student handbook. A final institutional document, the institutional course catalog was coded using the same strategy of in vivo coding and frequency count of feedback mentions. All three of these were coded to the document: Pilot Study Document Analysis Data.

A second round of coding involved investigating feedback from three perspectives derived from the literature on sustainable and effective feedback: the positionality of students in

feedback practices (as passive or active), the onus of feedback, and the perceived sustainability of feedback practices.

The codes generated from these initial rounds of in vivo and conceptual coding of institutional documents were recorded in the document: In Vivo Code List and Word Cloud on 26/10/23. As can be seen from the list, feedback is given, offered, and provided to students. Students give and receive feedback, accept, seek and implement feedback.

Memoing

Throughout the research process but particularly during this coding process, analytic memo writing was used as a strategy for maintaining a record of the thought process and emerging points of interest as analysis was conducted (Strauss, 1987). Analytic memo 1 was written 26/9/23 and examines the place of feedback within the student handbook. The second, written 5/10/23, examines the positioning of people within feedback practices in the institutional catalog, and begins to home in on the extent to which feedback practices are active or passive. It also foreshadows the concept of absence, or where feedback *isn't*. This theme returns with significance later during data analysis of the second data strand of faculty interviews and the struggle to associate subsequent emergent codes within the conceptual framework. A third analytic memo was written 14/10/23 and continues to explore this theme, but broadening the focus from human actors to programs, policies, and institutional structures. This line of thought eventually results in the expansion of the conceptual framework from a focus on the active and passive roles of faculty and students within feedback practices to a wider examination that incorporates the non-human actors contributing to and constraining feedback practices within the program.

In further documentation on the same date, the fourth analytic memo concerns my critical reflection on the need to interpret the positioning of individuals in feedback practices within the contexts described in the external provider’s manifesto. A concept of “orphaned feedback” arises: the idea that feedback is described without a clear responsible designee.

Peer Coding

A second analytic strategy involved a round of peer coding whereby a section of the manifesto was provided to a peer to open code. The purpose of incorporating peer coding was to ensure that the coding process is aligned to the research purpose and questions (Bloomberg, 2023). Since qualitative research is subjective, it is reasonable that coding of data will differ from one individual to the next. The purpose of peer coding is to ensure that alternative viewpoints have been considered and that the research undergoes a reflexive cycle. In this case, the peer review process was instrumental in shaping the subsequent focus and conceptual framework of this study. The list of codes is provided in the document “Peer Coding Codes”.

Codebook: 5/11/23

At this stage in the analytic process, the codebook was developed with coding beginning to coalesce around specific categories. The code book, descriptors, and the files where they are referenced, together with a frequency count can be found in this document. From the initial in vivo coding, the following categories were derived:

Appendix Table A.1 Coding Categories

Categories	Description
Active positionality	Instances where feedback is positioned as something students engage in and with; where students take an active role

Passive positionality	Instances where feedback is positioned as something students are given with no indication they have an active role or response to it
Onus faculty	Instances where feedback is explicitly or implicitly positioned as the responsibility of faculty
Feedback as data	Instances where feedback is positioned as something to be consumed or used in a hacking sense to improve programming or to prompt desired student behaviors or actions; Data is used to emphasize the thingness of feedback here, as opposed to a process or communicative event. Feedback as data is produced and consumed
Feedback as evaluation	Instances where feedback is positioned as an evaluation – of the student but also potentially of stakeholders on other aspects of the curriculum

This codebook provides further visualizations of the emergent data set, with a word cloud of the most frequent lexis found within the manifesto and the coding frequency of the five categories of code.

The codebook further provides an alphabetical list of the initial 31 codes generated by the peer coder, together with the categorization into key themes by the researcher and the two codes that were determined not to fit within the emergent categories, nor determined to fit within the larger study landscape. These codes were: invasive assumption and invasive and they seemed to respond to a stylistic component of the manifesto rather than to overall educational practices and invisible curriculum or philosophies. A screenshot of each is provided in the same document.

Pilot Study Findings

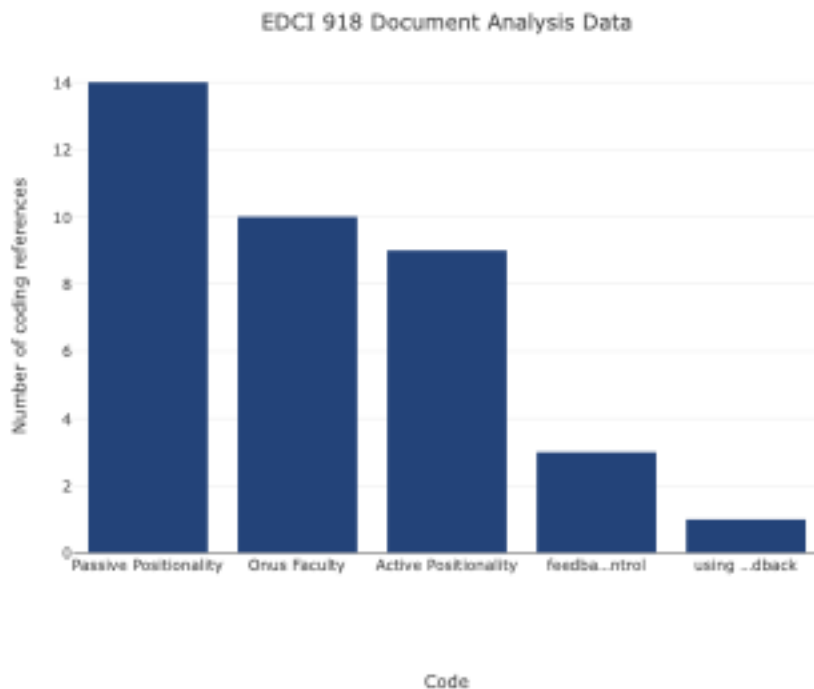
At this stage, the pilot study sought to answer the following research questions:

1. How does the institution frame feedback practices?
2. How does the institution frame faculty roles within their conceptualization of feedback practices?
3. How does the prescribed curriculum and pedagogy situate feedback within their program?

Analysis of the three institutional documents addressed the first two (initial) research questions, while analysis of the external provider's manifesto provides a more in-depth understanding for all three research questions. A round of peer coding was later influential in widening the lens beyond a socioconstructivist approach to include a sociomaterial analysis.

Overall, the findings of the pilot study centered on student positionality, faculty onus for feedback provision, and the place of feedback within a technocratic approach to HE. Figure A.1 indicates the number of times each of these were coded in the pilot study. These themes were formative in shaping the subsequent analytical framework and the ultimate direction of this research project.

Appendix Figure A.1 Coding Frequency in Pilot Study Data



Student Positionality

The pilot study data revealed that students were positioned as passive recipients of feedback within institutional documents. As can be seen in Figure A.1, the most frequent references in the pilot study data placed students in a passive role in feedback interactions. Feedback is a provision that is given to students and something they receive but do not often initiate. Table A.2 provides an overview of the frequency of instances of passive positionality across the pilot study dataset.

Appendix Table A.2 Feedback & Passive Positioning Frequency by Document

Document	Feedback Count	Passive Positioning Count
1 - First semester composition course syllabus	3	2
2 - Institutional student handbook	4	2

3 - Institutional course catalog	23	9
4 - External provider manifesto	105	42

Institutional documents that regulate and govern policy give limited space to feedback practices. Feedback occurred only three times in Document 1 and four times in Document 2. A notable pattern emerged in both texts: students were consistently portrayed as passive recipients rather than active participants in the feedback process. Document 1 positioned feedback as a primarily administrative as opposed to pedagogic concern. The first instance of feedback mentions occurs on page 21 of the syllabus, found within a policy section on video recording usage. It states: “These recordings will be made available to students enrolled in the recorded class section so that you can view the personalized feedback written by your instructor and later review the class discussion” (Document 1).

There were some instances in which students were positioned as active in feedback processes. In Document 1 under a section concerning collaboration expectations is noted: “If required as part of the assignment, you may give and receive peer feedback on the drafts of assignments that have been completed by other students” (Document 1). In this instance, the syllabus allows for active feedback practices among students, although when this is permissible is qualified.

Feedback also positioned students as largely passive in feedback practices in Document 2, although this document does not concern feedback practices related to a student’s specific learning on a given course. It includes references to students receiving feedback from mentors and academic advisors.

In the two instances where students are active in feedback practices, the feedback relates to continuous improvement and quality control services. The first example is found in the section

detailing student rights and notes that “Students have the right to offer suggestions or to provide constructive feedback on ways to improve the University through appropriate, authorized University channels” (Document 2). In the second, students are encouraged to avail use of the electronic complaints and suggestion system, with the exhortation to “Have your say and thoughts, your feedback helps the University to improve the services provided to meet your expectations and ensure continuous improvements” (Document 2).

The third document reveals a similar pattern. Feedback is mentioned 16 times, with four of these mentions associated with quality assurance related to support services and student rights, and a further nine are associated with students receiving feedback. When students were positioned as active in feedback practices, this occurred in the context of higher-level courses taken in the third and fourth years of study, such as the aim in fourth year capstone courses expressed as “seek and implement relevant feedback from others” or “offer targeted advice and feedback” (Document 3). Alternatively, students are active in feedback practices associated with courses in the visual arts, for instance in this example:

Appendix Figure A.2 Students as active in feedback practices of a visual arts course

6. Teamwork and Leadership:

- Students cooperate among group members while assuming responsibility for self and group outcomes.
- Students offer creative and constructive input to the group and accept similar feedback.
- Students consider multiple perspectives of others prior to pursuing a stated goal.

As Figure A.2 illustrates, students on this course are active participants in feedback practices on this course (Document 3).

Feedback in the manifesto appeared 105 times in total, with 40% (n = 42) of instances positioning students passively. For example, phrases such as "This ability to provide rapid feedback (on the student performance)" and "used as opportunities for graded feedback to students" (Document 4, pp. 208 and 209) illustrate how feedback is presented as something students receive rather than actively engage with. In these instances, the emphasis is placed on the delivery of feedback, with no mention of any specific actions students are expected to take afterward.

Faculty Responsibility & Sustainability

A second theme arising from the pilot study data involved the clear responsibility for feedback practices assigned to faculty. When students have been positioned as passive recipients of feedback provision, it is usually in tandem with a responsibility of giving feedback assigned to faculty.

The first three institutional documents indicate the responsibility of feedback lies with faculty. Document 1 asserts: "These recordings will be made available to students enrolled in the recorded class section so that you can view the personalized feedback written by your instructor and later review the class discussion" (Document 1).

As discussed above under the context of students in active feedback roles, Document 1 does include reference to students giving and receiving peer feedback when it has been designed into an assessment, but the remaining three instances place responsibility for feedback on faculty. This viewpoint is reiterated in Document 2: "Frequent interaction with at-risk student advisees to discuss ways to move forward and provide feedback to the Academic Advisors regarding specific student cases" (Document 2, p. 65).

In Document 2, students are responsible for giving feedback when it concerns ways to improve the University, as already discussed under student rights and using e-suggestion services to provide feedback.

When feedback concerns services or the administration of higher education, responsibility is more dispersed. Academic support services are twice mentioned as responsible for feedback, including "...guidance to students on how to achieve their desired academic goals" (Document 3, p.17). Likewise, faculty advisors are responsible for a number of duties, including "frequent interaction with at-risk student advisees to discuss ways to move forward, and provide feedback to the Academic Advisors regarding specific student cases." (p.17). The student rights and responsibilities section, also found in Document 2 includes: "b. Students have the right to receive academic and non-academic support as required in line with standard University policies and procedures." (Document 3, p. 20).

Document 3 includes a subsection that outlines the faculty duty of feedback provision in the following excerpt:

Members of the faculty are readily available to assist students in their academic work outside of regular classroom and laboratory hours. Course syllabi contain a listing of times when faculty members are normally available for meetings with students. To arrange a meeting outside of the posted office hours, students contact the faculty member directly. (Document 3, p. 18).

This excerpt presents the guidelines through which the institution regulates faculty availability to meet with students.

The fourth document (the external provider's manifesto) demonstrates that the responsibility for feedback is primarily placed on faculty, with 35% (n=37) of feedback instances

coded in this manner. This responsibility is frequently intensified by qualifying the type of feedback faculty are expected to provide. Examples include phrases such as “regular feedback,” “extensive feedback,” “actionable feedback,” “meaningful and useful feedback,” and “daily formative feedback” (Document 4). The qualifiers delineate the frequency, amount, purpose, and quality of feedback provision expected of faculty.

Like Document 3, when feedback responsibility falls to students or other academic and administrative support staff, it is not concerned with course-specific feedback on performance, but on broader long-term academic goals advice or administrative procedures.

Technocratic Feedback Practices

The peer coding conducted by an external reviewer played a crucial role in identifying the third theme, which situates feedback within the broader teaching and learning context of the case. In this context, feedback was framed as a mechanism for addressing higher education challenges through a technocratic approach. This framing is evident in three instances within the institutional documents. First, feedback is positioned as a tool for ensuring quality control, such as in the statement: "Students have the right to offer suggestions or to provide constructive feedback on ways to improve the University through appropriate, authorized University channels" (Document 2, p. 15, and Document 3, p. 20). This excerpt appears in both the student handbook and the course catalog, where the right to offer constructive criticism is listed as the fourth item under student rights and responsibilities.

Another dimension of this theme is the portrayal of feedback as data. This is particularly evident in Document 4 (the manifesto), where feedback was referred to as data in 28 instances (27%). For example, the document states:

In our effort to create a class that surpassed the learning outcomes associated with a traditional seminar classroom, we explored how technology could be used to facilitate intimate conversations between students and professors, exploit the wealth of material online, enhance collaboration between students in class, and record every class so that the information could be used as a source of feedback for both students and faculty.

(Document 4, pp. 203-4)

In this excerpt, feedback is positioned as an ongoing data stream, with the recorded class sessions themselves acting as a source of feedback. This suggests that feedback is not limited to direct interactions but extends to any digital material that can be revisited and analyzed by both students and faculty.

Peer Coding Data

The peer coding conducted by an external reviewer provided an additional perspective on the data, leading to the generation of 31 codes, which were later collapsed into 21 under three main categories: neoliberalism in education, scientism, and ethos. The codes and their subsequent categories are presented in **Table A.3**, below.

Peer coding categories

Appendix Table A.3

Neoliberalism	Scientism	Ethos
[passive] knowledge	[emotional] relevance	Analogy
consumers		
Banking model	Binaries	Cultural disconnect
Corporate	Distinguishing representation	Ethos

Deficit	Knowledge as subjective	Justification
Knowledge consumers	Learning a ‘science’	Nebulous pedagogy
Value in the quantitative	Proposed professional development	Outdated references
Value judgment	Relevance	Outdated research
	Scripted / scripted teaching	Questionable ethos
	Teaching critique	Relevance
	Teaching as performative	Stereotype
	Teaching as subjective	Teaching critique
	Value in the quantitative	Value in the quantitative
		Value judgment

These categories contributed to framing feedback within a technocratic approach to higher education. For example, under neoliberalism, Document 4 was coded as positioning educational practices, including feedback, within a consumer banking model, as seen in the statement, "We've learned a tremendous amount about how humans process and store information, and that knowledge can be used systematically in education to help students master the material they are taught." (Document 4, p. 149). This excerpt reflects the transactional nature of learning, with students positioned as passive knowledge consumers.

In the category of scientism, teaching is portrayed as a science, with feedback framed as a systematic tool for improving educational outcomes, as seen in the following example: "Oddly, although the science of learning matured decades ago, it is rarely used to facilitate teaching" (Document 4, p. 149). This example underscores the prescriptive, standardized approach to pedagogy.

Finally, the ethos category critiqued the rhetorical strategies used in the manifesto to justify the prescribed curriculum. For example, phrases like “To my knowledge, [External Provider] is the only institution to use the science of learning systematically in all aspects of the curriculum” were coded as “questionable ethos,” highlighting doubts about the validity of the claims being made.

These insights, drawn from the peer coding, deepened the analysis and helped identify how feedback is embedded within broader institutional, philosophical, and technocratic frameworks. The initial codes, built on in vivo coding and a socioconstructivist analytical lens, were enhanced through the round of peer coding, which ultimately led to the decision to adopt a wider analysis through inclusion of a secondary analytical model of sociomaterialism.

This shift prompted a concomitant shift in the research questions, which eventually became:

Research Question: How sustainable and effective are the feedback practices of the general education program?

Sub-research questions:

- 2) How do these feedback practices align with socioconstructivist principles of teaching and learning?
- 3) How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices?

Appendix B - Faculty Interview Protocol

Interview Protocol - Research Questions

Hi, my name is Jaime Buchanan. I am conducting a study on the place of feedback within the general education program. This study is part of the doctoral dissertation. You have been invited to participate in an interview because you have taught on the general education program. I would like to ask you some questions about your experiences with feedback practices.

Your participation is voluntary, and your responses will remain confidential. If at any time you decide you no longer want to participate, you may withdraw from the study and your data will be excluded from the analysis. If you wish to stop the interview at any time, please let me know and I will stop the recording and the interview immediately.

I will use a pseudonym to protect your identity. Before we begin, could you please choose a pseudonym that I can use to associate with any data you provide?

Do you agree to be interviewed about your experiences with feedback practices in this program? This interview will be recorded. Do you agree to be recorded? When your interview is transcribed, I will send you a copy of the transcript so you can confirm or modify any responses.

Appendix Table B.1 Interview Questions

Research Questions	Interview Questions
	1. What do you teach? 2. What's your position in the college? 3. How long have you been doing it? 4. How long have you been teaching in the college? 5. How would you define feedback?
How do faculty negotiate feedback processes within this context?	1. What kinds of feedback do you give? 2. Thinking about your feedback practices in this program's context and if you taught on a different program, how do they compare? 3. Could you tell me a little bit about your feedback practices? Why do you have them?

(Individual practices and experiences)

4. How do you approach the weekly graded coursework?
5. How do you approach the feedback expectations for assignments?
6. Have you faced any challenges with the weekly grading and feedback expectations?
7. What is the benefit for students of receiving this kind of feedback? Any drawbacks?
8. How do you approach [LMS] feedback? Is this different from how you approach feedback in your face-to-face labs?
9. How much are you able to change feedback practices to suit your teaching style and your learners' needs?

How does the institution frame faculty roles within their conceptualization of feedback practices?

1. Where are you expected to give feedback?
2. How are you expected to give feedback?
3. When are you expected to give feedback?
4. How frequently are you expected to give feedback?
5. Whose responsibility is feedback, according to your understanding of it in this program?
6. How significant is feedback in terms of your role?
7. What kind of feedback expectations have you received from line managers?

(Questions about workload and responsibility)

How does the gen-ed curriculum and pedagogy situate feedback within their program?

8. How was the role of feedback and evaluation framed in your training for this position?
9. What support and guidance have you received in terms of your feedback giving processes?
10. What expectations of feedback giving in classes delivered on the LMS have you been given through your program-related training?
11. How does [LMS] influence how you give feedback?

(External provider/ principles / beliefs about education and feedback)

How does the institution frame feedback practices?

12. What expectations about feedback do you get from your students?
13. Tell me a bit about your perception of what's expected in terms of giving feedback at the university.
14. Where would you say those expectations are coming from, an institution-wide level or at a college or

(Alignment with college
and overall institution)

department level?

15. Have you received any guidelines about giving feedback on this program?
16. How have you learned to give feedback in this program?
17. How does this compare with where you have worked in the past (if relevant)?

Do you have any other comments to add?

Are there any questions I should have asked that I didn't?

Appendix C - Object Interview Protocol

Interview with [LMS name] Date: 041024

How does [LMS name] facilitate feedback?

Appendix Table C.1 Feedback During Class Object Interview Questions

Question	Technology enables	Underlying Assumptions
What opportunities for feedback are afforded during class?	- Polls - Verbal - Reaction buttons - Annotation on screen - Write in the chat box - Placement on stage? - Announcements during breakouts - Surveillance during breakouts (listening in) - Students can ask for help during breakouts (hand raise)	Feedback is dialogic Feedback is multimodal Feedback is timely Feedback is subjective and specific Feedback is surveillance?
What opportunities for feedback are constrained during class?	- Co-presence - Asides (everything is centered and staged for everybody to focus on) - Nonverbal / paralinguistic - Chats have no notifications - Chats are public-only	Everything is for everybody all the time – Feedback is public.
How does your interface shape feedback practices?	- Verbal is prioritized and highlighted/reinforced visually (stage) - Emojis are also prioritized - Multitasking is required during plenary activities - Feedback is more dialogic when breakouts as students unmuted	Dialogic feedback Feedback is public. Feedback is visual.
What do you imply that feedback is during class?	- Feedback is verbal and visual	
Who acts in feedback events during class?	- Instructor has most control but	Feedback is active.

	- Students have agency during lessons - Peer feedback is possible	
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Appendix Table C.2 Feedback Outside Class Object Interview

Question	Technology enables	Underlying Assumptions
What opportunities for feedback are afforded outside class?	- Written text box - Rubric grade - Inline comments and general comments	Feedback is written. Feedback is post-facto. Feedback is evaluation.
What opportunities for feedback are constrained outside of class?	- Multimodal feedback - Discipline-specific feedback - Student-driven feedback	Feedback is transmitted.
How does your interface shape feedback practices?	- Restrictions in viewing and the textbox size. - LOs are pre-determined - Rubric is built-in and pre-determined. - Grades: the points are pre-determined and how many grades can be given is also regulated/ determined.	Feedback is written. Feedback is evaluation. Feedback is criterion-referenced. Feedback is particular and holistic.
What do you imply that feedback is?	- Feedback is evaluation - Feedback is instructor-driven - Feedback is evaluation - Feedback is particularized	
Who acts in feedback events?	- Instructor has the full onus and responsibility. - [LMS name] / the grading policy act to determine how - The grading policy acts to determine what and how much	Feedback is transmission. Feedback is evaluation. Feedback is systematic.

Appendix D - Document List Summary

Pilot Study Document List

1. General Education Program Syllabus
2. Student Handbook (2022)
3. Institution Course Catalog (2023)
4. External Provider Manifesto
5. Pilot Study Document Analysis Data
6. In Vivo Code List and Word Cloud
7. Peer Coding Codes
8. Codebook

Course-within-a-Semester Document List

1. Composition Course Revision Document Spring 2024
2. Composition Course Faculty Review Summary Spring 2024
3. Composition Course Post-Lesson Review Spring 2024
4. Statistics Course Faculty Review Summary Spring 2024
5. General Education Grading Policy Document

Research Site Document List

1. Gulf University Website Article Advertising External Partnership (2021a)
2. Gulf University Factbook 2022-23 (2023)

Appendix E - Ethical Approval Letter



TO: J. Spencer Clark
Curriculum and Instruction
Manhattan, KS 66506

Proposal Number IRB-12196

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 05/23/2024

RE: Approval of Proposal Entitled, "Investigating Situated Feedback Practices within the Interdisciplinary Gen-Ed Curriculum."

The Committee on Research Involving Human Subjects has reviewed your proposal and has granted full approval. This proposal is **approved for three years from the date of this correspondence.**

APPROVAL DATE: 05/16/2024

EXPIRATION DATE: 05/15/2027

In giving its approval, the Committee has determined that:

No more than minimal risk to subjects

This approval applies only to the proposal currently on file as written. Any change or modification affecting human subjects must be approved by the IRB prior to implementation. All approved proposals are subject to continuing review, which may include the examination of records connected with the project. Announced post-approval monitoring may be performed during the course of this approval period by URCO staff. Injuries, unanticipated problems or adverse events involving risk to subjects or to others must be reported immediately to the Chair of the IRB and / or the URCO.

Electronically signed by Lisa Rubin on 05/23/2024 4:59 PM ET

TO: Shabina Kavimandan
Curriculum and Instruction

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 09/20/2024

RE: Proposal #IRB-12196, entitled "Investigating Situated Feedback Practices within the Interdisciplinary Gen-Ed Curriculum."

MODIFICATION OF IRB PROTOCOL #IRB-12196, ENTITLED, "Investigating Situated Feedback Practices within the Interdisciplinary Gen-Ed Curriculum"

EXPIRATION DATE: 05/15/2027

The Committee on Research Involving Human Subjects (IRB) has reviewed and approved the request identified above as a modification of a previously approved protocol. **Please note that the original expiration remains the same.**

All approved IRB protocols are subject to continuing review at least annually, which may include the examination of records connected with the project. Announced in-progress reviews may also be performed during the course of this approval period by a member of the University Research Compliance Office staff. Unanticipated adverse events involving risk to subjects or to others must be reported immediately to the Chair of the IRB, and / or the URCO

It is important that your human subjects activity is consistent with submissions to funding / contract entities. It is your responsibility to initiate notification procedures to any funding / contract entity of any changes in your activity that affects the use of human subjects.

Electronically signed by Lisa Rubin on 09/20/2024 10:57 AM ET

Appendix F - Analytical Memo Log

Appendix Table F.1 Analytical Memo Log Summary

Memo & Focus	Date	Key Takeaways
1: Student Handbook	26/9/23	Feedback as something given and received, usually from the expert with control; paternalistic portrayal of feedback and education more broadly
2: Course Catalog	5/10/23	Self-reflective questioning (Saldaña, 2021): investigating people and what they are doing during feedback practices: students as passive recipients of feedback Hints of location and absence of feedback Plan to review ToC of various docs to investigate locus of feedback within broader context
3: Where Feedback IS and ISN'T (post-catalog)	14/10/23	This memo picks up on the thread from the reflective memoing practice previous. It looks at where feedback is not mentioned, particularly within course descriptions and learning outcomes as well as how it is framed as a product or thing to be delivered or whether it is a process.
4: Building the Intentional University	26/10/23	During the coding of the external provider's manifesto, this memo focuses on the positionality of feedback and how this is expressed within the codes. The memo picks up on the problem of investigator interpretation, as I critically reflect on the extent to which I interpret how feedback as been construed, particularly through the lens of the onus of feedback provision. I struggle with balancing bias and wisdom gained from over fifteen years of contextual experience. A concept of 'orphaned feedback' comes up – feedback without a clear designated responsible party.
5: Peer Coding	3/11/23	This memo reflected on the impact of the peer coding and review process. It details the work of collapsing individual codes into themes across the sample dataset. The codes, while

		not focused on feedback, provide an important examination of the wider educational context and the assumptions and values inherent in how it is construed in the manifesto. It gets at how education is viewed and conceptualized, which has important implications for feedback: faculty roles are no longer those of experts but as facilitators whose role is to manipulate feedback ‘code’ ala computer programmers in order to generate the desired output.
6: Data Collection and Analysis	26/10/23 3/11/23	This document provides a log of actions taken throughout the pilot study and document analysis. It lists the processes and strategies incorporated throughout this round of data analysis.
7: Post Faculty Interview 2	10/06/24	This document reflects on the portrayal of feedback provision as a chore and a task that requires managing and planning as well as the extent to which faculty work to mitigate the volume and the constraints. The theme of modality is focused on, which was reiterated in previous interview. Another takeaway from the interview is that feedback is evaluative and something faculty need to be trained to do and students need to be trained to act on.
8: Chapter 5 BtIU	10/06/24	This reflection occurs during the iterative reading and rereading of theory and the external provider’s manifesto. The use of two theorists (McLuhan and Norman) to arrive at markedly different conclusions is highlighted: that the external provider and sociomaterial theorists have read the same theories but arrived at different endpoints. This is noteworthy especially in the divergent uses of the term “assemblages” – in chapter 5 to refer to the curricular elements a student engages with, and in Adams & Thompson as the working together of human and non-human actors to produce complex and entangled effects.

9: Post-coding Interview 1	22/07/24	At this point, four interviews have been conducted and the first interview is coded. Several themes are discussed that have appeared across several iterations of engaging with the interview data. Theme 1: lack of student engagement with feedback when the modality is writing. Theme 2: systemic constraints Theme 3: lack of impact on student outcomes or learning
10: Post-coding interview 2	23/07/24	This builds on analytic memo 7, as it is written post-coding of that interview. It reiterates the key themes of ineffectiveness of formative feedback for learning, load for faculty, and the need for training for both faculty and students Two suggestions are raised by the administrator: exploiting face-to-face sessions for more effective feedback opportunities and training students to explicitly and systematically respond to feedback
11: Post-coding interview 3	23/07/24	This memo considers the significance of context and the specificity of situatedness and student population. It relates strongly to the sociocultural framework of this study.
12: Post- interview #4	24/07/24	This memo reflects on the impressions of the fourth interview, with a former course coordinator who distinguishes between feedback for learning and feedback as evaluation practices. She gave a strong impression that this is a key inhibitor to student success and learning. She reiterates the points of modality of feedback as significant for students and that the current system is ‘high intensity and low reward’ for all parties.
13: Post-coding interview #4	29/07/24	The reflection in this memo builds on the one above, and identifies three key themes from the interview: Theme 1: complexity of information exchanged with students

		Theme 2: Need for interpersonal / human connection and interaction Theme 3: Control It raises the possibility of recoding from the perspective of ‘control’. It also provides several salient quotes.
14: Post CC course files coding round 1	10/08/24	This memo reflects on three themes that have emerged after a first round of coding of the faculty course review document for Spring 2024. Theme 1: qualifying feedback Theme 2: quantity in tandem with no impact on student performance Theme 3: feedback entanglement with assessment and control
15: Post interview #5	15/08/24	This memo confirms that this interview reiterates several of the key issues that have been raised in previous interviews around volume and time and the need for mitigating strategies. She also raises the negative impact on student autonomy and that the platform is not inclusive for all learning needs, and that linguistic modality is a further consideration.
16: Post interview #6	15/08/24	This memo summarizes impressions from the fifth interview, with a teacher whose experiences across the program were wholly negative, especially related to feedback practices. This teacher raises the issue of the role and place of the teacher in educational practices more broadly and in feedback practices within this program more specifically, making their link explicit and related.
17: Post coding interview #6	03/09/24	This brief memo summarizes four impressions of the 6th interview: lack of focus on feedback practices, the performativity of the program at-large, the denigration of the role of the teacher, and the curtailing of subjectivity and agency for unclear reasons.

18: Reflection on analytic process	06/09/24	This memo examines the analysis to-date, with a new code or category as a result of interview #7 (teacher agency) which needs to be visited in the previous 6 interviews and identifies the need to address the technology itself via an interview with the platform (LMS) using the heuristic outlined in Adams & Thompson (2014). It also questions coding process as possibly top-down rather than bottom up and lists some administrative tasks needed to maintain audit trail.
19: Post coding interview #7	07/09/24	This memo highlights the resilience of faculty in finding ways to uphold their professionalism in the face of severe restrictions to individual agency. Surveillance comes up and is reiterated across other interviews.. Another theme is the use of technology to find creative solutions to the challenges imposed by the system or the platform.
20: Post listening interview #9	12/09/24	This memo focuses on the cultural capital brought by the interview with the Gulf Arab faculty member. She stresses culturally-specific aspects of feedback practices and how she adapted to and resisted the programmatic expectations. The lack of cultural focus resulted in a new code which will need to be added once recoding of previous interviews begins. The blindspot of this curriculum and its situatedness in an American-normative educational model and materials is raised.
21: Data collection log update	24/07/24 12/09/24	This memo outlines the data collection process undertaken with faculty interviews in the July entry. The update in September includes details of the number of interviews and other aspects of trustworthiness and data management.
22: Post coding interview #10	14/09/24	This memo introduces a final new code from the faculty interviews: program restrictions, which is partially covered in previous interviews under uniformity and feedback as quality control. This interview also raises the issue of AI in changing feedback practices for faculty and students and the importance

		of mitigating practices and providing opportunities for dialogic feedback practices. The possibility of co-presence as a category or theme is raised.
23: Discussion of data	14/09/24	This memo begins to rethink the usefulness of Actor-Network-Theory as an investigative device due to its impact on other aspects. Instead the possibility of using it as a theme in the discussion section (chapter 5) of the dissertation is posed. Several codes that would relate all combine to create the messy situation where ‘feedback for learning becomes feedback as performance and quality control’.
24: Reflection on lack of statistics course cooperation	20/09/24	This memo reflects on the difficulty of securing course-related documents from a math/science general education course, detailing the email exchanges with one of the course coordinators for the statistics course and reflects on how best to proceed, whether to elicit additional faculty interviews from teachers on this team or to leave the lack of access as a limitation of the study.
25: Recoding of Interviews and regrouping of data	21/09/24	This memo reports on shifts to grading and feedback policies made during Fall 2024 semester in the program and the need to maintain a consistent focus on the feedback and grading experiences of the previous semester. As such, additional interviews will not be pursued and the faculty interview dataset concludes with 10 participants. The memo also reflects on the analytic decision to focus on one dataset at a time during analysis in order to maintain full data immersion.
26: Interviewing [LMS]	041024	This analytic memo examines faculty interview data showing technology platforms significantly inhibit preferred feedback practices, with "technology as inhibitor" mentioned 38 times across interviews. Faculty employ "instructor mitigating practices" (50 mentions) including alternative technologies, workarounds, and additional work to conduct feedback

		effectively. Despite high frequency of both codes, only 5 instances show correlation, indicating need for deeper investigation into technology's inhibiting role through an Actor-Network Theory approach examining the platform as an active agent.
27: Revealing another Actor	051024	This memo reflects on the identification of another significant actor shaping feedback practices: the program, in particular as instantiated in grading policies and assessment philosophy. It sets forth an iterative agenda for reviewing prior datasets from the vantage point of program expectations and policies to see what patterns emerge.
28: First Category for Main RQ	101024	This memo outlines the absence or lack revealed by the codes 'feedback for learning' and 'impact on student outcomes'. It reflects on the context when faculty discuss feedback practices they believe result in learning against the feedback practices of the program.
29: Category Organization and Reflection	111024	This memo reflects the thinking and analytic process that led to the structure and categorization of the findings. It starts to articulate some of the patterns emerging from the data regarding the lack of perceived effectiveness of feedback practices.
30: Writing Up Findings	131024	This memo reflects on the difficulty of organizing findings, especially in terms of the desire to use the analytic framework to enhance construct validity and discusses a secondary review of the findings to confirm relevant patterns.
31: Analytical Framework Modifications	171024	This memo reports on the brainstorming and analysis of how to structure and organize the third research question and includes a variety of potential categories in response to this question. Some of these have been struck through.

32: Post Object Interview with [LMS]	071124	This memo details two rounds of data collection analyzing the objective interview with the LMS. The first round (041024) examined the platform's interactions, features, affordances, and micro-practices associated with feedback, producing 7 pages of tabular data. The second round (011124-041124) used a more analytical framework examining three categories: Role and Presence (mapping actors and their actions in feedback networks), Invitational Quality (analyzing how the platform invites instructor-student interaction), and Power Dynamics (examining power distribution and agency in feedback practices). The analysis incorporated visual evidence through screenshots from past courses, relevant anecdotes about platform features and breakdowns, and cross-referenced faculty interview data about the LMS' limitations.
33: Post-coding Interview with Object	101124	This memo reports on the analysis of the coded interview data about the LMS, revealing feedback is primarily conceptualized as evaluation (29 codes), quality control (19), and program restrictions (17). The LMS prioritizes assessment over teaching with no space for personalization or teacher agency, emphasizing data analytics and quantified monitoring. The platform shapes feedback by associating it with post-hoc evaluation and decontextualizing comments, though class sessions are more dialogic with active peer feedback despite design restrictions.
34: Reflection on coding course revision for Spring 2024	191124	This memo analyzes faculty feedback on course revision, revealing that faculty view feedback as problematically tied to grading with unsustainable quantity expectations. Faculty advocate for higher-quality but less frequent feedback, increased delivery flexibility, and shared responsibility through peer feedback practices. It shows that online modality is poorly suited for both writing and statistics courses, with faculty

		expressing needs for better materials, coherent alignment, in-class skill development feedback opportunities, and solutions to academic integrity challenges. The memo concludes that data collection is complete and data saturation has been reached.
35:Post-coding post-lesson feedback	221124	This memo reflects on having coded the feedback teachers on the composition course gave, identifying two main categories of errors in the prescribed lesson plans that interfered with lesson success and inappropriate materials. Both are identified as stemming from the underlying principle of uniformity. The difficulty of designing feedback into the lesson plans is mentioned as meeting differing viewpoints.
36: Discussion brainstorming alternative explanations	091224	This memo considers the attempts to identify alternative explanations, noting that findings seem to triangulate strongly across datasets and key themes. One possible explanation of ‘poor’ teachers who require regulation and monitoring is considered and rejected based on the same dataset.
37:Literature connections for discussion	141224	This analytical memo discusses Biesta's (2007) critique of evidence-based educational practice, highlighting how professional judgment (informed but not replaced by evidence) plays a key role in fields like medicine and education, as also noted by Sadler and Fenwick. It emphasizes how teacher agency is being undermined by policies and frameworks that prioritize data analytics (e.g., metrics like TTT), leading to reluctance among educators, as illustrated by anecdotes from teachers like Kay, Connie, and Dennis. The memo underscores the tension between deprofessionalization in education and the value of professional judgment in assessing quality.
38: Discussion implications	311224	This memo reflects on some of the implications arising from the discussion and findings. It reports that feedback practices are ineffective because they follow a technocratic, closed-

		system model which is at odds with socioconstructivist principles. Education is an open-system for Biesta, which is not reducible to simplistic metrics. The external provider's focus on 'what' as opposed to 'how' students learn exemplifies this, as is recounted in the anecdote regarding the mute student being shamed by the LMS.
39: Discussion conclusions	050125	This memo brainstorms some of the reasons for the conclusions that have been drawn, linking the lack of effective and sustainable feedback practices to a lack of underlying space for socioconstructivist principles of learning. It also reflects on the portrayal of tech as the solution to educational challenges and considers why this portrayal is shortsighted.

Appendix G - Case Study Protocol

(based on Yin 2018 p. 95)

Appendix Table G.1 Case Study Protocol

Section A: Overview of Case Study	Research Questions: 1. How sustainable and effective are the feedback practices of the general education program of the interdisciplinary college? 2. How do these feedback practices align with socioconstructivist principles of learning and teaching? 3. How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices? Hypotheses: 1. Feedback is transmission- and evaluation- focused. 2. Faculty are responsible as agents of feedback. 3. Feedback is transmission- and evaluation- focused. 4. Faculty seek to minimize workloads and find strategies to manage load. Feedback is performative. Propositions: 1. Feedback is an important component of active learning. 2. Feedback is socially situated. 3. Students need to have active roles for feedback to be effective. 4. Feedback should be dialogic. 5. Feedback should come from a wide array of sources and not be limited to the instructor. 6. Feedback should be contextually and culturally appropriate.
Section B: Data Collection Procedures	Contact Persons: [Name redacted] - course files [Name redacted] - ethical clearance Data Collection Plans: Faculty interviews - Recruitment strategies - Equipment and tools necessary - Timeframe of individual interviews and interviewing data collection arm of study Document Analysis- Institutional Documents - Sampling - Equipment and tools necessary - Data analysis

	- Coding strategies - Theoretical framework(s) Course Files Analysis - Course & Semester Focused analysis
Section C: Protocol Questions	See Appendix B
Section D: Tentative Outline for Case Study Report	Main Findings Report Effectiveness Sustainability RQ 2 Findings RQ 3 Findings

Appendix H - Interview Informed Consent Form

Title of Project: Investigating Situated Feedback Practices within the Gen-Ed Curriculum

Project approval date/expiration date: 30th April 2024 – 30th April 2026

[personal and identifiable information redacted]

Date:

Dear Colleague,

I would like to invite you to take part in my research entitled **Investigating Situated Feedback Practices within the Gen-Ed Curriculum**.

Before you decide if you wish to take part, you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Talk to others about the study if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. The purpose of this interview is to understand your experiences with feedback practices within the general education program. You are being asked to participate because you have taught on the general education program and have personal experience of the feedback practices within the program.

Your participation is voluntary, and your responses will remain confidential. If at any time you decide you no longer want to participate, you may withdraw from the study and your data will be excluded from the analysis.

The study seeks to address the following research questions:

1. How sustainable and effective are the feedback practices of the general education program?
2. How do these feedback practices align with socioconstructivist principles of learning and teaching?
3. How do sociomaterial factors affect the sustainability and effectiveness of these feedback practices?

You may stop the interview at any time before submission. I ask that you do not make any reference to yourself or others by name. If any identifying reference is made, it will be anonymized. The data collected through this interview will be used solely for research purposes and to gain insights into how you negotiate feedback practices within the general education

program. Your responses will be treated with strict confidentiality and stored securely. Your personal information will not be collected as part of this interview, and no one will be able to identify you through the interview responses. You will be asked verbally at the beginning of the interview if you consent to being interviewed and being recorded. You will also be asked to provide a pseudonym to be used in any reporting of data.

What participation involves and how to withdraw if you no longer wish to participate

Why have I been invited?

You have been invited because you are a faculty member teaching on the general education program.

Do I have to take part?

No, your participation is entirely voluntary. If you do not wish to take part, then please let me know. If you do not wish to be observed or recorded, please indicate this.

Can I withdraw from the study?

Yes. You can withdraw from the study at any time. If you withdraw, your data will be destroyed and not used.

What will I have to do?

You will be interviewed on Zoom for approximately 30 minutes. You are not required to turn on your camera. You will have to agree to be recorded so that the interview can be transcribed. If you do not agree to be recorded, I will not interview you.

Protecting your data and identity

What will happen to the data?

- ‘Data’ here means the researcher’s notes, survey results, workshop outputs, audio recordings, video recordings, and any email exchanges we may have had. The data may be securely stored for seven years after the successful completion of the study as outlined by the [local regulatory body’s] policy on research with human subjects, and after that any personal data will be destroyed.
- The data will not be shared or used for future research projects, even with identifiers removed.

- Identifiable data (including recordings of your and other participants' voices) on my personal laptop will be encrypted.
- You can request to view the field notes or listen to the audio at the end of the interview and any parts you are unhappy with will be deleted or disregarded from the data. Data may be used in the reporting of the study in any papers or conference presentations. Please note that if your data is used, it will not identify you in any way or means, unless you otherwise indicate your express permission to do so.
- You have the right to request this data is destroyed at any time during the study. The completion of this study is estimated to be by 01/06/2025 although data collection will be complete by 1/12/2024.
- Data will only be accessed by the researcher named above.
- The research may be used for journal articles and conference presentations.

How will my identity be protected?

No names will be used in the research report. Any identifying information about you will be removed from the report.

Who to contact for further information or with any concerns

If you would like further information on this project, the programme within which the research is being conducted or have any concerns about the project, participation or our conduct as a researcher please contact:

[Personally identifiable and site-related information redacted]

Lisa Rubin, Chair,
Committee on Research Involving Human Subjects,
203 Fairchild Hall, Kansas State University, Manhattan, KS 66506,
+1 (785) 532-3224

Brad Woods, Associate Vice President for Research Compliance,
203 Fairchild Hall, Kansas State University, Manhattan, KS 66506,
(785) 532-3224.

Name:

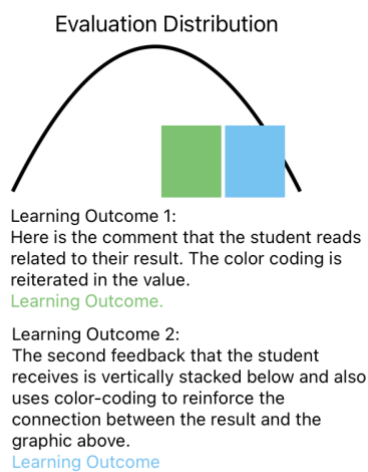
Signature:

Date:

Appendix I - LMS Data Analytics

Due to the proprietary nature of the LMS and the need to protect the anonymity of the site, only researcher-created reproductions of visualizations from the LMS and descriptions will be included.

Appendix Figure I.1 Assignment Evaluation & Feedback



Appendix Figure I.2 Course Analytics

Class Overview

Students' Aggregated Talk Time as %	Instructor's Talk Time as %	Attendance as %
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Class Activity

Emojis as count	Hand raises as count	Chatbox messages as count
Median per student as count	Median per student as count	
Breakout sessions as count in minutes	Poll activities conducted as count	
As percentage of total class time	As average per class session	

Class Engagement

Student's Names listed alphabetically	Talk time as count, Signals as count Color-coded to indicate (un)acceptable metrics	Chats, Talk time history (over 3 sessions) Color-coded to indicate (un)acceptable metrics
Breakout Session Engagement		
Student's Names listed alphabetically	Talk time	Talk Time history (over 3 sessions)

Appendix Figure I.3 Assessment Time-based Color Coding

ASSESSMENT	COMPLETE	DEADLIINE
Assignment 1	15/15	3/11
Assignment 2	13/15	4/1
Assignment 3	0/15	9/5