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The Impact of Feedback on Teacher Professional Growth

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THE IMPACT OF FEEDBACK ON TEACHER PROFESSIONAL GROWTH

by

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A DISSERTATION

Submitted in Partial Fulfillment of the

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Advisory Committee:

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UNIVERSITY OF MAINE GRADUATE SCHOOL LAND ACKNOWLEDGMENT

The University of Maine recognizes that it is located on Marsh Island in the homeland of Penobscot people, where issues of water and territorial rights, and encroachment upon sacred sites, are ongoing. Penobscot homeland is connected to the other Wabanaki Tribal Nations— the Passamaquoddy, Maliseet, and Micmac—through kinship, alliances, and diplomacy. The University also recognizes that the Penobscot Nation and the other Wabanaki Tribal Nations are distinct, sovereign, legal and political entities with their own powers of self-governance and self-determination.

THE IMPACT OF FEEDBACK ON TEACHER PROFESSIONAL GROWTH

by Eric Hutchins

Dissertation Advisor: Dr. Maria Frankland

An abstract of the Dissertation Presented
In Partial Fulfillment of the Requirements for the
Degree of Doctor of Education
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Educational administrators seek effective strategies to support teachers' professional growth in the pursuit of enhancing student performance. This dissertation investigates the transformative potential of formative feedback from students and peers in fostering teacher development and improving student learning outcomes. The current teacher evaluation system, primarily focused on accountability measures, often overlooks opportunities for professional growth. Furthermore, the unprecedented challenges posed by the COVID-19 pandemic have accentuated the need for adaptive instructional approaches to address students' evolving needs. This pre/post quasi-experimental mixed-method study explores the impact of formative feedback on teacher growth. Through surveys and interviews, educator perspectives on the role and value of feedback are examined, highlighting the challenges and opportunities inherent in its implementation. Findings reveal that formative feedback serves as a vital tool for instructional improvement, with student feedback emerging as particularly effective in promoting teacher growth. Teachers who actively seek feedback from students and peers demonstrate a commitment to responsive instruction, enabling them to effectively address their students' diverse needs. The study underscores the reciprocal nature of feedback, where educators' responsiveness to student input leads to instructional adjustments that enhance student learning outcomes. Moreover, the study elucidates the broader implications of formative feedback beyond

the classroom context. It contributes to teacher career satisfaction and retention, fosters culturally responsive teaching practices, and enriches the teacher-student dynamic, fostering trust and open communication. In the context of teacher evaluation and accountability, integrating student and peer feedback into assessment frameworks enhances the fairness and accuracy of evaluations, thereby strengthening the educational system's accountability mechanisms. As education continues to evolve, the integration of formative feedback into professional development practices emerges as a cornerstone of educational excellence. This dissertation offers insights into the transformative potential of feedback in nurturing a culture of continuous improvement and excellence in education.

DEDICATION

This dissertation is dedicated to Amelia Hutchins for her constant support and encouragement.

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I am profoundly grateful to my family, whose unwavering support and encouragement sustained me throughout this journey. Your belief in me never wavered, and I am endlessly thankful for your love and guidance.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION TO THE STUDY

In the last four decades, driven by the United States (U.S.) federal government's adoption of techno-rational methods for enhancing education, school districts have directed their efforts towards enhancing their educational frameworks that serves as a structured blueprint or model that guides teaching and learning practices within educational institutions (Garman, 2020; McLoughlin, 2009; Mette et al., 2020). Techno-rational methods in education often involve using technology and data-driven approaches to improve teaching and learning. These methods measure teacher effectiveness through a rigid, prepackaged system that works more effectively as a human resource tool that provides guidance on hiring, placement, and professional development. Techno-rational methods are not designed as supervision tools to promote educator growth (Mette et al., 2017; Mette & Riegel, 2018). Yet, teacher professional growth is essential for improving teacher practices, enhancing student learning, adapting to educational changes, staying informed of pedagogical trends and job satisfaction (Darling-Hammond et al., 2017).

Teacher evaluation and supervision are distinct yet interconnected processes within the educational landscape. Teacher evaluation typically involves assessing a teacher's performance against predetermined standards or criteria, often utilizing the techno-rational method. This method employs systematic and objective measures to gauge teaching effectiveness. Evaluation occurs periodically and results in formal feedback or ratings regarding a teacher's performance in the classroom. Teacher *supervision* encompasses ongoing support, guidance, and mentoring provided to teachers to enhance their instructional practices. It involves direct observation, coaching, and collaborative discussions aimed at continuous improvement (Glanz & Hazi, 2019).

For decades the conflation of evaluation and supervision has unsuccessfully blended accountability measures and teacher learning (Glanz & Hazi, 2019; Hazi, 2020; Mette et al., 2020). Administrators are required to be both evaluators and supervisors. However, because of time restraints and federal mandates, they have emphasized the human-resource-based evaluation process (Marshall, 2013; Mette et al., 2017; Ryan & Gottfried, 2012). While measuring and documenting teacher goals and performance are essential for quality and accountability, this does little to foster educator growth (Hazi & Rucinski, 2009).

An evaluative-centric approach to professional growth tends to focus excessively on quantifiable metrics such as grades, performance ratings, or standardized test scores, potentially overlooking the nuances and complexities of individual development (Hazi, 2020). Moreover, an overreliance on evaluation may overshadow the importance of holistic skill development and personal growth, reducing professional development to a checkbox exercise rather than a transformative journey (Mette et al., 2017). Additionally, it can foster a fixed mindset, where individuals prioritize achieving predefined benchmarks, making them resistant to change in professional growth frameworks that embrace continuous learning and adaptation (Glanz, 2021). When formative feedback, aimed at improvement and growth, is overlapped by summative high-stakes evaluation, the focus shifts from learning to achieving a particular outcome, hindering the iterative process necessary for true development (Enright & Wieczorek, 2021). Lastly, the power dynamics between principals and teachers often hinder their collaborative engagement, as their conflicting goals in supervision and evaluation impede mutual understanding and participation in democratic instructional supervision and professional learning practices, crucial for enhancing professional development (Enright & Wieczorek, 2021).

These challenges play out in my role as a department chair in a municipal high school. I attempt to provide teachers with formative feedback as their supervisor while also meeting district accountability requirements as their evaluator. Balancing the responsibilities of offering formative feedback as a department chair and meeting district accountability standards presents challenges, especially considering time constraints. However, as a teacher, I recognize the significance of the evaluation system for district objectives. Despite this, I've discovered that alternative approaches, such as actively listening to my students, have played a pivotal role in enhancing my professional development. This study looks at these alternative sources of feedback and how they can benefit other teachers.

Students across the country are coming out of the COVID-19 pandemic academically behind where they should be (Goldhaber et al., 2022). Recognizing the individual needs of our students and adapting our teaching methods accordingly is a key factor in preparing them for success in the global context (Floden et al., 2020). This acknowledgment sets the foundation for the exploration in this chapter, where I delve into the intricacies of the teacher evaluation process within the State of Maine. The primary objectives of this chapter are threefold: firstly, to provide a comprehensive understanding of the existing teacher evaluation framework in Maine; secondly, to shed light on the current challenges and shortcomings within this evaluation process; and thirdly, to emphasize the significance of this study in contributing to the overall improvement and progression of education.

Background

Teacher evaluations are designed to measure accountability and examine goal completion (a summative process) while at the same time encouraging professional growth by setting new

instructional goals (a formative process). Maine's PEPG (Performance Evaluation and Professional Growth) system is a comprehensive framework designed to assess and support educators' development. Emphasizing continuous improvement, it integrates multiple measures, including classroom observations, student learning outcomes, and professional practice indicators. The system aims to provide meaningful feedback for educators, facilitating their growth and enhancing instructional practices. Maine's PEPG system aligns with state standards, fostering a culture of ongoing learning and reflection among educators, ultimately benefiting student achievement and the overall quality of education in the state.

The Maine Department of Education (MDOE; 2014) has developed an evaluation cycle of three years to strike a balance between providing teachers with enough time for meaningful growth and development while ensuring regular assessment and support. It allows for a comprehensive review of a teacher's performance, giving them sufficient opportunity to demonstrate growth and improvement in their instructional practices. Additionally, a three-year cycle reduces the administrative burden of conducting evaluations annually while still ensuring a consistent and ongoing assessment of teacher effectiveness. The three-year timeframe allows two years for self-reflection, creating a growth plan, and gathering evidence of growth, while the third year provides a review of all evaluative evidence (Figure 1).

Figure 1

T-PEPG Process in the State of Maine (2014 - 2023)
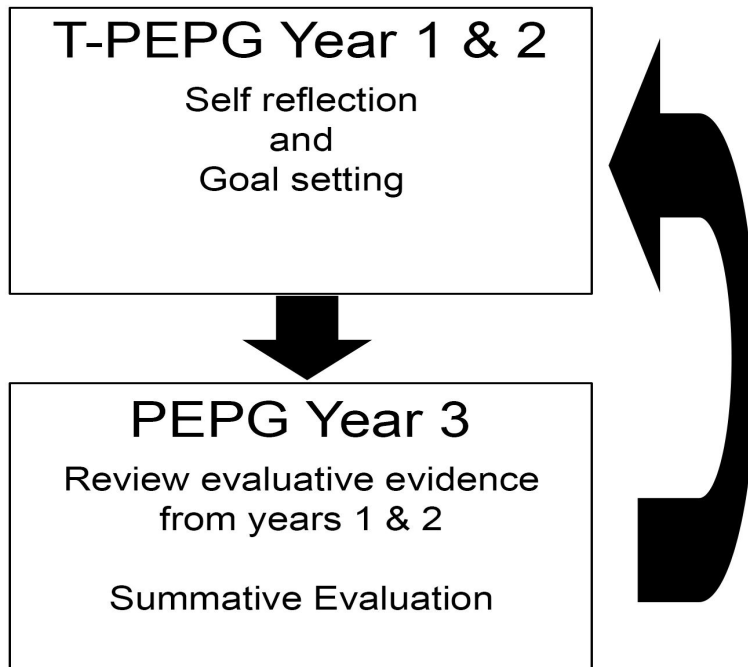
For the evaluation model to be effective in promoting learning, it needs to balance the demands of organizations and the needs of the educator to feel supported in their individual growth and development (Ford & Hewitt, 2020).

Due to shifts in student demographics, evolving school board initiatives, and state mandates, educational administrators face time constraints. This pressure for efficiency poses challenges in tailoring educational experiences and hampers the creation of comprehensive evaluation methods that foster formative and reflective learning experiences beneficial to teachers (Pollock et al., 2015). The one-size-fits-all approach becomes increasingly untenable as student populations become more varied in terms of cultural backgrounds, learning styles, and individual needs (Hunter-Doniger, 2013). Tailoring educational experiences is essential for creating inclusive and effective learning environments.

In the State of Maine, school administrative units are required to seek approval from the Department of Education for their chosen teacher evaluation design (Figure 2). According to the MDOE (2014b) approximately 50% opt for the Marzano model, known for its holistic approach that extends beyond relying solely on student test scores (Marzano et al., 2011). Marshall serves as the evaluation model for 20% of districts, selected for its incorporation of teacher rubrics and mini-observations (Marshall, 2013). Meanwhile, 10% of districts prefer the Danielson evaluation model, emphasizing reflective practice and continuous professional development (Danielson, 2007). The remaining 19% of districts have implemented a locally designed or other state-approved model. Despite this diversity in models, teachers express concerns regarding the effectiveness of the evaluation process. They feel that the feedback provided does not effectively promote professional growth, critique the organization of their chosen evaluation model, and frequently perceive the overall evaluation process as inconsistent and ineffective (Adams et al., 2018).

Figure 2

T–PEPG Model Choice by School District in Maine (2014 - 2023)
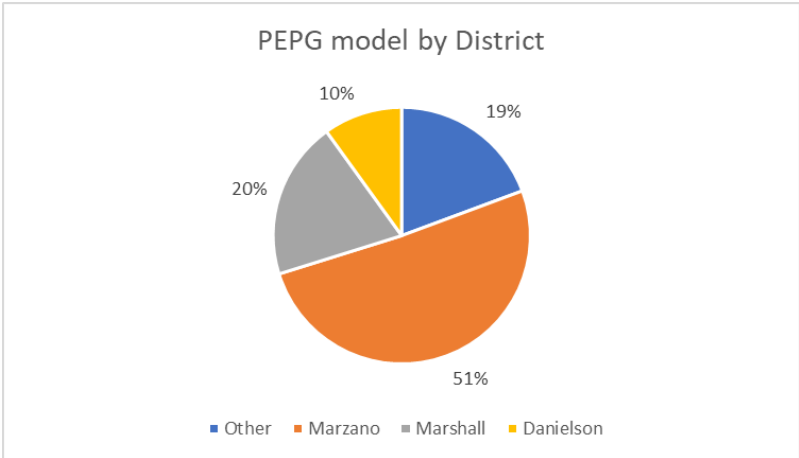
Professional development often prioritizes efficiency over addressing the specific professional needs of teachers. Nieto (2009) argues that professional development is too often designed to teach large groups of captive educators a required topic that is inadequate and irrelevant to encourage teacher or student growth. As such, educators are left in a state of stasis caused by the lack of instruction support targeted to help individual classes and students. Supervisors use a flawed evaluation system that documents the same evidence every three years, thus not encouraging professional growth in teachers or instruction. The education profession needs a culture of growth within the school community that fosters the instructional changes needed to improve teachers' practice and student success.

Problem Statement

Educator professional growth is an integral part of educator learning. More than just learning something new, it is the application of new skills and knowledge to improve student performance (Hadar & Brody, 2016; Peine, 2007). Continued educator learning benefits students and allows for continual system-wide improvements, adjustments for shifts in student population, changing use of technology in the classroom, and responsiveness to frequently changing standards (Calvert, 2016). The complex demands of modern education requires teachers to continue learning throughout their careers (Slepkov, 2008). Because educators' skill and knowledge influence student learning, professional growth and development are vital to students' success (Darling-Hammond, 1998; Hadar & Brody, 2016; Pharis et al., 2019).

Many administrators use classroom observations as a way to determine the effectiveness of teachers and determine professional growth paths based on their experience. Too often, feedback is caught up in the evaluation of performance rather than teacher development

(Steinberg & Garrett, 2016). Similar instruments for summative and formative feedback can conflate the process by blurring the distinct purposes of each type of assessment. When the same instruments are used for both summative and formative purposes, it becomes challenging to differentiate between assessment intended to evaluate final achievement and assessment designed to inform ongoing learning and improvement (Black & Wiliam, 2018). This conflation can lead to confusion among students and educators regarding the goals and expectations of assessment activities. Complication arises from evaluation and feedback instruments that share similarities, further conflating the assessment process. They typically assess generic teaching behaviors, judged out of context and devoid of information about the lesson's specific circumstances (Hazi, 2022). Adams et al. (2018) state that "teaching is an exquisite art" (p.4) and that formative evaluation should be emphasized to improve instructional skills over a career. In contrast, summative evaluation targets accountability and does not encourage growth. The lack of administrator content specific knowledge provides overly generic feedback that is not specific to their students and lesson (Hazi, 2020). School administrators should develop methods to collect feedback that relates to the needs of the local community and transfer those into instructional and school growth (Wieczorek et al., 2022).

  Goldhaber et al. (2022) asserts that the COVID-19 pandemic has had unprecedented effects on students, particularly in terms of academic deficiencies. The significance of addressing these academic setbacks has intensified in the aftermath of the pandemic. The disruptions induced by the pandemic have adversely influenced students' learning experiences, resulting in academic gaps (Goldhaber et al., 2022). Recognizing the specific needs and challenges faced by individual students is imperative for educators to offer tailored support and establish effective

learning environments. In this context, comprehensive evaluation and supervision play crucial roles in identifying and addressing the evolving educational needs of students.

Supervision and evaluation in education play pivotal roles in supporting educators' professional growth and improving teaching practices. Integration of feedback from students into the supervision and evaluation processes can significantly enhance the effectiveness of the PEPG model. Receiving and evaluating instructional feedback from educated peers provides insight into the strengths and weaknesses a teacher can build on. While there is research on student and peer feedback in post-secondary education, there is extremely limited research around these processes associated with public school education at the secondary level. This study focused on the effectiveness of student and peer feedback in a public secondary school, and the role that feedback has in developing educators' professional growth.

Purpose Statement

This study investigated an extended perspective on formative feedback and its correlation with the professional development of teachers. Employing a mixed-methods approach, two distinct groups of teachers were juxtaposed: a control group and a group that received formative feedback from both students and peers. The assessment of professional growth in these groups revealed noteworthy distinctions. The inclusion of feedback from both teachers and students enhances the comprehensiveness of the evaluation process, offering a more representative portrayal of educators' daily performance. This approach transcends the constraints associated with sporadic observations, providing a holistic insight into teaching practices, classroom dynamics, and their impact on student learning.

I posit that feedback provided to teachers by their peers may be more beneficial, given their substantial content knowledge compared to administrators. While administrators receive training in leadership, their expertise in specific content areas may not match that of teachers in the field. If administrators do not have adequate content knowledge they cannot effectively communicate feedback that is content specific that is vital in teacher reflection and growth (Enright & Wieczorek, 2021). Administrators, however, play a crucial role as instructional leaders, guiding and supporting teachers in their professional development. Feedback collected from students adds an additional layer of insight into the current needs of students, especially pertinent as we navigate post-pandemic challenges where student needs may have evolved over the past three years. Participating teachers underwent personalized professional development, emphasizing the utilization of feedback and the application of knowledge to improve their skills. This approach aligns with the principles outlined in the Architecture of Accomplished Teaching (2016) developed by the National Board for Professional Teaching Standards, acknowledging the collaborative nature of instructional leadership between teachers and administrators.

Teachers in the experimental group were able to explicitly articulate how they have leveraged feedback for professional improvement and pinpoint growth areas, aligning with the standards utilized by their supervisors in the MDOE Teacher Performance Evaluation and Professional Growth Model (T-PEPG) (2014a). The five core propositions from the State of Maine are:

1. Teachers are committed to students and their learning

2. Teachers know the subjects they teach and how to teach those subjects to students

3. Teachers are responsible for managing and monitoring student learning

4. Teachers think systematically about their practice and learn from experience

5. Teachers are members of learning communities

This holistic approach to feedback not only enhances professional growth but also aligns with a comprehensive design that reinforces the multifaceted roles and responsibilities of educators.

Research Questions

Through my research I investigated how valuable and impactful formative feedback, gathered from students and peers, can be in educational settings. By assessing the efficacy of such feedback, I seek to understand its potential in enhancing learning outcomes and improving the educational experience. Through this study I will be able to answer the following essential research questions:

1. To what extent, if at all, does cyclical formative feedback from students and peers increase teachers' understanding of their needs for instructional improvement?

2. To what extent, if at all, does cyclical formative feedback from students and peers improve the current summative evaluation and professional growth process for teachers?

My hypothesis is that teachers who receive formative feedback will perceive instructional and professional growth, while teachers in the control group will experience no change. I also hypothesize that formative feedback will be perceived as more beneficial to professional growth than summative feedback and the evaluation process. The assessment of these aspects will be conducted via staff surveys encompassing constructs related to formative feedback, summative feedback, and evaluation. The data analysis will entail comparing two separate groups of teachers and conducting a longitudinal comparison within the same group at various points throughout the semester. Specifically, one group of teachers, referred to as the experimental

group, will receive formative feedback, while the other group, known as the control group, will not receive any such feedback. Additionally, student feedback will undergo analysis through a comparison of class groups at the commencement and conclusion of the semester. This comprehensive evaluation framework aims to provide a nuanced understanding of the impact of feedback mechanisms on teacher performance and student experiences over the course of the semester.

Professional growth is critical for teachers to meet the evolving needs of the students and school community. I posit that the current evaluation system does not foster the development of the teacher in a way that respects the voice of the students and the needs of the community. Reflecting on the feedback from stakeholders will be more meaningful and impactful than the evaluation cycle alone because it connects more directly with those being instructed.

Conceptual Framework

The conceptual framework for this study centers around the techno-rational evaluation measurements from the state of Maine Teacher Performance Evaluation and Professional Growth Model (T-PEPG; 2014a) The five core propositions from the State of Maine are:

1. Teachers are committed to students and their learning

2. Teachers know the subjects they teach and how to teach those subjects to students

3. Teachers are responsible for managing and monitoring student learning

4. Teachers think systematically about their practice and learn from experience

5. Teachers are members of learning communities

The heart of this framework consists of a concise feedback loop facilitated by supervisors. This short cycle is intentionally designed to be brief, ensuring timely and actionable insights for

teachers. The feedback provided during this cycle is not only evaluative but also forward-looking, presenting specific professional goals intended to guide the teacher's growth as an instructor. Beyond the short cycle, the framework expands its scope to the broader educational ecosystem by examining the intricate relationships among diverse feedback sources. The area surrounding the center hub encapsulates the interplay between student feedback, peer feedback, self-reflection, student growth, and professional growth. Each of these components contributes to a nuanced understanding of the teacher's effectiveness and development as was evident in the literature. These elements were chosen specifically because my research shows they can have the most significant impact on professional growth.

Incorporating the perspectives of students provides valuable insights into the teacher's impact on the learning experience. Li et al. (2022) underscore the significance of student feedback, highlighting its crucial role in shaping the narrative of effective teaching practices. By soliciting input directly from students, educators gain valuable insights into various aspects of their teaching methods, classroom dynamics, and instructional approaches (Li et al., 2022). Student feedback offers a unique perspective that complements traditional evaluation methods by capturing the direct experiences and perceptions of those most affected by teaching practices (Carless & Boud, 2018). This evidence not only underscores the importance of integrating student perspectives into the evaluation process but also emphasizes the need to prioritize their inclusion to ensure a comprehensive understanding of teaching effectiveness. This evidence highlights the importance of integrating student perspectives into the evaluation process, warranting their inclusion in my conceptual framework of professional growth.

Peer observations and feedback contribute a collaborative dimension to the evaluation process, enriching the overall assessment of teaching effectiveness. Wu and Schunn (2023) emphasize the synergy of diverse viewpoints, highlighting how input from colleagues with varied perspectives enhances the comprehensiveness of evaluation. By leveraging the collective expertise of peers, educators can gain valuable insights into different instructional techniques, classroom management strategies, and approaches to student engagement. Furthermore, peer observations provide opportunities for constructive dialogue and reflective practice (Hattie & Timperley, 2007). Through peer feedback sessions, educators can engage in meaningful discussions about teaching methodologies, curriculum design, and assessment strategies making it an important element for identifying instructional needs.

Acknowledging the importance of introspection, the framework encourages teachers to engage in self-reflection. Darling-Hammond et al. (2017) and Korthagen and Nuijten (2022) highlight the empowering nature of self-reflection, enabling educators to identify strengths, address challenges, and proactively participate in their own professional development. By taking the time to reflect on their experiences, teachers can gain valuable insights into their strengths and areas for growth. Darling-Hammond et al. (2017) emphasize that self-reflection allows educators to critically assess their instructional strategies, pedagogical approaches, and classroom management techniques. This process of introspection enables teachers to identify effective practices that can be replicated and refine those that may need improvement (Mette et al., 2023). Furthermore, self-reflection empowers educators to take ownership of their professional development journey by setting goals, seeking out opportunities for growth, and reflecting on their progress over time (Korthagen & Nuijten, 2022). This emphasis on

introspection underscores its significance in fostering continuous growth and improvement among educators, warranting its integration into the evaluation framework.

Central to effective teaching is the progress and development of students. Dweck (2008) emphasizes the importance of student growth as a key metric in evaluating teaching effectiveness. Furthermore, focusing on student growth in teacher evaluation promotes a learner-centered approach to teaching and learning (Knowles et al., 2005). By emphasizing the progress and development of individual students, educators are encouraged to adopt instructional strategies and interventions that cater to the diverse needs and learning styles of their students (Hazi, 2020). This emphasis on student growth encourages educators to prioritize personalized and differentiated instruction, creating learning experiences that are tailored to the unique strengths, interests, and challenges of each student. This recognition of student growth is an attribute to teacher evaluation and feedback with the ultimate goal of facilitating meaningful learning experiences, warranting its focus within the evaluation framework.

The continuous enhancement of professional skills and knowledge is a cornerstone of effective teaching. Calvert (2016) and Darling-Hammond et al. (2017) highlight professional growth as an integral outcome of the evaluation process, intertwining it with ongoing development initiatives. By continuously refining their skills, expanding their knowledge base, and staying abreast of emerging trends and best practices in education, educators can adapt to the evolving needs of their students and create more engaging and effective learning experiences for all students (Mette et al., 2023). Moreover, integrating professional growth into the framework fosters a culture of continuous improvement within the teaching profession (Enright & Wieczorek, 2021). Darling-Hammond et al. (2017) highlight the importance of providing

educators with ongoing opportunities for learning and development, both during and beyond the formal evaluation process. By embedding professional growth initiatives into the conceptual framework, schools can ensure that their evaluation practices are not just about measuring performance but also about supporting educators with their professional growth.

This framework examines the connections between the reflection and implementation of new instructional strategies providing professional growth and student growth and what outcomes professional growth and student growth can have on each other. This model uses the double loop theory developed by Argyris (1977) and further explored by Lukic (2022) which examines not just actions taken but also the underlying understanding of where growth can be attributed to, fostering a deeper understanding of the learning process shown in the framework.

Nature of the Study

I chose a mixed method study to foster educational change in the use of formative feedback in school systems. The qualitative components of the study will have an impact on teachers and how formative feedback could benefit them. The quantitative elements will provide additional evidence of the benefits of formative feedback to administrators that wield power to make changes. I have utilized a concurrent parallel design (Creswell & Plano Clark, 2018) by collecting and analyzing quantitative and qualitative data concurrently and independently. In this approach, both types of data are collected simultaneously but analyzed separately, with the results being integrated at a later stage. By conducting parallel analysis, I can triangulate findings from quantitative and qualitative data, enhancing the overall validity and reliability of the study (Creswell & Plano Clark, 2018).

The quantitative portion of the study compared a control group and a formative feedback condition group at two different points in the semester. The independent variable in this study was formative feedback from peers and students, while the dependent variable was the teacher's professional growth. All teachers at the study school that are evaluated using the T-PEPG were asked to complete a survey at the beginning and end of the second semester of one school year. Throughout the study period, ten teachers at the school volunteered to be part of the experimental group. In this group, they received formative feedback from both their students and a peer, a practice they had not engaged in previously. On the other hand, the control group consisted of the remaining teachers who did not alter any aspect of how they collected or reflected on formative feedback from students or peers throughout the semester.

The experimental group received formative feedback from their students and from one peer during the study period. In the qualitative phase of the study, teachers in the feedback group were interviewed to better understand the impacts of feedback on their professional growth.

Definitions

Educational Technician: A trained professional who assists teachers in the classroom. They provide instructional support, work with students one-on-one or in small groups, help implement lesson plans, and reinforce learning concepts. Also referred to as an instructional aide or paraprofessional.

Evaluation: Evaluation is a formal process that acts more as a bureaucratic accountability measurement. Evaluation is frequently used in school districts to document teacher performance which can be used when making staffing decisions (Hazi, 2020; Mette et al., 2017).

Formative feedback: Low-stakes opportunities that are used to help improve skills. This emphasizes observation, interactions between students and teachers, teacher goals, and reflections (Garman, 2020; Glanz & Hazi, 2019; Goldhaber et al., 2022; Mette et al., 2017).

Summative feedback: Results of the evaluation of a teacher that looks more at student performance and teacher adherence to school policy (Glanz & Hazi, 2019; Mette et al., 2017).

Supervision: Supervision focuses on teacher improvement through support, reflection, and examination of their teaching to help student learning (Glanz & Hazi, 2019; Mette et al., 2017).

Assumptions

Throughout this study, I assumed that all teachers want to improve their professional growth and instruct in ways that will make their students more successful. I operated under the assumption that all participants, comprising both the two groups of teachers and students, were forthright in offering feedback and expressing their perspectives on the evaluation throughout the study. Although existing research highlights concerns about students' honesty and potential gender bias in feedback (Boring & Ottoboni, 2016; Hoorens et al., 2021), it is essential to note that the current study did not gather specific data to substantiate these concerns. The absence of collected data means there is no empirical evidence supporting the notion that students were inherently dishonest or biased in their feedback. However, it is important to acknowledge the inherent challenge in objectively establishing the level of honesty exhibited by the participants in the study. Every teacher within the experimental group concurred with the provided feedback and did not harbor any suspicions of dishonesty or bias.

Scope and Delimitations

In this study, I examined teachers' use of the feedback they receive from students and colleagues at a single public high school in Maine. The study took place over a five-month period that includes two-quarters of instruction. During this time period, feedback is collected from students and peers. The inclusion of teachers with a diverse range of experience levels in this study holds significance for several reasons. First and foremost, it ensures a more comprehensive understanding of the potential impact of formative feedback across various stages of a teacher's career. New teachers, often in the initial stages of their profession, may respond differently to feedback compared to those with over 30 years of experience who have accumulated extensive pedagogical expertise. Analyzing feedback implementation and its effects across this spectrum allows researchers to identify patterns, trends, and potential nuances in how different experience levels interact with and benefit from formative feedback. Additionally, the diverse range of experience levels contributes to the external validity of the study's findings. Educational contexts are dynamic, and the challenges faced by teachers can vary based on their career stage. By including both new and highly experienced teachers, the study becomes more reflective of the broader teaching population, enhancing the applicability of its outcomes to a wider range of educational settings. The staff experience of the subject school is similar to other public schools (U.S. Department of Education & Institute of Education Sciences, 2023), which may make the findings from this study transferrable to other districts. While this study specifically focuses on the State of Maine Teacher Evaluation system, the formative feedback protocols used can be adapted for any district.

Limitations

This study spanned a five-month duration, occurring in the latter half of the high school

year. Considering the time allocated for teachers to collect and reflect on formative feedback, the

remaining semester time was constrained for exploring varied instructional strategies. Despite all

teachers in the experimental group modifying their instruction based on feedback, the potential

impact on student outcomes might have been more significant over an extended period.

Feedback collection was confined to students enrolled in the specific class chosen by the

experimental group teacher, limiting the generalizability of their responses to the entire student

body. The lack of knowledge about the demographics of the chosen class, while not diminishing

the feedback's value, imposes a constraint on understanding potential variations in student

participation.

Participating students introducing bias based on constructs like grades, attitude, and

likability is acknowledged. To mitigate this, the student feedback form incorporated Likert scale

questions and an open-ended query, allowing specificity about their needs rather than a mere

rating based on likability. The design of the student feedback questions prioritized instructional

and learning aspects over personal preferences for the teacher. To minimize researcher bias, a

triangulation approach involving different data types and member checking of interview

transcripts was implemented. Each data collection instrument was strategically designed to

enhance the validity of others and mitigate potential researcher bias.

The quality of feedback provided to teachers, whether from students or peers, was

discussed with participating teachers after they were provided feedback. While all teachers

expressed agreement with the feedback they received, there was no direct method to verify with

students what their feedback intended to convey. This lack of confirmation opens the possibility of misinterpretation or miscommunication of feedback, which could substantially affect its usefulness and influence teachers' subsequent decisions. The follow-up student survey on instruction could help assess teachers' understanding and interpretation of the feedback they received.

Differences between the two groups of teachers may introduce bias or variation into the study results. Factors such as teaching experience, subject expertise, classroom dynamics, and receptiveness to feedback could vary between groups, potentially influencing how they respond to formative feedback. Ecological constraints within the school environment might inhibit teachers from effectively implementing feedback. Time constraints, resource limitations, or organizational culture may pose barriers to incorporating feedback into instructional practices.

While volunteer bias poses a potential limitation as participants, both teachers and students, self-selected into the study voluntarily. This introduces a skewed sample that may not accurately represent the broader student population. Volunteers might exhibit higher motivation or interest in receiving feedback, potentially overestimating the positive effects of formative feedback. Consequently, the study's outcomes is not generalizable to all students, limiting the broader applicability of the findings in educational settings.

Significance

This study is important to teachers as it has the potential to fill a gap in research on formative feedback in public education, shedding light on the impact of student feedback and underscoring the significance of incorporating student voices in the educational process. It aims to enhance the significance of the current evaluation process, not diminish it. The study will

investigate practices that can complement the traditional evaluation system, offering genuine avenues for teacher professional growth through impactful and relevant feedback. Furthermore, it will highlight the importance of formative feedback from peers and students in an educational setting, aspects often overlooked. This approach opens up opportunities for more stakeholders to receive instructional support, moving away from teachers evaluating their own instruction solely based on the achievements of high-performing students.

Summary

Through this mixed methods study, I explored the impact that feedback has on teachers' professional growth. Where summative feedback is used more as an accountability tool, formative feedback can be used to determine where instructional growth is necessary. This study looks at survey data about different forms of feedback, student feedback, as well as interview data to gather details on how feedback has been used and if it improved their own professional growth. The next chapter explores the evolution of evaluation and supervision, formative vs. summative feedback, and the need for a new system based on current research that exists in relation to my study.

CHAPTER 2: LITERATURE REVIEW

The purpose of the Maine Teacher Performance Evaluation and Professional Growth model (T-PEPG) is to provide a performance evaluation tool and opportunities for teachers to grow and remain skillful educators (Maine Department of Education, 2014a). In this review of the literature, I will examine the functionality and capabilities of teacher evaluation systems and their effects on building professional growth in educators. I will look at the origins of evaluation in schools, the changes that have occurred, the most common evaluation models, the potential correlations with professional growth, and suggestions for improving the system.

I searched the peer-reviewed literature published between 2013 and 2023 using the following keywords: formative feedback, summative feedback, teacher evaluating, student feedback, student voice, teacher professional growth, evaluation, education growth, and instructional growth. Other literature was found using archival searches from what was found through keyword searches, including some landmark works that could not be ignored, including Darling-Hammond (1998), Danielson (2007), Goldhammer (1969), and Black and William (1998).

In this review of the literature, I will explore what the literature indicates has been seen to be effective in improving teacher reflection and what could be improved upon. I will first review traditional approaches to teacher evaluation models, then address the importance of professional growth on the success of schools. Doing so will allow for the critique of the inclusion of formative feedback in the evaluation cycle as well as the most common evaluation challenges and what suggestions have been made to improve them.

Conceptual Framework

My conceptual framework guides the way I address my research questions by defining and structuring the process. At the core of this framework lies a brief feedback loop, driven by supervisors. This supervisor feedback isn't just about evaluation; it's also intended to be forward-thinking, setting specific professional goals to steer the teacher's instructional development. Beyond this central point, the framework includes additional formative feedback channels beyond supervisors. It highlights the dynamic interaction between student and peer feedback in fostering instructional improvement, as well as the significance of reflection and implementation not only for teacher growth but also for student progress. These feedback sources are based on research that underscores the importance of formative feedback.

The framework aligns with the literature on teacher evaluation, professional development, and the symbiotic relationship between instructional strategies, professional growth, and student outcomes. The emphasis on a concise feedback loop and the incorporation of diverse feedback sources resonate with studies emphasizing the importance of timely and constructive feedback in improving teaching practices (Hattie & Timperley, 2007; van den Berg et al., 2006). The incorporation of student feedback and its recognition as a crucial element echo findings that highlight the significance of student voice in shaping effective pedagogical approaches (Brookhart, 2010; Cook-Sather, 2015). Similarly, the collaborative dimension introduced through peer feedback aligns with literature emphasizing the value of a supportive professional community in fostering teacher growth (Ingersoll & Strong, 2011). The framework's encouragement of self-reflection resonates with literature advocating for the role of reflective practices in teacher professional development (Darling-Hammond et al., 2017; Korthagen & Nuijten, 2022). Moreover, the explicit consideration of student and professional growth aligns with the broader educational goals emphasized in the literature (Darling-Hammond, 2013).

The utilization of Argyris's (1977) double-loop theory in examining not only actions but also underlying assumptions connects with research that underscores the importance of reflective thinking and metacognition in the learning process (Knowles et al., 2005; Mezirow, 1991). By weaving together these elements, the conceptual framework presented in this study extends and synthesizes existing literature, providing a comprehensive and nuanced perspective on the intricate dynamics involved in teacher evaluation, professional growth, and student development.

A Sample of Different Approaches to Teacher Evaluation

In the 1700s, teachers were historically seen as servants of the community that hired them and were supervised by clergy because of their advanced degrees and ability to guide biblical studies and evaluate their morality (Shaw, 2016). The 1800s brought more specialized instruction to the classroom and required more meaningful and critical feedback if improved instruction was desired (Marzano et al., 2011). The 1900s grew the concept of the factory or business model of schools (Jewell, 2017), and the sensible structure for evaluation was a more scientific and grade-based system that included limited time to observe instruction and more emphasis on student achievement (Cubberley, 1916; Wetzel, 1929). This structure continued until right after World War II when a shift to evaluations focusing on the teacher as an individual and fostering their skills and growth (Coleman, 1945) was the emphasis until the later part of the century (Marzano et al., 2011).

The 1979 Gallup Poll revealed that the public felt that school systems needed to improve teaching quality over all other areas to receive a high grade (Gallup, 1979). The Reagan administration responded with *A Nation at Risk,* stating that education in the United States was falling behind and would be the economy's downfall if changes were not made, including teacher

accountability (1983). This report brought education into the spotlight for the next few decades, and the nation became focused on improving the education system (Babones, 2015; Kamenetz, 2018). While the government's role in education had previously been primarily opposed, the public voice from *A Nation at Risk* pushed for federal reform on education and teacher accountability (DeBray-Pelot & McGuinn, 2009). *The No Child Left Behind Act of 2001* (NCLB) under the Bush Administration emphasized standards-based education, annual academic progress through standardized testing, strict teacher qualifications, and financially punished schools for not meeting these requirements (Klein, 2015). The Obama Administration established the Race to the Top (RTTT) grant, which awarded states money for enacting educational policies that targeted educator effectiveness, professional development, and feedback (Howell, 2015; Weiss, 2013).

The educational environment that has been created from the past thirty years of federal mandates on test scores and accountability has forced a technological rationality in education that emphasizes the evaluation of standardized tests over the authentic learning of our students, creating an almost robotic educational design (Hazi, 2012; McLoughlin, 2009; Mette & Riegel, 2018). Garman (2020) feared educators are in a constant state of angst created by this technologically driven engine that collects electronic data from assessment test scores and teacher evaluations, further stymying professional growth.

Contrary to the more recent techno-rational approach to assessing teacher ability, clinical supervision (feedback that is considered formative and non-evaluative) has been identified as an effective way to evaluate teachers by emphasizing observations of the wholistic teaching practice by including learning interactions between the student and teacher (Cogan, 1976; Garman, 2020;

Goldhammer, 1969). This process provided more face-to-face time and created more of a

relationship that fostered mutual trust (Krajewski & Anderson, 1980). However, evaluation

practices and policies often intersect with supervision feedback and vary between states and

districts due to inconsistencies in training and development (Close et al., 2020; Mette et al.,

2017). Many of the supervision structures set in place by Goldhammer are conflated with

evaluation practices in place today (Marshall, 2013).

Marzano (2012) states, "An evaluation system that fosters teacher learning will differ

from one whose aim is to measure teacher competence" (p. 14). Supervision is a formative

process that examines what happens within the classroom, emphasizing instructional strategies,

student learning, teacher goals, conferencing, and reflection (Mette et al., 2017). Evaluation is a

summative process that considers teacher attendance, adherence to school policy, and student

performance (Carroll, 1997; Mette et al., 2017). Greene (1992) determined that "teacher

supervision does lead to professional development, but not without considerable resources (both

personal and financial), effort, goodwill, commitment, and an unshakable vision of teachers as

competent professionals able and willing to take control of their own professional lives" (p. 148).

Industrialized Approaches

Evaluation models like Danielson's Framework for Teaching (2007) and Marzano's

Teacher Evaluation (2011), aim to judge different aspects of teaching like planning and

preparation, standards-based planning, classroom environment, instruction, and professional

responsibilities. Roegman (2016) proposes that frameworks like this can support beginning

teachers in developing appropriate school practices and create opportunities for summative

administrator feedback. However, the amount of training required and the variation of scores and

rationales bring into question reliability as an evaluation model (Roegman et al., 2016). Marzano et al. (2011) suggest that if professional growth needs improvement, teachers should select the specific strategies they want to improve upon during the year. Every teacher is different, just like their students, so a one-size-fits-all approach will not be the most effective at creating an authentic evaluation and professional growth tool (Hazi, 2020). This discussion highlights the importance of examining the effectiveness of evaluation models and their impact on professional growth, which aligns with the research questions and study design which investigates the impact of formative feedback on professional growth.

Teacher Ratings/Rankings

Many administrators use classroom observations to determine teachers' effectiveness and professional growth paths based on their experience (Steinberg & Garrett, 2016). Evidence shows that more disadvantaged students produce lower teacher observation scores than their more advantaged counterparts (Chaplin et al., 2014). This leads to the tendency of the most advantaged students to be matched with the most qualified teacher, preventing other teachers from getting higher observation scores (Chaplin et al., 2014; Clotfelter et al., 2006). This underscores the significance of exploring the impact of classroom observations on professional growth and equity in education, which aligns closely with the research questions and variables selected for the present study specifically peer observations and formative feedback.

Educator Growth Limitations

The conflation of evaluation and supervision can cause conflicts when teacher learning clashes with school expectations, often limiting and even preventing educator growth (King et al., 2022; Mette et al., 2017). Systems that emphasize evaluation over supervision frequently

cause teacher disengagement due to the emphasis on observation scores and not on improving instructional practices (Mette & Riegel, 2018). When highly effective teachers score the same as ineffective peers, they tend to get frustrated with the system and often discourage their professional growth and development (Weisberg et al., 2009). These findings underscore the importance of examining the intersection between evaluation, supervision, and teacher growth within the context of the current study, which seeks to shed light on the effectiveness of evaluation models in promoting educator development and equity in education.

Challenges of the Evaluation System in the United States

According to Calder (2006), many teachers get stuck teaching in the customary and traditional ways that have always worked for them and what they believe works for their students. Educators often see the opportunities provided for teachers to grow and learn as being passive, inadequate, and irrelevant (Calder, 2006; Hazi, 2020). Repeated learning topics that administrators select, while educators simply sit in large groups and listen, have proven to create little productivity and cause frustration and resentment among teachers (Nieto, 2009; Taylor, 2020). Time constraints caused by changing student demographics, school board initiatives, and state mandates force administrators to be efficient with their time, making it difficult to differentiate educational learning and preventing them from creating evaluation practices that are beneficial to teachers (Pollock et al., 2015). This problem is exacerbated by first-year teachers when they need more time and support to help them grow to become effective in the classroom. Many of these first-year teachers are placed on improvement plans due to this lack of initial guidance and feedback and eventually leave the profession from the frustration and lack of supervisor support (Boyle et al., 2023; Fantilli and McDougall, 2009; Smith & Shreeve, 1997).

The terms supervision and evaluation are often seen as synonyms "since they both require evidence, involve judgment, and being in the classroom, they are forever entangled" (Hazi, 2012, p. 8) and frequently leads to the supervisor role becoming unnoticed by the teacher (Glanz & Hazi, 2019). However, the two processes have very different purposes. Evaluation (summative feedback) functions as a bureaucratic accountability measurement that determines and documents teacher performance for purposes of job continuation, improvement plans, and dismissals (Hazi, 2020; Mette et al., 2017), While supervision (formative feedback) focuses on teacher improvement through support, reflection, and examination of their teaching to help student learning (Glanz & Hazi, 2019; Mette et al., 2017).

Many teachers report that, from their perspective, their evaluation feedback is not designed to promote growth, and that their evaluation model needs to be organized better and oftentimes feels inconsistent (Adams et al., 2018). There is confusion around the role of the supervisor as well as the intent of the evaluation process. Marshall (2013) found that administrators use evaluations purely for accountability and believe they should only be used to document what is being done. This lack of in-depth observation combined with teacher-staged observations may have a system of unrealistically high-achieving educators with no professional growth (Marshall, 2013). However, other research shows that some administrators treat the process as an opportunity for instructional leadership that creates a balance between fostering growth and ensuring quality teachers (Brandon et al., 2018).

Importance of Professional Growth

Professional growth is an important part of the evolution of teachers and emphasizes educator learning over student learning. Student learning is influenced by the skill and

knowledge of the educator, so the importance of professional growth and development is important to the success of the student (Darling-Hammond, 1998; Hadar & Brody, 2016)**.** This continued educator learning benefits students and allows for continual system-wide improvements, adjustments for the shift in student population, changing use of technology in the classroom, and frequently changing standards that change with the needs of student education (Calvert, 2016). The research shows that teacher preparation programs only do so much to prepare educators for the classroom, and the learning needs to continue throughout their careers (Slepkov, 2008). Student learning is influenced by the skill and knowledge of the educator, so the importance of professional growth and development is vital to the success of the student (Darling-Hammond, 1998)**.** While the United States (U.S.) understands the importance of highly qualified educators (Fránquiz & Ortiz, 2016), education in the United States has fallen behind what other countries are doing to establish more successful evaluation practices that build professional growth (Balingit & Van Dam, 2019; Dennis, 2019; Walker, 2016).

European schools emphasize formative feedback in education compared to the United States, providing teachers with meaningful feedback that builds trust with the supervisor (Walker, 2016). Typical evaluation and professional growth practices include opportunities for critical dialogue to encourage discussion between educators about challenges and successes (Strauss, 2013). Presentation of material by an educator to a group of peers, along with criticism and analysis, has also shown positive results for growth and learning (Parker et al., 2016). As such, teachers' development outside of the US is considered a continuum, always changing and growing to adapt to the needs of the students and society (Pereira, 2013).

Suggestions for a Better System

Ford and Hewett (2020) state that for the T-PEPG model to be effective in promoting learning, it first needs to find a way to balance the demands of organizations and the needs of the educator to feel supported in their individual growth and development. Evaluation systems are designed as one-way communication methods with a top-down approach (Ford & Hewitt, 2020). This traditional evaluation approach creates a one-size-fits-all approach which can limit individual teacher learning (Wieczorek et al., 2022). This section explores rising changes to the evaluation system that are designed to benefit instructional growth.

Educator Input and Training

No system should have a one size fits all approach; instead, evaluation models should allow local schools and educator autonomy to create an effective system for their unique context (Hunter-Doniger, 2013). O'Hara et al. (2018) posit that there is a need for a more collective professional approach, including teachers' input on instructional changes and professional dialogue. A study of the evaluation system in rural schools in Kentucky concluded that collective participation and teacher collaboration is essential for an effective system because their evidence showed that most educators did not understand the evaluation system and felt like there was no increase in student achievement from it (Pharis et al., 2018).

Leadership and Teacher Autonomy

Calvert (2016) found that administrators expected a single professional development activity to lead to immediate improvement and growth and blamed teachers when that did not happen. However, when teachers became feedback leaders, there was more authentic and usable feedback that could provide growth and student learning improvement (Calvert, 2016). Cullen et

al. (2021) found that growth also occurred when teachers were able to independently choose what they professionally needed to improve during the year and were able to self-select professional development topics.

Differentiated and Continual Growth

Professional needs should be defined by multiple sources, not just by a standardized observation (Shaw, 2016). Supervision should consist of continual dialogue, multiple observations, student work, and professional practice discussions to help build professional growth goals on an individual level and not a single system-wide goal (Baker et al., 2010). For supervision to support growth, it needs to be differentiated and focused on the individual, small group, peer, and collective approaches (Adams et al., 2018). Professional growth needs to be continuous during a career, and the learning environment needs to be welcoming and adapted for the individual and classroom. A relationship in a collaborative professional environment consisting of mutual respect and openness can support veteran and rookie teachers (Brandon et al., 2018).

Double Loop Learning

Double loop learning, conceptualized by Chris Argyris (1977) revolutionized traditional notions of organizational learning. It represents a critical approach that delves deeper into problem-solving mechanisms by challenging underlying assumptions, values, and mental models. Argyris and Schön's (1974) work introduced the concept within the context of organizational behavior. They proposed two learning loops: the single loop focuses on correcting actions to achieve intended outcomes, while the double loop involves questioning and potentially transforming underlying governing principles and values. Studies such as Senge's (1994)

expanded on double-loop learning, emphasizing its significance in fostering a learning organization. This approach encourages a culture where individuals and systems continuously adapt by questioning existing norms, thus enhancing adaptability, innovation, and sustainability (Lukic, 2022; Rebelo et al., 2019). In educational research, scholars like Mezirow (1991) applied double-loop learning to transformative learning theory. This extension emphasizes its role in prompting profound shifts in perspectives and beliefs, which is crucial in adult learning and personal development (Mezirow, 1991).

Formative Feedback

Educators see little value in the numerical scores shown with most evaluation systems and prefer written feedback, which provides examples of what is needed to grow (King et al., 2022). Parylo et al. (2012) found that educators find feedback from peers meaningful because they are "in the trenches" with them daily, which develops a trusting relationship to build a culture of growth. Educator improvement shows progress in knowledge, behavior, and knowing the needs of the students (Hazi, 2020). Teachers find meaning and can build on their instructional skills from the formative feedback provided by peers, instructional coaches, and mentors more than the summative scores and documentation by administrators (Ford & Hewitt, 2020). The inclusion of formative feedback and supervision would not only provide opportunities for educator reflection but would also allow the student minority to have a voice in what has historically been a political and racialized system (Mette et al., 2023).

The foundational work of Black and Wiliam (1998) paved the way for understanding formative feedback's pivotal role in enhancing student learning outcomes. However, recent educational scholarship has notably accentuated the transformative potential of self-assessment

and peer assessment as integral facets of formative feedback mechanisms. Nicol and Macfarlane-Dick (2006) underscored the importance of feedback, highlighting its capacity to foster metacognition and learner autonomy, propelling teachers to take ownership of their academic growth. Topping's research (2009) further illuminates the significant benefits of peer feedback, emphasizing its contribution to developing critical thinking skills and enhancing the quality of feedback through diverse perspectives. The evolving landscape of educational practices now recognizes students and peers as active contributors to the feedback loop, nurturing collaborative learning environments wherein students engage not only in evaluating their own work but also in offering constructive feedback to their peers.

Student Feedback

The role of student voice in education is a topic of increasing importance and relevance in contemporary educational discourse. Recognizing students as active participants in their learning environments rather than passive recipients is pivotal for fostering a more inclusive and effective educational system (Cook-Sather, 2016). Student voice empowers learners by providing them with a platform to express their thoughts, opinions, and preferences in the educational process (Fielding, 2001; McGregor, 2014). This empowerment contributes to increased engagement, as students feel a sense of ownership over their learning experiences. Actively involving students in decision-making processes cultivates a culture of collaboration and mutual respect (Cook-Sather, 2006). Acknowledging and incorporating student voices allows educators to tailor their teaching methods to better align with the diverse learning styles, preferences, and needs of the students (Mitra & Gross, 2009). This personalized approach enhances the effectiveness of instruction and creates a more adaptive and responsive educational environment.

Student voice plays a crucial role in fostering a sense of belonging and inclusion within the educational community (Mitra & Serriere, 2012). When students feel that their perspectives are valued and heard, it contributes to a positive school culture where diversity is celebrated and every student feels a sense of belonging.

Student feedback stands as a pivotal catalyst in the dynamic landscape of teacher professional growth, corroborated by the works of Hattie and Clarke (2018) and Smith (2022), offering invaluable insights and nuanced perspectives that fortify pedagogical development (Johnson, 2013). Acknowledging the role of students as stakeholders in the educational process, their feedback serves as an authentic mirror reflecting teaching efficacy, instructional strategies, and overall classroom dynamics (ElShaer et al., 2019; Goor & Roe, 1989). This multifaceted reflection empowers educators to recalibrate their approaches, fostering a culture of continuous improvement (Rabinovich et al., 2014). By embracing and actively integrating student feedback, teachers gain unparalleled opportunities to refine their instructional methodologies (Panadero et al., 2023), adapt to diverse learning styles (Song et al., 2017), and cultivate a more responsive and inclusive teaching environment (Williams, 2013). Moreover, this feedback loop not only augments teacher self-awareness but also establishes a collaborative ethos, engendering mutual trust, respect, and a shared commitment to educational excellence (Clark, 2018).

Peer Feedback

Peer feedback, a form of collaborative learning, is gaining prominence as an effective strategy in educational settings. According to Hattie and Timperley (2007), when teachers provide feedback to their peers, it not only enriches the learning environment but also cultivates a culture of mutual support and constructive criticism. This process helps teachers develop a

deeper understanding of their instruction by explaining concepts in their own words and by providing feedback that aligns with their peers' comprehension level (Vygotsky, 2017). Additionally, it promotes communication skills, empathy, and a sense of responsibility toward the collective learning experience (Van Ginkel et al., 2015). Peer feedback encourages active engagement and collaborative learning, contributing to a more inclusive classroom environment where teachers learn from each other's strengths and areas of improvement (Hopkins, 2018).

Summary and Conclusions

The terms supervision and evaluation are often construed, and the results often provide evaluations that are more about accountability than they are about teacher professional growth. This is due to time restrictions, federal and state mandates, school system requirements, and often a lack of leadership knowledge. The research shows there is a need for teachers to have a bigger role in their own evaluation and to take charge of their professional growth. There is evidence of the value of peer feedback on teacher professional growth and how that information can provide more authentic learning experiences for those involved, most frequently explored through qualitative methods. However, there is a lack of literature on the impact that student feedback has on teacher instruction and professional growth, specifically as it pertains to public education. This study focuses on the impact that formative feedback, provided by peers and students, has on teachers' professional growth, and evidence will be given through data analysis of surveys, feedback forms, and interviews as detailed in the next chapter.

CHAPTER 3: RESEARCH METHOD

This research involved two distinct groups: one utilizing formative feedback and a control group comprising teachers. The formative feedback group actively gathered insights from students and peers, whereas the control group continued with their usual feedback practices. The study aimed to contrast data pre- and post-feedback implementation. Surveys were employed to delve into present feedback perceptions and track changes within the formative feedback group's perceptions. Students submitted forms offering feedback on their teachers' instructional requirements. Additionally, interviews were conducted post-study to delve into the nuanced impacts of the formative feedback process. In this chapter, I will explain the rationale for the research method, my role as the researcher, participant selection, instrumentation used, data collection, validity, trustworthiness, and ethical concerns.

Settings and Context

This study was conducted at a public school in Maine located in the state's third-largest city, which is one of the largest high schools in the state. The school has over 70 teachers and a student population of approximately 1200, with over 50% that qualify as low socio-economic status (U.S. Department of Education & Institute of Education Sciences, 2023). The size of the student and teaching population of the school provided opportunities for more robust data collection. Limiting the study to one single school helps to limit outside factors, like professional development, that could have an impact on professional growth (Mohajan, 2017). At the time the study was conducted, the school was emerging from the COVID-19 pandemic and was focused on a return to academic accountability, high achievement, and meeting the student's instructional needs (P. Butler, Personal Communication, August, 2022).

All educators at the study site evaluated using the T-PEPG model were eligible to participate; this includes classroom teachers, but not administrators and educational technicians (Table 1). All eligible teachers at the school were asked to complete a pre-post survey, from those, ten volunteered to be part of the experimental formative feedback group, with one educator participating from each of the departments at the subject school. The teachers in this experimental feedback group were all interested in participating and receiving feedback. Experience with using feedback in the past is not a requirement; however, some individualized leadership on using feedback was provided by me during the study.

Table 1

Educators Eligible to Participate in the Study

Position	Eligible to Participate
General Education Teachers	Yes
Special Education Teachers	Yes
Guidance Counselors	Yes
Educational Technicians	No
Administrators	No

Research Design and Rationale

This quantitative portion of this mixed methods study used a pre-post quasi-experimental design that contained an experimental group and a control group. The study seeks to explore the efficacy of formative feedback from students and peers and will answer the following essential research questions:

1. To what extent, if at all, does cyclical formative feedback from students and peers increase teachers' understanding of their needs for instructional improvement?

2. To what extent, if at all, does cyclical formative feedback from students and peers improve the current summative evaluation and professional growth process for teachers?

The study school has a 38-week school year; the study was conducted during the second half of the school during Weeks 18 - 36. This timeline provided an opportunity for instructional change to occur and for teachers to reflect on feedback (Table 2). The experimental group administered student surveys (Appendix A) to gather instructional feedback during Weeks 5 and Week 15 of the study. The first student survey was used to determine the instructional needs of the teacher, and the final survey was used to determine teacher growth. The researcher collected and analyzed all student feedback data and provided results to teachers as bar graphs accompanied by descriptive statistics (Figure 3). This presentation aimed to facilitate additional reflection and analysis by the participants. Between Weeks 7 and 15 of the study, participants in the experimental group were observed by–and offered feedback from–an educational peer. Teachers utilized both student and peer formative feedback as tools to identify areas requiring instructional improvement. Teachers in the control group, by contrast, did not receive any formative feedback.

Table 2

Timeline of Data Collection

Data Collected	School Calendar	Study Timeline	Type of data
Pre-survey of all teachers	Week 18	Week 1	Quantitative/Qualitative
Student evaluation of instruction	Week 22	Week 5	Quantitative/Qualitative
Student evaluation of instruction	Week 32	Week 15	Quantitative/Qualitative
Peer observations of experimental group teachers	Week 24 - Week 32	Week 7 - Week 15	Qualitative
Peer feedback shared with experimental group teachers	Week 24 - Week 32	Week 7 - Week 15	Qualitative
Post-survey of all teachers	Week 33	Week 16	Quantitative/Qualitative
Interview experimental group teachers	Week 34 - Week 36	Week 17 - Week 19	Qualitative

Figure 3

Example of Student Feedback Analysis Provided to Teachers in the Experimental Group

Q9 - The instructor created an atmosphere that encourages learning.

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	The instructor created an atmosphere that encourages learning.	2.00	5.00	4.23	1.12	1.25	13

#	Field		Choice Count
1	Strongly disagree	0.00%	0
2	Somewhat disagree	15.38%	2
3	Neither agree nor disagree	7.69%	1
4	Somewhat agree	15.38%	2
5	Strongly agree	61.54%	8
			13

Showing rows 1 - 6 of 6
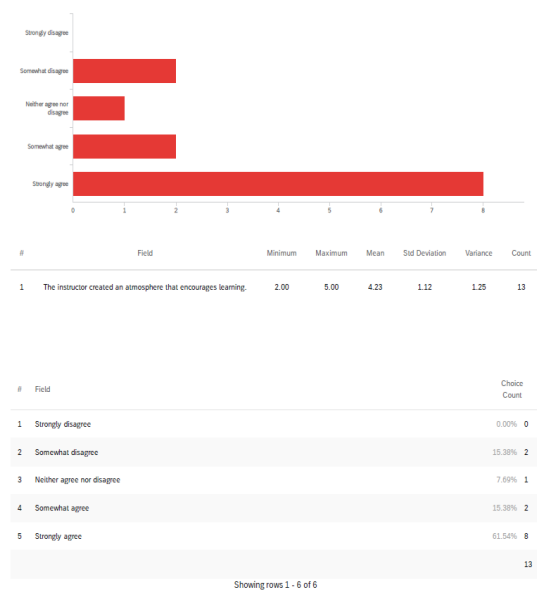
The pre-feedback survey (Appendix B) was provided to all eligible teachers (Table 1) at the subject school during Week 1 of the study to determine a baseline perception of feedback. The post feedback survey (Appendix C) was provided to all eligible teachers during week 16 of the study to determine if that perception changed based on formative feedback received. Pseudonyms, created by the teacher, were employed to align pre and post-surveys. Surveys lacking a corresponding match were excluded from the data analysis.

For the qualitative portion of the study, interviews (Appendix D) were conducted with the experimental group to obtain greater insight into their experiences over the semester of receiving formative feedback. The teacher survey served as a foundational tool for shaping the semi-structured interview questions. By gathering insights from teachers about their experiences, perceptions, and challenges related to formative feedback. This ensured that the interviews were targeted and relevant, focusing on key themes and issues identified through the survey responses. By integrating findings from the teacher survey with data obtained from student feedback and experimental group interviews, I was able to cross-validate and corroborate key insights and themes emerging from different perspectives. This triangulation strengthened the validity and reliability of the study findings by offering a more comprehensive and nuanced understanding of the phenomenon under investigation. This mixed method design provided data that helped to determine how, if at all, participants' understanding and perceptions of feedback in evaluations may have changed.

Role of the Researcher

I have spent the last 20 years as an educator in the subject school. I am an active teacher and department head in the school. My role in this research was to:

- Distribute the student evaluation of instruction forms to students

- Collect student feedback data and provide usable results to teachers to help them identify areas of growth.

- Provide a structure for the peer feedback process.

- Guide teachers in the use of formative feedback.

- Collect teacher pre/post-survey data to determine if there was any perceived change during the study.

- Interview teachers in the experimental group to determine the impacts of formative feedback.

As a department head, I wield authority and influence within the academic environment, which inevitably impacts the dynamics of the research process. Power dynamics, in this context, extend beyond traditional researcher-participant relationships and encompass my position of leadership within the educational institution. Within the research context, my role as department head inherently influences the interactions with participating teachers. While we share common identities as educators, my position introduces a power differential that may shape participants' perceptions and responses. In exploring these power dynamics, it's essential to draw upon research within qualitative and critical methodologies that foreground the importance of reflexivity and positionality in research practice. Denzin and Lincoln (2007) emphasize the significance of acknowledging the researcher's positionality and its influence on the research process. Additionally, critical scholars like Lather (2016) advocate for a reflexive approach to research that critically examines power dynamics and researcher identities, particularly within educational contexts. To promote transparency, reflexivity, and inclusivity in research practice

and enhance the ethical and methodological integrity of the study, it's crucial to acknowledge and address power dynamics. In preparation for this study, the school principal conducted all teacher observations for my department leading up to and including the year of the study, aiming to prevent any conflict of interest with my research.

Methodology

Participant Selection

There are three different categories of participants: experimental group teachers, control group teachers, and student participants providing feedback to the experimental group teachers. All employees that are evaluated using the T-PEPG model within the high school were asked to complete pre and post-surveys about formative and summative feedback (Table 1). This includes all teachers but not educational technicians or administrators since they use a different evaluation model. Recruitment for teacher survey participation occurred during the February 2023 staff meeting through a short statement about the study as well as through follow-up emails over a three-week period.

Recruitment for participants in the experimental group occurred through a series of presentations to each department at the high school. Presentations were done by individual departments to provide additional opportunities for questions of potential participants. To protect the privacy of potential study participants, interested teachers used follow-up emails to express their interest in the study. All participants in the experimental group self-selected to be part of the group receiving feedback. The process continued until there was one participant from every department within the school, including Business/Math, English, World Language, Science, Special Education, Health/Physical Education, Visual and Performing Arts, History, and

Guidance (Table 3). The study employed purposeful selection, as outlined by Saldaña (2016),
guided by both academic department affiliation and inclusion criteria (specifically, T-PEPG
participation). This approach aimed to encompass a diverse array of perspectives on the
utilization of feedback.

Table 3

Participants by Department

Department	Number of Teacher Survey Participants	Experimental Group Participants
Business/Math	7	1
English	12	1
Guidance/Other	13	1
Health/Physical Education	2	1
History	5	1
Science	12	1
Special Education	10	1
Visual and Performing Arts	7	1
World Language	4	2

Each participant in the experimental group chose students from one of their classes to
provide feedback to them about their instruction. Classes chosen by the teachers were required to
have enrollment in the 15 to 17 student per class range so there would be adequate feedback for
the teachers to reflect on. The students from those classes were recruited through a statement
from the researcher that was shared by the teacher. Since the recruited students were under the
age of 18, parental permission was required for participation in the study. Parental consent forms

were distributed to students who provided assent for participation. All parental consent forms that were distributed to students were completed and returned with 120 student participants.

Instrumentation

Staff Survey

The staff surveys (Appendix B and C) were developed by me based on my research of evaluation and feedback. The survey consists of 32 quantitative questions using a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), and eight open-ended questions about formative evaluation and feedback. The quantitative data collected from these surveys were used to determine teachers' initial perceptions of (a) the use of formative feedback to improve their instructional practice, (b) the effectiveness of the current evaluation system, and (c) any changes in their perception of formative feedback over the semester.

The staff survey was piloted in four high schools across Maine, with 82 respondents completing the survey. The pilot survey had a Cronbach alpha of .861, with each construct having a high internal reliability (Table 4).

Table 4

Survey Pilot Cronbach alpha

Construct	Cronbach alpha
Evaluation Model Effectiveness	.742
Student Feedback	.929
Peer Feedback	.891
Supervisor Feedback	.871

Note. $\alpha \geq .70$ = acceptable. $\alpha \geq .80$ = good. $\alpha \geq .90$ = excellent.

Pilot data and feedback were used to rephrase questions before the implementation of the survey at the subject school, specifically in the phrasing of questions in the evaluation model effectiveness construct. The final survey had a Cronbach alpha of .863, indicating strong internal reliability for each construct (Table 5). Additionally, the staff survey included eight open-ended questions allowing for detailed responses about the current uses and perceptions of formative feedback, summative feedback, and the evaluation model. Survey responses were used to help formulate interview questions, determine feedback efficacy, its impact on professional growth, and how feedback can be used in education.

Table 5

Final Survey Cronbach alpha

Construct	Cronbach alpha
Evaluation Model Effectiveness	.811
Student Feedback	.931
Peer Feedback	.914
Supervisor Feedback	.878

Note. α ≥ .70 = good. α ≥ .80 = better. α ≥ .90 = best.

Student Feedback on Instruction

Student participants were asked to complete a feedback form (Appendix A) during Weeks 5 and 15 of the study. This form was developed by Zhao and Gallant (2012) with a Cronbach alpha rating of .95. The form was modified to add a single open-ended question that provided students a chance to be more specific about their own instructional needs. The first nine questions, which focus on teacher instructional skills, curriculum design, and classroom management, are rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5

(strongly agree). The tenth question, students provide an overall rating of the instructor on a five-point Likert scale ranging from 1 (poor) to 5 (excellent).

Peer Feedback

I developed Peer feedback forms **(**Appendix E) based on a review of the literature, the student feedback form used in this study, and Maine's T-PEPG protocols (Maine Department of Education, 2014a). I invited teachers not participating in the study to provide feedback during a pilot phase, leading to changes in wording and phrasing for clarity.

Semi-Structured Interview Protocol

I developed a semi-structured interview protocol by synthesizing the existing literature and incorporating insights from a staff survey. Drawing upon the scholarly research provided a solid foundation for formulating interview questions that were conceptually grounded and aligned with the study's objectives and research questions. The research indicates that summative feedback evaluation does not promote professional growth (Adams et al., 2018; Hazi, 2020; Hazi, 2022). In light of this, interview questions were formulated to ascertain whether teachers in the experimental group share this perspective. To ensure the effectiveness and appropriateness of the interview protocol, I conducted a pilot phase with teachers not involved in the study. Their feedback served as a catalyst for refining the protocol, focusing particularly on enhancing the clarity and coherence of the questions. I made iterative revisions based on their input, resulting in a finalized interview protocol poised to elicit in-depth and meaningful insights from participants regarding their experiences with peer feedback. Additionally, I utilized the semi-structured method of the interview protocol to allow me to ask not planned follow-up questions, facilitating

a deeper understanding of the experiences specifically within the experimental group, thus providing richer and more nuanced data for analysis.

Data Collection Procedures

Teacher Pre/Post Surveys

Participants who met the inclusion criteria (Table 1) were asked to participate in a survey (Appendix B). Surveys were administered using Qualtrics through the University of Maine; responses were collected anonymously. All participants provided informed consent at the beginning of the survey and were not obligated to answer any questions or complete the survey. I introduced the survey opportunity to teachers during a staff meeting on February 28, 2023. Follow-up emails were sent over a three-week period with an embedded link to the survey as well as a reminder to participate if there was interest. On June 1, 2023, a post-intervention survey (Appendix C) was introduced during a staff meeting. Although all eligible teachers, as defined in Table 1, were invited to participate in the survey, only those who had also completed the pre-survey were included in the subsequent data analysis. Follow-up emails were delivered once a week for two weeks following the last staff meeting as a reminder. Full survey completion took between 5 - 15 minutes, depending on the level of participation.

Experimental Group Interviews

Semi-structured interviews (Krathwohl, 2009) were conducted with the teachers in the experimental group to gather a detailed view of the impacts of feedback on their instruction, professional growth, and student achievement (Appendix D). Interviews occurred in person between June 5, 2023, and June 12, 2023, after teachers had the opportunity to collect and reflect on student and peer feedback as well as the post-survey. Interviews averaged 45 minutes each.

While participants were not required to answer any questions, no questions were refused, and no one left the interview early.

The interviews were conducted using Zoom Video Communications and then transcribed using the built-in transcription service. I verified the accuracy of the transcripts by comparing them with the recordings. Each interviewee received a copy of their interview to review, and were asked to note any requested changes or clarifications. All participants confirmed that the transcripts accurately reflected their interviews and no further edits were required.

Audio recordings were destroyed after transcription was complete. Interview transcripts were stored on a password-protected computer and kept in a locked office. Backup copies of the transcripts were kept on a password-protected cloud storage account. Transcripts will be kept indefinitely for potential use in related studies.

Student Evaluation of Instruction

Student participants were asked to provide feedback to their teacher using a pre-designed feedback form (Appendix A) during Weeks 5 and 15 of the study. A link to the feedback form was distributed to students via Google Classroom. Students completed the form anonymously through Qualtrics and took no more than five minutes.

Peer Feedback Process

Educators in the experimental group self-selected a peer with relevant knowledge to provide meaningful feedback. Peer knowledge ranged from teachers of the same subject to those who had working knowledge of a similar student demographic. Although known to the teachers, the identity of the teacher providing feedback was not shared with me. The teachers of the experimental group determined feedback areas based on the findings of the student evaluation of instruction forms, along with the five core propositions from the MDOE (2014a). Peer feedback

forms were used to provide organized feedback to the teacher in the experimental group. The feedback provided on these forms was discussed during the semi-structured interviews, however, the completed forms were not collected for further analysis. The peer feedback process required approximately two hours, including a 20-minute pre-observation meeting, a 40-minute observation, and an hour-long post-observation meeting.

Data Analysis Plan

I analyzed the quantitative data were using IBM's SPSS statistical analysis software and Microsoft Excel. I conducted dependent *t*-tests with the staff survey to determine if there were any changes in perception between the start and end of the study. I utilized independent *t*-tests to ascertain perception changes between the experimental and control groups. Additionally, I employed one-way ANOVAs to identify differences between departments and years of experience. Descriptive statistics helped in examining past practices and perceptions of evaluation. Furthermore, I analyzed the data from student feedback on instructions using dependent *t*-tests to detect any perceived changes in teacher instruction. I analyzed the data to help answer the research questions, specifically if there was any impact from receiving formative feedback, and the value in supervisor summative feedback.

I organized the Quantitative data using the conceptual framework to examine the study data and their connections to the various stages of the professional growth cycle to provide insight into the advantages, disadvantages, successes, and challenges the feedback from different stakeholders has on improving instructional learning, professional growth, and student growth. This framework provides the structure for grouping and analyzing the data from educator

interviews, student achievement, and evaluation surveys. From this, it can be determined what forms of feedback impact instruction most.

I analyzed qualitative data using Taguette and Google Sheets. First, I applied inductive coding (Saldaña, 2016) to create themes from the teacher pre/post survey, student feedback, and experimental group interviews. I used codes to identify similar feedback experiences, perceptions, and challenges among educators. In the second pass with this qualitative data, I employed pattern coding to organize and identify commonalities among educators (Saldaña, 2016). Themes derived from the qualitative data were organized using my analysis framework to help determine the findings. In total, I generated seventy-two codes including: time restrictions, supervisor shortfalls, student shortfalls, trust, peer conversation, peer relationships, instructional suggestions, no feedback wanted, lack of education/knowledge, and individual student needs.

Validity/Trustworthiness

The design of this study is not specific to the study school. It is replicable at any school; however, the findings may differ depending on the educators. Selecting participants for the experimental group from each department provides external validity, creating findings that may have greater generalizability to a larger population or various settings beyond the specific departments included in the study (Krathwohl, 2009). The staff surveys before and after the feedback condition change are used to help establish an association between the intervention and any observed changes (Creswell & Plano Clark, 2018). This helps to control for potential confounding variables and strengthens the internal integrity of the study (Krathwohl, 2009).

Conducting this study in a school where I teach increases the potential for researcher bias (Ioannidis, 2005); however, practicing ethical reflexivity helps me understand all the data in

productive ways (Khanal, 2021; Maxwell, 2013). The mixed method design of my study provided a more comprehensive and valid understanding of this study and potentially triangulated the data through the convergence of information from different sources (Creswell & Plano Clark, 2018; Krathwohl, 2009). Conducting the study in one school helps to eliminate the skewing of data by professional development activities happening in one school but not in others. The impacts of the difference in supervision practices of an administrator will also be eliminated by containing this study in one school building. Educators provided examples of feedback and student work to help illustrate their experiences, and this helped the teacher to determine the efficacy of their individual feedback and how they were able to use it constructively.

Limitations

Conducting this study in a high school may limit understanding of the effectiveness of student feedback at other grade levels. However, the findings from the peer feedback may be worthwhile for other grade spans. This study only provides insights into the effectiveness of feedback from one high school in Maine. The subject school, being the third-largest high school in Maine and the largest in its region, boasts a student population of approximately 1,200, of which 84% are white. This demographic composition aligns closely with the overall state demographics, where Maine has a population that is 94% white (*U.S. Census Bureau QuickFacts*, 2021). Despite focusing on data from a single high school in my study, the findings can be considered representative of the broader state context. The 80 teachers that work in the building bring a diverse span of experience and teaching background, which provides a depth of responses and relevant data.

The experimental group comprises teachers who have voluntarily chosen to participate in this study, indicating a proactive engagement with the research process. Given their willingness to be part of the study, it is plausible to infer that members of the experimental group may exhibit a heightened level of acceptance of feedback, driven by a shared commitment to improving their professional growth. This inclination towards active participation suggests that this group may possess a greater eagerness to embrace constructive feedback, making them a particularly motivated subset within the broader school context.

The post-surveys for teachers and students were collected at the school year's end when they were often overwhelmed with end-of-the-year records and assignments. This may have resulted in slightly lower participation than if the surveys had been done earlier in the year. It is also possible that the participants' attitudes were impacted by the end of the school year in potentially positive and negative ways. Teachers in the experimental group stated the timeline or schedule of data collection did not impact them.

Ethical Obligations

This study was approved by the University of Maine Institutional Review Board (IRB). I also received permission from the study school principal, the district assistant superintendent, and the superintendent. All teachers in the experimental group self-selected to participate by receiving feedback and being part of the experimental group. All teachers had the option to participate in all or part of the survey on feedback.

This study was done in the school where I teach, so maintaining the confidentiality of the students and staff was the most significant ethical concern. In my role as a department head, I have an understanding of the significance and implications of my positional authority. This

comprehension extends to a recognition of the formal power that has been entrusted to me within the organizational structure. As a department head, I am cognizant of the responsibilities and influence that come with this position, acknowledging the capacity to make decisions, guide initiatives, and shape the direction of the department. This awareness of the formal power dynamics underscores my commitment to leveraging this authority responsibly and effectively in order to foster a positive and productive school environment.

Given the formal power vested in my role, both leading up to and during this study, a strategic decision was made to have the principal conduct all observations within my department. This approach was adopted as a proactive measure to mitigate any potential threat to the validity of the study. While I did collect feedback forms, all forms were submitted anonymously. The staff pre-post surveys utilized participant-designed pseudonyms to protect identities. All names shared during the interview process were replaced with pseudonyms in the transcripts to protect the identities of all participants.

Data storage procedures included keeping all data on a password-protected computer in a locked office and a password-protected cloud storage service. Any identifying information in transcripts and survey data was removed to protect individual identities. Other than me, the only person who had permission to view any data was the chair of my dissertation committee.

Summary

This mixed-method study consisted of a formative feedback condition group and a control group of teachers. The formative feedback condition group collected feedback from their students and peers, while the control group did not collect any feedback that they do not normally get. The study was designed to compare data from before the feedback and after the

feedback. Surveys were used to explore the current perceptions of feedback and look for growth

of perception among the formative feedback condition group. Student forms were used to

provide teachers with feedback on their instructional needs. Interviews were conducted at the end

of the study to provide details on the impacts of formative feedback. In the next chapter, I

explore the data and reveal the findings from the study.

CHAPTER 4: RESULTS AND FINDINGS

This research explored an expansive examination of formative feedback and its correlation with the professional development of teachers, utilizing a novel evaluation model that incorporated feedback from both students and peers. Employing a mixed-methods approach, I compared two distinct groups: a control group and another group that received formative feedback from both students and peers. The analysis of professional growth among these groups unveiled noteworthy differences. By incorporating feedback from both teachers and students, I elevated the thoroughness of the evaluation process, presenting a more encompassing depiction of educators' day-to-day performance. This innovative model transcends the limitations of occasional observations, providing a comprehensive understanding of teaching practices, classroom dynamics, and their influence on student learning. This study will answer the following questions:

1. To what extent, if at all, does regular formative feedback from students and peers increase educators' understanding of their needs for instructional improvement, thus fostering professional growth?

2. To what extent, if at all, does regular formative feedback from students and peers improve the current summative evaluation and professional growth process?

This chapter will address the data collection process, including participant demographics, study duration, and how the data were collected. I will explain my hypotheses, how the data collected were analyzed, and if the null was retained or rejected based on my findings.

Setting

The purpose of this study was to better understand the value of summative feedback and evaluation compared to formative feedback in an educational setting. While the teachers who participated were in the same school during the study, they have spent time in different educational settings worldwide. As shown in Table 6, 49% of the teachers in the subject school have been working in the district for ten years or less, while 84% of the teachers have been in education for 11 years or more (Table 7). The subject school is a large high school located in an urban city in Maine with a student population of over 1100, of which 32% qualify for free and reduced lunch (Maine Department of Education, 2022). The location is considered a regional hub comprising two hospitals, a private university, and two community colleges. The timing of the study was chosen to avoid any professional development programming at the subject school that may have impacted the study results. The study school consisted of 80 teachers who fit the criteria to participate in the study. Of those, 72 teachers (90%) completed both surveys during the second semester. At least one representative from each of the school's nine academic departments participated in the study (Table 8).

When comparing the years of experience and tenure within the district to the broader U.S. teacher population (National Teacher and Principal Survey, 2021), several disparities emerge. Notably, 33% of teachers in the study school have worked in the district for over 16 years, surpassing the national average of 22%. However, this figure aligns more closely with the state average, which stands at 27%. Examining total years of teaching experience, the study school has 16% of teachers with less than ten years of experience, contrasting with 36% at the national level and 34% at the state level. Additionally, while 67% of teachers in the study school possess

16 or more years of experience, this surpasses the national average of 47% and the state average

of 51%.

Table 6

Participants Years in Current District

Years of experience in district	Number of participants	Percentage by years of experience
1 - 5 years	24	34%
6 - 10 years	11	15%
11- 15 years	13	18%
16 - 20 years	5	7%
21 - 25 years	11	15%
26 - 30 years	3	4%
31 + years	5	7%
Total	72	100%

Table 7

Years of Experience in Education of the Participants

Years of Experience	Number of participants	Percentage by years of experience
1 - 5 years	7	10%
6 - 10 years	4	6%
11- 15 years	13	18%
16 - 20 years	10	14%
21 - 25 years	16	22%
26 - 30 years	9	13%
31 + years	13	18%

Table 8

Study Participants by Academic Department

Department	Participants in Department	Percentage by department
English	12	17%
Guidance/Other	13	18%
History	5	6%
Math/Business	7	10%
Physical Education/Health	2	3%
Science	12	17%
Special Education	10	14%
Visual and Performing Arts	7	10%
World Language	4	5%
Total	72	100%

The staff survey was organized into five constructs, each consisting of five to six Likert scale questions using a 1-5 scale.

1. Evaluation process

2. Student feedback

3. Parent/guardian feedback

4. Peer feedback

5. Supervisor feedback

Each construct provided an open response opportunity to elaborate on their answer and provide specific details from their teaching experience.

The survey responses that were analyzed and will be discussed in this chapter are the opinions of teachers who currently teach at the same school, but their reflections on the value of feedback come from all schools they have worked in.

Data Collection

In this study, teacher participants were divided into two groups: the experimental group, which integrated formative feedback from students and an educational peer into their teaching practices, and the control group, which did not engage in any formative feedback collection. The primary aim was to investigate the potential influence of nontraditional forms of feedback on teacher professional growth. The data were collected from three participant groups over a single academic semester, spanning from January 30, 2023, to June 16, 2023. The experimental group collected feedback from their students and an educational peer, while the students of the formative feedback group provided feedback.

The collected data were then utilized to assess the extent of impact resulting from the feedback. Initial perceptions of feedback and changes within the experimental group were explored through surveys, and students provided feedback on their teachers' instructional needs through forms. Additionally, post-study interviews were conducted to delve into the specific impacts of the formative feedback process in greater detail. None of the teachers in the formative feedback condition group participated in professional development during the specified timeframe. However, individual teachers in the control group may have engaged in professional development external to district offerings. This discrepancy could potentially have contributed to increased ratings on formative feedback for teachers in the control group.

Experimental Group

This group consisted of ten teachers who volunteered to participate in the study. All academic departments at the study school were represented by at least one teacher. These participants collected and reflected on formative feedback from students and peers over the second semester of one academic year. Student feedback was anonymous and collected during Weeks 22 and 32 of the school year. Following a classroom observation in the second semester, peer feedback was conducted using a protocol specifically designed to align with the instructional feedback forms utilized by students. This approach aimed to ensure a concentration on the same instructional needs from both feedback groups. Teachers from the experimental group completed an anonymous pre and post-survey about their use of formative feedback as well as their perceptions of the professional growth value of the evaluation process and summative feedback. Participants shared their experiences in a recorded interview at the end of the second semester. Transcripts were member-checked and approved by all participants before any data analysis began.

Control Group

The control group comprised 62 teachers who were not part of the experimental group but had the same professional evaluation structure. The teachers from this group did not alter their use of formative feedback during the study timeframe. All participants from this group completed the same pre and post-surveys as the teachers in the experimental group. The survey examined their use of formative feedback and their perceptions of the professional growth value of the evaluation process and summative feedback. Surveys were completed during the same data collection period as the experimental group.

Students

Teachers in the formative feedback group chose one class from which to obtain student feedback based on their perception of students' willingness to participate in the process. Parental permission was required for students under 18 years of age; district policy prohibited the collection of demographic data for these students. In total, 120 students agreed to take part in the study. On average, each teacher received feedback from 12 students. The instructional feedback shared by students was collected through a survey administered through Qualtrics. Only students who provided feedback to the teacher at the start of the semester were asked to offer feedback at the end of the semester.

Data Analysis

In the first round of coding, I analyzed the interview data with support from Taguette and Google Sheets. I initially employed an inductive coding approach, following Saldaña's (2016) method, to derive themes from the teacher pre/post survey, student feedback, and experimental group interviews. This coding process enabled me to identify recurring patterns and experiences within the feedback received from participants. For instance, insights into codes of behavior, classroom management, curricular suggestions, peer feedback, and feedback success stemmed from this teacher's statement: "I've had peers watch portions of my classes when I need feedback on teaching particular kinds of material or when I've encountered especially challenging groups." Similarly, utilizing a similar approach with this student's remark, "Daily objectives that help us to remember the key information for the class," yielded instructional recommendations, identified student needs, and highlighted feedback success for the codes. Common codes I found using this method included:

- Supervisor knowledge

- Shortfalls of feedback

- Successes of feedback

- Student bias

- Anxiety of evaluation

- Open Mindset

- Instructional suggestions

- Identifying student needs

- Frustrations with the evaluation system

- Desire for feedback

- Time restrictions

- Learning environment

Following the first round, I conducted a second round of qualitative data analysis involving pattern coding for organizational purposes. This process allowed me to discern commonalities among participants in their feedback experiences, perceptions, and challenges, aligning with Saldaña's (2016) methodology. I then organized the emergent themes from qualitative data within the established analysis framework. This systematic approach helped me determine key findings and enabled me to gain a nuanced understanding of the qualitative dimensions of the study. Building upon the previous example, I took the identified codes of encompassing behaviors, classroom management, curricular suggestions, peer feedback, and feedback success and categorized them under the theme of peer feedback success in instruction. This theme contributed to finding number four and was linked to peer feedback within the analysis framework. Similarly, the student quote, which included codes for instructional suggestions, identifying student needs, and feedback success, was classified under student feedback on

instruction. This classification contributed to finding number five and was connected to student feedback within the analysis framework. I generated a total of seventy-two codes during round two of qualitative analysis, encompassing diverse aspects such as time constraints, supervisor shortcomings, student deficiencies, issues of trust, peer interactions, instructional suggestions, resistance to feedback, knowledge gaps, and individualized student needs.

I analyzed survey data using IBM's SPSS statistical analysis software and Microsoft Excel. I employed descriptive statistics to identify the demographics of the population, such as years of experience in education, years in the current district, the highest degree obtained, and their curricular department. Additionally, other descriptive statistics examined the teachers' usage of formative and summative feedback, as well as their perceived value of each.

I utilized inferential statistics to examine changes in the perceived value of feedback and professional growth improvements before and after the study. Specifically, I used dependent *t*-tests to determine perceived changes in feedback with the experimental group after feedback, perceived instructional improvement with the students, and perceived changes in feedback in the control group. I used independent *t*-tests to determine if there were significant differences between the control group and the experimental group both before and after the intervention. Furthermore, the organization of quantitative data was conducted through the utilization of the analysis framework. This framework not only provided a structured basis for categorizing data stemming from educator interviews, student achievement records, and evaluation surveys but also served as a fundamental tool for discerning the influence of various forms of feedback on instructional practices.

Research Question 1

When considering the initial research question, which explores the impact of cyclical formative feedback from both students and peers on educators' understanding of instructional

needs, my hypothesis suggests that teachers in the experimental group will demonstrate a clearer comprehension of instructional needs after receiving feedback from both peers and students.

The qualitative data coding process involved amalgamating codes from staff surveys, interviews, and student feedback on instruction. Derived codes encompassed various aspects such as teacher performance, job retention, identifying gaps, time constraints, mentor and peer success, lack of content knowledge, individualized professional development, external resources, informal discussions, instructional practices, classroom management, and timely feedback. These codes were analyzed and organized into overarching themes, encapsulating the findings of this research question. The first finding delves into the theme of formative feedback elucidating instructional growth goals, while the second finding scrutinizes the barriers impeding teachers from effectively utilizing formative feedback. Lastly, the third finding delves deeper into the theme of student feedback providing more substantial support for teacher professional growth compared to peer and supervisor feedback.

The quantitative analysis involved a descriptive examination of teacher survey data, utilizing means to ascertain shifts in average perceptions. Additionally, I employed independent *t*-tests to discern differences between the experimental group and the control groups. To assess changes within the experimental group over the study duration, I conducted dependent *t*-tests on perceptions of feedback. The integration of quantitative survey data served the purpose of triangulation, reinforcing and validating insights derived from the qualitative data analysis.

Finding #1. Feedback Is Seen as a Vital Tool for Instructional Improvement

Teachers in the study school perceive formative feedback from students and peers as more valuable than summative feedback from their supervisor. One teacher shared in the pre-

survey that "As an instructor, student feedback has been vital, I would also argue the best tool in identifying gaps between intention/goal of assessment methods/pedagogical decisions and student reception/interpretation." While that teacher regularly uses student feedback to help with their instructional needs, another teacher shared the importance of peer (formative) feedback over supervisor (summative) feedback: "It is difficult to have an evaluation tool that is tied to performance and possible job retention. Colleagues and not supervisors should be providing formative feedback." The importance and value of formative feedback over summative feedback was a common theme in both the interview with the experimental group and open responses in the teacher survey. The quantitative data collected from the pre/post survey reinforces the themes found in the qualitative analysis.

Pre-survey results: All teachers. The results for the pre-survey for the 72 teachers who took the pre-survey are summarized in Table 9. Among the various constructs examined, student formative feedback was ranked highest (M = 3.86, SD = .777), followed by peer formative feedback (M = 3.40, SD = .917), with supervisor summative feedback rated the lowest (M = 3.01, SD = .965) among all teachers at the study school.

Table 9

All Teacher Pre-Survey

Construct	Mean	Median	Mode	SD	Min/Max	Range
Evaluation Process						
	3.08	3.00	3.83	.772	1.17/4.50	3.33
Student Feedback						
	3.86	3.9	4.0	.777	1.80/5.00	3.20
Peer Feedback						
	3.40	3.40	4.0	.917	1.00/5.00	4.00
Supervisor Feedback						
	3.01	3.00	3.00	.965	1.00/5.00	4.00

Post-survey results: All teachers. The results for the post-survey for the 72 teachers who took the pre-survey are summarized in Table 10. Among the various constructs examined, student formative feedback was ranked highest (M = 4.04, SD = .684), followed by peer formative feedback (M = 3.60, SD = .724), with supervisor summative feedback rated the lowest (M = 2.96, SD = 1.00) among all teachers at the study school.

The mean value of student feedback and peer feedback both increased, while the mean value of the evaluation process and supervisor feedback had a slight decrease.

Table 10

All Teacher Post-Survey

Construct	Mean	Median	Mode	SD	Min/Max	Range
Evaluation Process	3.02	3.00	3.17	.808	1.17/4.50	3.33
Student Feedback	4.04	4.0	4.0	.684	1.80/5.00	3.20
Peer Feedback	3.60	3.70	4.3	.724	1.90/4.90	3.00
Supervisor Feedback	2.96	3.00	3.00	1.00	1.00/5.00	4.00

All teachers: Difference between departments. Table 11 summarizes the results of the one-way ANOVA comparing teacher survey constructs across departments. The evaluation construct ($F_{(9,62)} = 1.714$, $p = .105$), student feedback construct ($F_{(9,62)} = .993$, $p = .455$), peer feedback construct ($F_{(9,62)} = 1.218$, $p = .301$), and supervisor feedback construct ($F_{(9,62)} = .473$, $p = .887$) demonstrated no significant differences.

Table 11

Difference Between Departments

Survey Construct		Sum of Squares	df	Mean Square	F	Significance
Evaluation Model	Between Groups	9.236	9	1.026	1.714	.105
	Within Groups	37.128	62	.599		
	Total	46.364	71			
Student Feedback	Between Groups	4.184	9	.465	.993	.455
	Within Groups	29.042	62	.468		
	Total	33.226	71			
Peer Feedback	Between Groups	5.594	9	.622	1.218	.301
	Within Groups	31.126	62	.510		
	Total	36.720	71			
Supervisor Feedback	Between Groups	4.607	9	.512	.473	.887
	Within Groups	67.059	62	1.082		
	Total	71.666	71			

All teachers: Difference between years of experience. Table 12 summarizes the results of the one-way ANOVA comparing teacher survey constructs across years of experience. The evaluation construct $(F(6,65) = .938, p = .474)$, student feedback construct $(F(6,65) = .488, p = .815)$, peer feedback construct $(F(6,65) = 1.761, p = .121)$, and supervisor feedback construct $(F(6,65) = 1.380, p = .236)$ demonstrated no significant disparities.

Table 12

Difference Between Years of Experience

Survey Construct		Sum of Squares	df	Mean Square	F	Significance
Evaluation Model	Between Groups	3.377	6	.563	.938	.474
	Within Groups	39.010	65	.600		
	Total	42.387	71			
Student Feedback	Between Groups	1.849	6	.308	.488	.815
	Within Groups	41.049	65	.632		
	Total	42.898	71			
Peer Feedback	Between Groups	8.354	6	1.392	1.761	.121
	Within Groups	51.388	65	.791		
	Total	59.742	71			
Supervisor Feedback	Between Groups	7.472	6	1.245	1.380	.236
	Within Groups	58.664	65	.903		
	Total	66.135	71			

Initial teacher survey: Formative vs. summative. A dependent *t*-test compared the mean summative (supervisor) score with each mean formative (student and peer) score (Table 13). Student feedback had a significantly higher value (M = 3.86, SD = .777) than supervisor feedback (M = 3.01, SD = .965), $t(71)$ = -5.865, $p < .001$. Peer feedback also had a significantly higher value (M = 3.40, SD = .917) than supervisor feedback (M = 3.01, SD = .965), $t(71)$ = -2.659, $p < .005$. Negative *t*-values indicates that student and peer feedback scores were higher than supervisor feedback scores.

Table 13

Initial Staff Survey on Feedback

| Construct | Summative Feedback | | Formative Feedback | | | | One-Sided |
	M	SD	M	SD	*t*	df	*p*
Supervisor Feedback / Student Feedback	3.01	.965	3.86	.777	-5.865	71	**<.001***
Supervisor Feedback/ Peer Feedback	3.01	.965	3.40	.917	-2.659	71	**.005***

* p <.05

Experimental group: Pre/post survey. The results for the experimental group pre/post surveys are summarized in Table 14. The evaluation model construct and supervisor values were not statistically different after receiving formative feedback from student and peers.

The teachers in the experimental group ratings of formative feedback from students (M = 3.04, SD = .531) increased significantly after receiving feedback (M = 4.50, SD = .287), *t*(9) = -7.94, *p*<.001. The teachers in the experimental group ratings of formative feedback from peers (M = 3.02, SD = .305) increased significantly after receiving feedback (M = 4.00, SD = .464), *t*(9) = -7.94, *p*<.001. Negative *t*-values reflect a score increase from the pre-assessment to the post-assessment.

Table 14

Experimental Group: Pre/Post Survey

	Pre-Feedback		Post-Feedback				
Construct	M	SD	M	SD	t	df	One-Tailed p
Evaluation Model Pre/ Evaluation Model Post	3.08	1.02	3.05	1.03	1.50	9	.084
Student Feedback Pre/ Student Feedback Post	3.04	.531	4.50	.287	-7.94	9	**<.001***
Peer Feedback Pre/Peer Feedback Post	3.02	.305	4.00	.464	-5.58	9	**<.001***
Supervisor Feedback Pre/Student Feedback Post	3.33	.831	3.28	.809	.179	9	.862

* p <.05

Control group: Pre/post survey. The results for the control group pre/post surveys are

summarized in Table 15. There were no statistically significant differences between the pre-

survey and post-survey of the control group. Negative *t*-values reflect a score increase from the

pre-assessment to the post-assessment.

Table 15

Control Group: Pre/Post Survey

	Pre-Feedback		Post-Feedback				
Construct	M	SD	M	SD	t	df	One-Tailed p
Evaluation Model Pre/ Evaluation Model Post	3.08	.736	3.01	.776	1.63	61	.054
Student Feedback Pre/ Student Feedback Post	3.99	.731	3.96	.701	.597	61	.277
Peer Feedback Pre/Peer Feedback Post	3.44	.961	3.54	.734	-1.089	61	.140
Supervisor Feedback Pre/Student Feedback Post	2.95	.980	2.90	.809	.816	61	.209

For Research Question #1, the null hypothesis is rejected and the alternate hypothesis is retained. The hypothesis positing that teachers within the experimental group would demonstrate a heightened understanding of instructional needs after receiving formative feedback from peers and students finds support in the data analysis. There is a significant difference in the understanding of instructional needs between the experimental and control groups, affirming the anticipated impact of cyclical formative feedback on teacher professional growth.

Finding #2 Time and Environment are Barriers to Engaging in Peer Feedback.

Teachers identify time constraints and environmental factors as formidable barriers that significantly impede their active participation in peer feedback initiatives. These challenges manifest as substantial deterrents, hindering educators from fully engaging in collaborative feedback processes essential for instructional improvement. While teachers think educational peer feedback is more effective than supervisor feedback, they shared that it is challenging to find the time during the day to facilitate it. Teachers shared, "Peers have too much on their plates to devote significant time to this task." another stated, "No time do such things, plus we already have a lot of daily expectations" while another simply asked the question, "Who has time for this?" These statements collectively highlight the pervasive challenge posed by time constraints, ultimately impeding educators' ability to fully engage in collaborative feedback processes crucial for instructional enhancement. In addition to time constraints, teachers also believe the reason for the lack of opportunities is because of the culture of the school, with one stating, " We have a culture where people shut their doors and "do their own thing" in many ways. Sadly, my concerns surround the building where I work as one where we do NOT use educational peer feedback." This cultural norm, as articulated by the teacher, represents more than just a passive

acceptance of working in isolation; rather, it actively impedes the integration of educational peer feedback initiatives within the school's framework. The prevalent mindset of teachers prioritizing individual autonomy over collaborative exchange diminishes the perceived value and relevance of peer feedback processes.

Teachers stressed the importance of having a teaching mentor, underscoring how it helps improve classroom management, fine-tune lessons, and enhance instructional effectiveness. However, this support tends to fade away after their first few years in the profession. As a school requirement, a specific time frame was allocated for mentoring, often accompanied by a modest stipend to compensate the mentor for their time. Teachers in the experimental group who recently needed a mentor expressed the importance of mandatory classroom observations and feedback during the mentorship period. However, they noted that after the mentorship concluded, the formalized observations and feedback were discontinued. Despite this, one participant emphasized ongoing discussions about effective teaching practices, stating, "We still discuss what works and what doesn't, and I have made changes based on my conversations with my mentor and other colleagues to continue evolving my teaching." While these teachers, who had a mentor in the past three years, still seek support and guidance from them, the previously scheduled observations and feedback no longer take place. Teachers know the importance of peer feedback and observations, but when it is no longer required cannot find the time to continue.

Because of time constraints, 26 of the 72 teachers (36%) reported that they engage in peer feedback through discussions about classroom concerns rather than through active observations in a classroom. One teacher shared they seek

individualized professional development through peer educators outside my own

department, school building, and district. Some of my most edifying collegial

conversations have been via the DOE, online trainings I seek out, professional learning

opportunities I seek out, partnerships I form with educators who share the perspective I

have about the crucial changes we need to make in public education.

These informal discussions among teachers have resulted in the development of fair grading

methods. These conversations have also helped in enhancing approaches to assist students facing

challenges related to executive function deficits, socio-economic barriers, understanding the

brain, and using fairness as a basis for creating activities centered around discussions on identity,

family, community, and societal issues. These conversations happen with peers throughout the

state and not just within the district.

Finding #3 Student Feedback Supports Teachers' Professional Growth more than Peer and Supervisor Feedback.

Student feedback, distinguished by its direct insight into classroom dynamics, emerges as

a potent catalyst for teachers' professional growth, surpassing conventional modes like peer and

supervisor evaluations. Its unique perspective, rooted in firsthand experiences, offers invaluable

insights into instructional strategies and the learning environment, making it an indispensable

tool for educators striving for pedagogical excellence. Of the teachers surveyed, 20 shared

specific examples of how they use student feedback in their classrooms, and 73% use some form

of student feedback to make instructional changes. Teachers often leverage student feedback to

improve curriculum and instructional content. This process helps identify what students find

most engaging, allowing educators to tailor their teaching to enhance student interest in the

material being taught. Numerous teachers underscored the significance of incorporating student feedback into their teaching practices. One teacher emphasized, "As an instructor, student feedback has been a vital, and best tool, in identifying gaps between intention/goal of assessment methods/pedagogical decisions and student reception/interpretation." Another teacher, who regularly solicits feedback from students at the conclusion of lessons, explained, "I have used student feedback in deciding what content is most relevant to them in my discipline, as well as in creating resources that would serve them to better understand the subject matter." This teacher collects feedback regularly after lessons to determine what was most beneficial to their learning and uses the feedback to redesign lessons. A teacher who utilizes a similar technique in student feedback reported, "I use anonymous surveys at the end of marking periods to allow students to reflect on their successes and challenges and to recommend changes to the curriculum." Despite their varied reasons for collecting student feedback, all of these teachers unequivocally recognize its vital importance in enhancing class curriculum and instruction. A specific example of how student feedback impacts instruction is by reflecting on the pacing of lessons and assignments. Among surveyed teachers, 18% confirmed that student feedback serves as a crucial tool for assessing the appropriate pace of curriculum delivery with one stating, "Feedback can be useful in gauging the pacing of the class. Do the students need more time on an assignment? Do we need more review before the test?" Unlike traditional evaluation methods, such as peer or supervisor assessments, student feedback offers a direct, firsthand perspective on instructional strategies and the learning environment. Teachers leverage this feedback to refine curriculum content and pacing, tailoring their approach to better engage students and enhance learning outcomes. The example of pacing adjustment based on student feedback underscores its practical

application in improving instruction. However, it's important to acknowledge the challenges some teachers face regarding the integration of student feedback.

While teachers acknowledge the significance of student feedback, they also recognize the necessity of overcoming various factors that may hinder its effective integration. As teachers navigate the importance of student feedback and some challenges it presents, one educator encapsulates this dilemma, "given the standardization benchmarks, assessments, policies/laws under which we operate, there are times when these student suggestions do not fit into the required schedule of instruction." The concern of instruction time constraints to provide opportunities to collect feedback, as well as time to change instruction, was shared by other teachers. An art teacher shared that an end-of-year assessment typically asks students to share information about the projects they did that year, including what they liked and did not like about them. However, this teacher admitted to never using that information to change the curriculum because of time to reflect on their input fully. While teachers recognize the significance of student feedback, they also grapple with challenges such as standardized benchmarks and time constraints that can hinder its effective integration. As demonstrated by the experiences shared, despite efforts to collect feedback, limitations in time often prevent teachers from fully utilizing this valuable resource to inform curriculum adjustments. Given the challenges some teachers faced in fully utilizing student feedback, it is important to consider the concerns raised by a portion of surveyed teachers regarding the gathering of such feedback.

Teachers share concerns about students' ability to provide honest feedback, which can be an obstacle. Approximately one-third (35%) of the teachers surveyed have concerns that prevent them from gathering feedback. Some are concerned that students "would not take it seriously" or

about the "honesty of their responses," while other teachers say that students "would just use the opportunity to say hurtful and mean things about teachers." One teacher in the control group who does not collect student feedback does not because they feel that "the feedback would be too personal, not about the class or instruction, but more about their current grade." These statements underscore the prevalent concerns among teachers regarding students' ability to provide honest feedback, posing a significant obstacle to the feedback-gathering process. These concerns range from doubts about the seriousness and honesty of students' responses to fears of potential hurtful or mean comments. Additionally, some teachers worry that feedback may veer into overly personal territory rather than focusing on instructional aspects. Interestingly, teachers in the formative feedback condition group did not express similar concerns or encounter evidence supporting them during the study, suggesting that structured feedback mechanisms may alleviate these apprehensions.

Within educational contexts, student feedback can provide significant potential in identifying areas of professional growth, as they offer authentic and valuable recommendations aimed at refining instructional methodologies. Some of the feedback given was in the form of compliments for teachers to understand what they are doing well. One student shared this feedback with their teacher, "I learned a lot from this class it allowed me to be creative in a way that was actually fun." Another student provided positive feedback by saying, "I think the lessons are engaging and interesting and allow us to learn in a safe, fun way that compliments the skill sets and learning styles of each individual student." Feedback like this offers valuable insight for teachers to understand which instructional practices are impactful and useful for students. Other feedback provided included specific examples of constructive criticism aimed at

improving the class. For instance, one student shared "I feel slight favoritism towards certain students" and another stated, "Their opinion and feelings affect how the students feel in the class." When asked about this feedback during interviews both teachers were not aware of these perceptions and were thankful for the reflection so they could be more aware of their actions during instruction and how that might affect student learning. Student feedback offers authentic and valuable recommendations aimed at refining instructional methodologies. Complimentary feedback, such as expressions of enjoyment and engagement, highlights effective teaching practices. Conversely, constructive criticism, exemplified by specific examples, pinpoints areas for improvement.

Students who provided constructive detailed feedback included examples of why the course was a good experience for them rather than just providing simple feedback. The most prominent student feedback addressed classroom management, student engagement, learning styles, instructional organization, and student feedback. The students who provided more specific feedback for improvement were considerate of the way they expressed their thoughts and did so in a non-hurtful way. In regards to classroom participation, one student requested to:

Get more people to engage more, I see students not participating at all and it bothers me. This class is all about participating and seeing students just flat-out ignore the teacher upsets me. The teacher should just be a little more strict when getting students to participate.

A student in a different class shared a similar thought:

I feel that one way I feel the class and instructions could be improved is through a stronger control base. For the students who disrupt the class warnings are given and

punishments, but it doesn't seem like it's enough for them to fully understand and stop. I think that if more control over the class was added more stuff could be done more efficiently. Along with that, too much would create an environment that most people would find not the most appealing.

Students who provided constructive feedback on their course experiences often highlighted specific examples of what worked well for them, alongside areas for improvement. By focusing on these specific targeted areas for improvement, teachers can more effectively address student concerns, particularly those related to the teacher's ability to maintain appropriate classroom management.

The teacher's ability to maintain appropriate classroom management during the class impacts student learning, as evidenced by the numerous responses directed towards this aspect in student feedback. Many student responses were directed at the teacher's ability to maintain appropriate classroom management of a class. Teachers who participated in the study not only acknowledged the validity of student feedback on classroom management but also expressed admiration for their keen insight into identifying distractions. Moreover, they found additional student comments stressing the significance of class design, organization, and curriculum structure, underscoring the necessity for improved opportunities for differentiated learning.

The significance of class design, organization, and curriculum structure was underscored by additional student comments, affirming the necessity for improved opportunities for differentiated learning. One art student requested "a better-defined curriculum or a more advanced path to fit the difficulty that students seek." another student in a math class requested "to show more of the steps for a problem, they sometimes do not show all of the steps because

most of the students already know the information." The teachers of these students adjusted their instruction to help these specific students, and they were impressed to see that all students benefited from this modification. The art teacher saw this for improvements after making instructional changes, "there was more engagement and an increase in student success from my differentiation." The math teacher in the experimental group shared, "It's been a lot better; everybody now turns in their homework, and they all started to ask more questions." In response to student feedback regarding the importance of class design, organization, and curriculum structure, teachers made tailored instructional adjustments, resulting in increased engagement, student success, and a more conducive learning environment overall.

In addition to offering suggestions for enhancing their learning experiences, students provided valuable feedback on various aspects of classroom instruction and assessment. Some students gave specific examples like "practicing the basics of sentences" or providing "daily objectives that help us remember our learning goals." Both of these were addressed by teachers through simple instructional changes during the semester that also saw an increase in student engagement and learning in those classes. Students in science classes provided feedback on using different modes of instruction "More hands-on and visual learning, and seeing what we are learning about with virtual reality or images would be helpful to increase my understanding of the subject matter." The teacher agreed with this feedback but would need to spend more time than a semester would allow to introduce this into their curriculum, but planned to explore this further in subsequent years. Students' constructive feedback proved instrumental in refining classroom instruction and assessment methods. Their specific suggestions, such as emphasizing foundational sentence structures and clarifying daily learning objectives, were swiftly addressed

by teachers, resulting in heightened student engagement and improved learning outcomes. While some recommendations, like incorporating virtual reality and visual aids in science classes, may require more time for implementation, educators remain committed to exploring these innovative approaches in future curriculum development.

Students also frequently provided feedback about the timing of grades and the quality of feedback they received from their teachers. One student in an English class shared with their teacher, "The grading process takes a lot of time. Therefore, I cannot learn from my mistakes for future assignments/tests. I usually have to ask for comments/critiques." The teacher agreed that their grading timeline is not as quick as they would like it to be and would work on providing more prompt feedback to students for the semester. Feedback is a collaborative opportunity with both students and teachers benefiting from feedback. The acknowledgment of delays in grading and the consequent inability for students to learn from their mistakes underscores the necessity for timely feedback to support student growth and learning.

The direct insights provided by students offer invaluable perspectives that surpass traditional evaluation methods, guiding educators towards pedagogical excellence. Teachers recognize the significance of student feedback in refining curriculum content, pacing, and instructional methodologies, ultimately fostering an environment conducive to student engagement and learning.

Research Question 2

The second research question investigates the impact of cyclical formative feedback from students and peers on administrators' summative evaluation and professional growth processes. My hypothesis suggests that integrating formative feedback from students and peers enhances

the effectiveness of the current summative evaluation model used by administrators. The analysis

primarily focused on group interviews within the experimental group. From these interviews,

various codes emerged, including accountability, feedback dissatisfaction, limited observations,

lack of content knowledge, lack of constructive criticism, summary of observation, authenticity,

comfort level, consistency, specificity, actionability, criticality, trust, student success, and

student growth. These codes were organized into themes and patterns, forming the basis for the

three main findings of this research question. Finding 4 explores the limited utility of supervisor

feedback for teacher professional growth. Finding 5 investigates the comparative effectiveness of

formative feedback versus summative feedback in identifying professional growth needs. The

final finding examines how instructional changes driven by formative feedback can contribute to

student growth. This examination aimed to uncover the ways in which formative feedback

complements and enhances professional growth alongside the summative evaluations conducted

by supervisors. Additionally, quantitative survey data underwent both descriptive and inferential

analyses to strengthen and contextualize the qualitative findings.

Finding #4 Supervisor Feedback and Evaluation is Not Useful for Identifying Professional
Growth Needs.

Teachers contend that the evaluation process and feedback from their supervisors lack

utility in identifying areas for professional growth, as they appear to be more geared towards

accountability rather than facilitating genuine development. This sentiment is further

compounded by the perception that supervisors often lack sufficient knowledge and have limited

observations of classrooms, thereby undermining the effectiveness of their feedback. Out of the

72 teachers surveyed, 45 (63%) expressed a belief that evaluation is for accountability and is not

designed to support teacher growth. A teacher in the experimental group shared, "It's kind of a joke. I'm not getting anything from it, I don't think they are used to generate any improvement. It is a tool for hiring and firing." A similar statement from another teacher voiced this review of the evaluation process, "evaluations have been done just for the sake of doing them and checking off a box, saying that they were done." None of the teachers who participated in this study found feedback from their supervisors supportive of their growth as professionals. When asked if the supervisor's feedback was helpful, one teacher responded,

> I'm sorry, but no. I don't always think their feedback is helpful. I think it's ticking a box sometimes, and I don't know if that's for every teacher, if that's just like for me or what, but it seems, okay, we're checking a box.

These statements underscore a dissatisfaction among teachers regarding the evaluation process and feedback from their supervisors. The majority of participants perceive these mechanisms as prioritizing accountability over genuine professional growth, exacerbated by supervisors' perceived lack of knowledge and limited classroom observations. In line with these concerns, the feedback provided through evaluation often lacks constructive criticism, instead predominantly focusing on observed aspects, thereby deepening the existing disparity between evaluation practices and meaningful professional growth.

The feedback provided during evaluation lacks constructive criticism and instead tends to center on observations. Ten participants provided specific examples of summative feedback from their supervisors, all of which were characterized as primarily observational statements about classroom activities and were not helpful in identifying areas for growth,

It tends to be light on real, pedagogical needs and heavy on observations of student

behavior and engagement. Supervisors have no real idea what they are observing in my

class and wouldn't know if the instruction was any good or not.

While the feedback from supervisors was viewed as being more about accountability, teachers

also devalued feedback from administrators because of the infrequency of their classroom

observations: "They are not aware enough of my teaching to do so. Because of this, I would not

be interested in their feedback." Another participant expressed similar views when comparing

the jobs of a principal and a teacher:

The principal doesn't do everyday teaching. The principal doesn't know the students in a

classroom environment. They are not familiar with the atmosphere in the classroom and

the details in the classroom. They don't see it, because when they talk they talk to

individual students in their office, it's a different environment.

The examples shared by participants underscored a dissatisfaction with the feedback, which

primarily focused on student behavior and engagement rather than instructional quality.

Moreover, participants highlighted a disconnect between administrators' observations and their

understanding of effective teaching practices, leading to skepticism about the value of their

feedback. Ultimately, the perceived infrequency of classroom observations by administrators

further undermined the credibility and relevance of their feedback.

Most participants expressed that the summative feedback from their supervisor consisted

mostly of praise, making them feel good as teachers but providing no insight on what to do

better. Suggestions for improved feedback included having a structure that was "more of a give

and take rather than something that is used in an evaluative method." Another participant

highlighted the need for specific feedback about areas identified for growth rather than vague

descriptors, noting that, "generally speaking, supervisor feedback has been seemingly rushed and

un-specific." The teacher survey results support the findings from the interviews. When asked if

the feedback from their supervisor was used to improve their instruction, 50 of the 72 (69%)

teachers surveyed responded that they did not. This alignment indicates a consistent perspective

among teachers regarding summative feedback.

Survey on supervisory summative feedback: All Teachers. The results of the survey

administered to all teachers on the value of the summative feedback from supervisors are

summarized in Table 16. Utilizing a numerical scale ranging from one (strongly disagree) to five

(strongly agree), where one indicates a strongly negative perspective, and five signifies a

strongly positive viewpoint, teachers did not feel they received regular feedback from their

supervisor (M = 2.64, SD = 1.154). The feedback they do receive is not used to improve their

instruction (M=2.76, SD=1.305). When asked if the feedback is important in setting their

professional growth goals they neither agreed nor disagreed (M = 3.10, SD = 1.323).

Table 16

Teacher Survey on Supervisor Summative Feedback

Survey Question	Mean	Median	Mode	SD	Min/ Max	Range
Receive regular summative feedback from my supervisor	2.64	2.50	2	1.154	1/5	4
Summative feedback from my supervisor is used to improve my instruction	2.76	3.00	3	1.305	1/5	4
Summative feedback from my supervisor is important in setting my professional growth goals.	3.10	3.00	4	1.323	1/5	4

Every teacher in the experimental group conveyed a shared perspective that the

observation for evaluation is seen as a performance aimed at presenting their capabilities

positively, driven by the desire to secure a salary increase and maintain job security. They will choose the best students and the best lessons to demonstrate their proficiency as a teacher to protect themselves and impress their supervisor. The views of a teacher who is new to the district elaborated on this,

> Having my supervisor in, I'm going to be really honest. It's a show, and I think it's a show for most teachers. Especially like when they're brand new to the school, like I am. They [supervisors] only see one class, not even a whole day, but like one specific class, and you get to pick the class they come into. So am I'm not going to pick my class that's like a bunch of whackadoos climbing all over the walls. No, I'm going to pick my excellent students who do everything that they need to do and are super respectful, because it's a show, and it's a formality, and it doesn't help me become a better teacher.

This view shared by a teacher in the experimental group shows a theme of non-authentic and fake due to the fact that the teacher chooses the best class to get a good evaluation. This theme persists as teachers express anxiety when a supervisor enters their classroom. This can happen when they are being observed by their supervisor because they were uncomfortable with them being in their classroom, so they felt their instruction during those visits was "unnatural." This feeling is not shared when students or peers are in their rooms. A teacher from the experimental group described their feelings when administrators come to their classroom:

> I can say I'm out of my comfort zone when someone pops in, and that is like someone is an intruder And then you have to be so careful. And then sometimes I don't feel like myself, you know, like when someone comes in to see, especially if it's someone who is important. You feel like, okay, I got to do this perfectly. I cannot say this, and I cannot

say that. And I think students actually feel that way, too. A lot of students. They either

rebel and show the boss that, okay, she's not doing a good job. Or they will be like, Oh,

my God! She is going to be evaluated by someone. We got to behave better that day.

The first quote highlights the artificial nature of classroom observations, while the second quote

illustrates the mix of comfort, anxiety, and stress experienced during evaluations. Both instances

underscore a shared theme of inauthenticity and weaknesses in evaluations due to the

observational process.

While supervisors only observe a classroom a couple of times every few years, students

are always in the classroom and see every lesson. All the teachers in the experimental group said

they were more comfortable with students and valued their feedback more than their peers and

supervisors. A science teacher values student feedback more because

I see students every day. So they're here every day. They're here for the good classes, or

you know the lesson that goes completely sideways, or sometimes the behavioral issues

that you have in class. The students live it with you every day, so I think it's super

valuable, their feedback, because they see it consistently, whereas, like with your

supervisor. They come in, I think mine came in twice this year, and so they're only seeing

2 times. And of course there's another adult in here. So the kids are on their best

behavior.

This quote shows examples of the value, consistency, and the authentic nature of student

feedback. Following the reception of initial feedback from students in the experimental group,

the educators uniformly acknowledged the substantial value inherent in the feedback. They

collectively affirmed its efficacy in pinpointing specific areas necessitating improvement within their respective instructional practices. One teacher explained:

> Student feedback is more specific, and more actionable because I really care about their opinion more than my supervisors. And I don't say that with any pettiness, it's just true, they're receiving the education. They're the ones that I'm trying to improve.

While this quote builds on the previous with the authentic nature of student feedback, it also adds codes of specific and actionable feedback. When asked which of the three forms of feedback they would continue using in the future to help them grow, 100% of the teachers in the experimental group identified student feedback as their top choice. all expressed a desire to continue collecting feedback using the forms created for this study.

The survey findings corroborate the conclusions drawn from teacher interviews. Participants expressed a more favorable view of student and peer formative feedback (Table 17) versus supervisor summative feedback. Using a numerical scale of one (strongly disagree) to five (strongly agree), student feedback received a positive rating (M = 4.0, SD = .872), peer feedback received a neutral rating (M = 3.76, SD .948), whereas supervisor feedback received a negative rating (M=2.85, SD= 1.252). Out of all survey respondents, 53 out of the 72 (74%) teachers reported using student feedback to improve their instruction, and 39 out of 72 (54%) have used peer feedback for instructional growth. Only 24 out of 72 teachers surveyed (33%) have used supervisor feedback to improve their effectiveness as an educator. The data indicates that teachers perceive formative feedback from students and peers as more beneficial for enhancing instructional skills compared to the summative feedback they receive from their supervisors. While student, peer, and supervisor feedback may not always align in identified areas,

incorporating all three sources offers a more comprehensive range of evidence for instructional growth than relying solely on supervisor feedback. The extent to which teachers choose to consider and integrate the feedback provided by administrators plays a crucial role in this instructional improvement process.

Table 17

Feedback to Improve Educator Effectiveness

Survey Question	Mean	Median	Mode	SD	Min/ Max	Range
Student feedback has improved my effectiveness as an educator	4.0	4.0	4	.872	2/5	3
Peer feedback has improved my effectiveness as an educator	3.76	4.0	4	.948	1/5	4
Summative feedback from my supervisor has improved my effectiveness as an educator	2.85	3.00	3	1.252	1/5	4

Teachers need more formative observations, and feedback during their educational career to provide insight into their professional growth needs. While traditional methods of supervision and evaluation were suspended during the years associated with the COVID-19 pandemic, many teachers reported that they had not received their expected evaluations in the years prior to the pandemic.

I have not been observed as a teacher in my classroom since 2016. My department chair has never given me any summative feedback, nor has my principal. Additionally, neither of my assistant principals have ever seen me teach. As a result, I can't provide an example of how this has worked. Instead, I have been left to chart my own path toward improvement, which has included seeking out professional development opportunities on my own, taking courses, engaging in resources, etc.

This teacher's reflections on their summative feedback shows examples of lack of observations, lack of feedback. Student feedback can be collected within the classroom, by the teacher to provide examples of specific growth areas. Continuing the theme of administrators' lack of classroom observation, this teacher expresses concerns about infrequent visits from administrators. With 13 years of experience, they note that "No one on the administration team (Superintendent, Asst. Superintendent, Principal, or Asst. Principals) have observed me since my first year at this district". The most common themes throughout these shared experiences reflect the consistency and lack of observations by administrators in classrooms to provide authentic feedback.

Of the 72 teachers participating in the study, 15 (21%) stated they have not had any supervisors in their classrooms for observations in many years. These participants believe they would benefit from more frequent classroom visits and feedback. Survey results reveal that 52 out of 72 (72%) of the teachers feel like they do not get regular feedback from their supervisor about their instruction. Comparing the means of the three questions focused on receiving feedback, the frequency of supervisor feedback was the lowest with a mean value of 2.64 and student feedback frequency was the highest at 3.56 (Table 18). This means that teachers are receiving feedback from students and peers more often than they receive feedback from their supervisor.

Table 18

Receiving Regular Feedback

Survey Question	Mean	Median	Mode	SD	Min/ Max	Range
Receive regular student feedback	3.56	4.0	4	1.01	1/5	4
Receive regular peer feedback	2.92	3.0	3	1.10	1/5	4
Receive regular summative feedback from my supervisor	2.64	2.50	2	1.154	1/5	4

Finding #5 Professional Growth Needs are Identified through Formative Feedback better than Summative Feedback.

Formative feedback from students and peers identifies teacher professional growth needs more successfully than summative feedback from a supervisor alone. Using the five core propositions on which teachers are evaluated in the State of Maine. All ten teachers in the experimental group could identify at least three areas where they saw growth. These same teachers reported that they have never been able to identify any areas of growth from any previous evaluation process or supervisor feedback. A teacher compared their feedback from previous evaluation cycles with the feedback from students and peers obtained during this study: "Last year when I went through the evaluation cycle I didn't really learn much from it. And then this year, I feel like I've grown exponentially. It's adding more tools to my toolbox." Another teacher in the Visual and Performing Arts department had a similar experience using student and peer feedback, "This was far more useful than anything that I have done with evaluations. I mean, this will change the way I do things versus not making any changes before."

Teachers benefited more from the student and peer feedback than from administrator feedback. This difference may be attributed to the specific nature, quality, and frequency of the feedback provided. A teacher who participated in the study reflected on the feedback provided:

> Getting that specific feedback about things I could specifically do better. makes me be more particular in my reflections. And also it actually helped me to be a little more in the moment and more self critical, and a pause in a healthy way of what I was doing in the moment. It helps us to make specific goals instead of just a vague okay. I introduced the lesson, and I got everyone engaged, which is great. But it's not extremely specific. So I really like the specificity of it that it allowed me to have.

This teacher acknowledges that detailed feedback helps in refining reflections, fostering a more critical and present mindset. This quote was identified as showing elements of specificity, and self critical. The specificity of the feedback is seen as instrumental in setting concrete goals, as opposed to vague assessments, allowing for a more targeted and effective approach to professional development.

Teachers are more likely to listen to feedback from a peer because they share a current understanding of teaching and they have a shared trust. 14 of the 72 teachers (19%) shared through the survey they do not value the feedback provided by the principal because they have not been an active teacher in a classroom in a long time. 100% of the teachers in the formative feedback group did not have a sense of trust in their principal when it came to feedback because they are not in the classroom; they are too far removed from the students. The experimental group could choose peers they trusted to provide them with feedback, which made the

experience more valuable. A teacher in the formative feedback group explained about the peer feedback process,

> They're still in the classroom. I think it's more useful to me than somebody who is not, not that I'm trying to negate anybody, but I just think you lose a sense of understanding when you've stepped away, and if you've never been in a classroom. I don't know if I really care what you have to say.

Teachers thought peer feedback was more useful because it was given by someone "in the trenches," and they "understood what was happening in the classrooms." These quotes show the instructional knowledge peers have especially when compared to administrators. They were able to give valuable feedback because they were also teachers. Peers operate on a level playing field, offering feedback with the primary aim of fostering the teacher's growth rather than simply documenting adherence to district requirements. Professional connections among teachers engender a sense of trust, facilitating more meaningful exchanges and support.

That trust is also carried to the students because teachers and students see each other daily. As one teacher put it, they see "the good, the bad, and the ugly" A world language teacher described their classroom atmosphere as, " I really think that the students in the same class are like family, and we trust our family. I want my students to be comfortable in telling me whether they understand or they don't understand." Regular interactions with students in a classroom setting cultivate an atmosphere of understanding and trust. In turn, these interactions contribute to the measurement of teacher professional growth, as evidenced by the feedback provided to teachers by students.

Instructional Feedback: Student Pre/Post. The results for the students' pre/post-instructional feedback are summarized in Table 19. Students did not report a significant difference in the teachers' willingness to help students, the learning atmosphere, or clear communication from the teacher. However it is worthwhile noting, while it may not be significant, the students reported an increase in these three areas.

Students reported a significant increase in seven of the ten areas they provided feedback on. Organization of subject matter (M = 4.02, SD = .860) increased significantly after feedback (M = 4.29, SD = .600), $t(119) = -2.952$, $p = .002$. Intellectual work required by students (M = 3.88, SD = 1.009) increased significantly after feedback (M = 4.14, SD = .901), $t(119) = -2.523$, $p = .006$. Teachers interest in teaching (M = 4.53, SD = .888) increased significantly after feedback (M = 4.76, SD = .534), $t(119) = -2.952$, $p = .003$. Student thinking (M = 4.38, SD = .926) increased significantly after feedback (M = 4.57, SD = .632), $t(119) = -2.307$, $p = .011$. Teacher preparation (M = 4.22, SD = .845) increased significantly after feedback (M = 4.43, SD = .695), $t(119) = -2.657$, $p = .004$. The amount students learned (M = 4.29, SD = 1.032) increased significantly after feedback (M = 4.50, SD = .661), $t(119) = -2.152$, $p = .017$. The overall rating of the teachers (M = 4.30, SD = .805) increased significantly after feedback (M = 4.53, SD = .721), $t(119) = -2.414$, $p = .009$. Negative t-values reflect a score increase from the pre-assessment to the post-assessment.

Table 19

Student Feedback on Instruction: Pre/Post

Area of feedback	Pre-Feedback		Post-Feedback				
	M	SD	M	SD	*t*	df	One-Tailed *p*
Organization of Subject Matter	4.02	.860	4.29	.600	-2.952	119	**.002**
Intellectual Work	3.88	1.009	4.14	.901	-2.523	119	**.006**
Interest in Teaching	4.53	.888	4.76	.534	-2.820	119	**.003**
Student Thinking	4.38	.926	4.57	.632	-2.307	119	**.011**
Teacher Preparation	4.22	.845	4.43	.695	-2.657	119	**.004**
Helping Students	4.65	.684	4.70	.545	-.801	119	.212
How Much I Learned	4.29	1.032	4.50	.661	-2.152	119	**.017**
Learning Atmosphere	4.43	.950	4.55	.696	-1.203	119	.116
Clear Communication	4.30	.866	4.36	.754	-.663	119	.254
Overall Rating	4.30	.805	4.53	.721	-2.414	119	**.009**

**p < .05*

For Research Question #2, the null hypothesis is rejected, and the alternate hypothesis is retained. The hypothesis asserting that the integration of cyclical formative feedback from both students and peers enhances the effectiveness of the current summative evaluation model administered by administrators is supported by the data analysis. Teachers reported a discernible improvement in professional growth to the evaluation process when formative feedback from students and peers was included. This suggests that the incorporation of comprehensive feedback mechanisms contributes to the overall efficacy of the summative evaluation model.

Finding #6 Teacher Instructional Changes Can Foster Student Growth.

Instructional changes based on formative feedback resulted in academic improvement among students. The teachers in the formative feedback condition group were all able to see some areas of improvement in their students throughout the study. All teachers perceived that their students were more engaged after they made some instructional changes based on their feedback; others said student attendance increased in their class.

The teacher who received feedback on their classroom management ability worked on keeping kids focused on the assignments and class instruction. Those students' grades went up over the study period for that teacher because they were focused on the lesson. The other students expressed their ability to focus because there were fewer distractions.

The math teacher in the formative feedback condition group changed how they presented new information and saw an increase in grades, with one student going from a 79.9 to a 91.3 because they showed more of the math steps to the class. This teacher also saw an increase in homework completion and the number of questions being asked during class. The science teacher received feedback from students about how groups are chosen, so they made changes to that part of their classroom instruction and got some surprising results,

> Their labs got better, and not just like completing the lab, but analyzing the data, and building the graphs and drawing the conclusions. Once I started picking their partners, it was like, there was no longer one student doing all the work, and one student just hanging out or somebody going by themselves. They were able to be on an equal playing field, and there were no biases of like, I'm with the super smart kid, so I'm scared to say anything it was like, let's work together. Let's get this done. And I saw a lot of leadership being built.

This examples shows student leadership, and student successes that connects with the theme of student growth. A world language teacher also adjusted the classroom group work and had a whole group activity daily during class. Not only did they find an increase in engagement, participation, and understanding, but also discovered

It reduced the anxiety level they have in the classroom, because it is a foreign language to them, It's difficult. And then they make mistakes. And now because we are doing it as a group activity, there is less pressure for an individual to do it correctly.

While this example connects to the theme of student growth it also illustrates student anxiety. During the semester, all of the teachers who took part in the study saw student improvement in various forms by the study's conclusion. They made specific instructional changes based on student feedback and saw that students responded positively. Students also acknowledged their own academic growth as seen in Table 18.

Pre/Post instructional feedback results: Student improvement. The results for the pre/post instructional feedback provided by students are summarized in Table 19, the constructs that directly relate to how much the student learned are summarized in Table 20. The mean value of the amount of intellectual work that was required by the students after providing feedback (M = 4.14, SD = .901) is significantly higher than before providing feedback (M = 3.88, SD = 1.009), $t(119) = -2.523$, $p = .006$. The mean value of the amount the students had to think for themselves during the class after providing feedback (M = 4.57, SD = .632) is significantly higher than before providing feedback (M = 4.38, SD = .926), $t(119) = -2.307$, $p = .001$. The mean value of the amount students learned during the class after providing feedback (M = 4.50, SD = .661) is significantly higher than before providing feedback (M = 4.29, SD = 1.032), $t(119) = -2.152$, $p = .017$. Negative t-values reflect a score increase from the pre-assessment to the post-assessment.

Table 20

Student Feedback on Instructional Learning: Pre/Post

Construct	Pre-Feedback		Post-Feedback				
	M	SD	M	SD	*t*	df	One-Tailed *p*
Intellectual Work	3.88	1.009	4.14	.901	-2.523	119	**.006**
Student Thinking	4.38	.926	4.57	.632	-2.307	119	**.011**
How Much I Learned	4.29	1.032	4.50	.661	-2.152	119	**.017**

*p < .05

Summary

This chapter reports the findings of a quasi-experimental study examining the impact of formative feedback on teachers' professional growth. Through the study, I aimed to determine whether regular formative feedback from students and peers is associated with more growth than traditional evaluation models. The study included two teacher groups, one that employed formative feedback and another that served as the control group. The data collection process included surveys to explore current perceptions of feedback, post-study interviews to explore the specific impacts of the formative feedback process and participant demographics.

The results showed that regular formative feedback from students and peers increases educator understanding of their needs for instructional improvement, thus fostering professional growth. The findings also show that student feedback is more impactful on professional growth than peer and supervisor. Through the study, I also found that regular formative feedback from students and peers can enhance and provide a more holistic view of administrators' current summative evaluation and professional growth process. I also found formative feedback provides specific professional growth through more constant, genuine, and authentic feedback from stakeholders, which in turn improves student academic performance.

CHAPTER 5: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Education is a dynamic and ever-evolving field, the cornerstone of societal advancement and progress. At its core lies the aspiration to continually enhance teaching practices, improve learning outcomes, and nurture the holistic development of students. In this pursuit of excellence, student feedback emerges as a bridge between educators and their students and a key element in shaping the education landscape. Feedback from peers provides tremendous insight into educational practice by trusted individuals that goes beyond what a summative observation can accomplish. This study, conducted as a mixed method, pre/post-quasi-experimental investigation, aimed to evaluate the impact of formative feedback from students and peers on the professional development of teachers. The goal was to determine whether this feedback approach leads to more significant professional growth compared to conventional evaluation models that solely involve feedback from a supervisor. This study addressed the following questions:

1. To what extent, if at all, does cyclical formative feedback from students and peers increase teachers' understanding of their needs for instructional improvement?

2. To what extent, if at all, does cyclical formative feedback from students and peers improve the current summative evaluation and professional growth process for teachers?

The data collection involved two groups—experimental and control—spanning a single academic semester. The experimental group integrated formative feedback from students and peers, while the control group did not engage in formative feedback. Data collection included surveys, student feedback forms, and post-study interviews, exploring the impact of nontraditional feedback on teacher professional growth.

The experimental group, comprising ten teachers, collected feedback from students and peers, employing a protocol aligned with instructional feedback forms. Pre and post-surveys and recorded interviews were utilized for data collection, with the results being member-checked and approved by participants. The control group, consisting of 62 teachers, underwent the same evaluation structure but did not alter their use of formative feedback.

Students participating in the formative feedback group provided feedback to teachers through Qualtrics surveys. A total of 120 students participated, offering insights into instructional needs. The data analysis involved qualitative methods such as inductive coding for interviews, surveys, and instructional feedback. Identified concepts were organized into themes. Survey data were analyzed using IBM's SPSS and Microsoft Excel, employing descriptive and inferential statistics to examine demographic details, feedback usage, and perceived value. This research contributes valuable insights into the potential impact of nontraditional feedback on teacher professional growth, shedding light on the perceptions and experiences of educators engaged in formative feedback practices.

The first research question was answered by exploring ways in which the integration of cyclical formative feedback received from students and peers serves as a catalyst for identifying instructional needs, providing goals for teacher professional growth, cultivating heightened teacher self-awareness, and fostering of constructive interpersonal relationships among both students and peers. The findings for research question one include:

- Teachers perceive formative feedback from students and peers as more valuable than summative feedback from their supervisor.
- Teachers find time and environment as barriers in participating in peer feedback.

- Student feedback is a more effective method of supporting teachers' professional growth than peer and supervisor feedback.

To answer the second research question, I identified thematic concepts in what ways summative feedback is not useful in identifying professional growth, how cyclical formative feedback improves student outcomes, and provides supplementary reinforcement for the evaluation process. The findings for research question two include:

- Teachers do not find the evaluation process or feedback from their supervisor useful for identifying professional growth areas.

- Formative feedback from students and peers identifies teacher professional growth needs more successfully than summative feedback from a supervisor alone.

- Students have shown improvement academically from instructional changes based on formative feedback.

In this chapter, I start by interpreting the findings of my study. I explore how these findings impact education, shedding light on their significance. Additionally, I examine the interconnectedness of educators, students, and the broader educational ecosystem, delving into their relationships and dependencies within this system. I discuss the implications of formative feedback on teacher professional growth and how this connects to educational policy. I will uncover how formative feedback enhances teaching effectiveness, fostering a culture of growth and improvement (Hattie & Timperley, 2007). I will delve into how feedback serves as the cornerstone for personalized professional development, nurturing a growth mindset among educators (Dweck, 2008). I will discuss how through feedback, teachers cultivate a heightened self-awareness, gaining a deeper understanding of their teaching styles and their impact on

students' lives (Cordingley et al., 2015). Finally, I will also navigate the intricate relationship between teacher growth and student success, understanding how teacher coaching informed by feedback improves instruction and elevates student achievement (Kraft et al., 2018).

Interpretation of the Findings

Effective teaching is a constantly evolving craft that demands continuous improvement and adaptation. Through the survey, 23% of the teachers expressed a desire for discussion around feedback rather than being given a summary of what they do. One shared that "brainstorming with my supervisor provided practical skills for my classroom management." something that was not happening with summative feedback alone. Formative feedback provides educators with valuable insights into their teaching practices, similar to how artists refine their work based on the audience's response. The discussions between educational peers, as experienced by teachers in this study, highlighted that formative feedback is not a one-way street; but rather should be used as a dynamic dialogue, an interactive process with far-reaching implications for all stakeholders.

Student feedback extends its influence far beyond the confines of the classroom. It fosters positive teacher-student relationships grounded in trust and open communication (Li et al., 2022). The initial staff survey shows that teachers see more benefit in student feedback (M=3.86) when compared to peers (M=3.40) and supervisors (M=3.01). They value student feedback because of the trust they share, something which was expressed by all teachers in the experimental group. The teachers noted an improvement in their morale due to positive changes observed in their classrooms during the study. This suggests that formative feedback has the potential to influence long-term career satisfaction, teacher retention, and consequently, the

stability and quality of the educational system (Ingersoll & Strong, 2011). Moreover, student feedback serves as a vehicle for promoting self-reflection, insight into the student learning experience, and providing student voice (Cook-Sather, 2006; Li et al., 2022; Mette et al., 2023). The inclusion of formative feedback helps to shape a comprehensive evaluation model that acknowledges the multifaceted dimensions of effective teaching (Darling-Hammond, 2013).

Enhanced Teaching Effectiveness

Formative feedback, in its essence, is a powerful tool for enhancing teaching effectiveness. All teachers in the experimental group identified areas in which they saw growth in their instruction based on student feedback. The formative feedback from peers and students identified opportunities for improvement that the teachers could not observe themselves. This outcome implies that the intervention, involving feedback from both peers and students, has contributed to a more profound comprehension of instructional requirements and professional growth within the experimental group. As Hattie and Timperley (2007) assert, feedback provides educators with the lens through which they can discern the compelling teaching aspects that require refinement. The teachers in the experimental group all benefited from the ability to reflect on specific and targeted feedback to determine how to implement it successfully. Engaging in a process of self-reflection, guided by feedback from both students and peers, facilitates purposeful modifications in teaching strategies and classroom management techniques. Although supervisors contribute feedback, the establishment of trust between teachers and their students and peers cultivates a receptiveness to listen and incorporate their recommendations. The cultivation of trust between supervisors and teachers is imperative for fostering a conducive environment that promotes professional growth.

Personalized Professional Development

One of the notable implications of student and peer feedback is its role in tailoring professional development to individual teacher needs. Pantić (2021) underscores this aspect, highlighting that feedback collected from students can be instrumental in designing tailored training programs that meet the specific needs of teachers. This personalized approach ensures that educators receive the support and training necessary to address their unique areas of concern. One participant shared, "It helped me to make specific goals instead of just vague ideas and generalized concepts that aren't usable." Teachers could use student and peer feedback to create more specific learning designs to reach their individualized goals.

Feedback provides concrete data on areas that require improvement, enabling educators to channel their energy into making meaningful, specific, and measurable changes (Carless & Boud, 2018). This targeted approach fosters a more efficient path to enhanced teaching effectiveness. Incorporating student and peer feedback into the professional development process fosters a culture of continuous improvement. It instills in educators a mindset focused on growth and development (Dweck, 2008). Teachers view challenges and improvement areas through feedback as personal and professional growth opportunities.

The personalized nature of professional development supported by student and peer feedback encourages the cultivation of a growth mindset among educators. Acknowledging areas where improvement is needed and actively seeking to address these challenges, teachers are committed to their growth and development (Dweck, 2008). This mindset shift is crucial for sustained professional growth.

Increased Teacher Self-awareness

Student and peer feedback catalyzes increased teacher self-awareness. Cordingley et al. (2015) argue that feedback encourages teachers to engage in reflective practice, which enables them to gain deeper insights into their strengths and weaknesses. Teachers develop a more profound understanding of their teaching methods and strategies through reflection. The process of self-awareness instigated by formative feedback is transformative. Teachers become more conscious of their teaching styles, interactions with students and the impact of their choices in the classroom. This heightened self-awareness sets the stage for continuous improvement. Teacher self-awareness, often cultivated through student feedback, is closely tied to one's teacher identity. This self-awareness not only impacts instructional practices but also influences the way teachers perceive their role in the lives of their students (Beauchamp & Thomas, 2009).

Improved Student Outcomes

Effective teacher professional growth, driven by formative feedback, can significantly impact student learning outcomes. Every teacher in the experimental group saw classroom improvements that they attributed to their instructional changes. Student improvements were seen in the form of engagement, homework completion, behaviors, and for many grade increases. Based on the instructional improvements, students reported learning more during the study (Table 20). These data confirm the finding of Kraft et al. (2018) that teacher coaching, often informed by student feedback, leads to improved instruction and higher student achievement. The impact of feedback goes beyond benefiting just teachers; it directly influences the students they instruct. However, for these benefits to materialize, it is essential for teachers to

actively use and implement changes in their instructional methods based on the feedback they receive.

At its core, high-quality teaching is a crucial determinant of student success. Feedback, collected and acted upon, plays a pivotal role in promoting such teaching by enabling educators to adapt their methods, materials, and approaches to better align with student needs (Darling-Hammond et al., 2005). Student feedback forms an essential part of the cycle of instructional improvement. It helps identify areas where instruction can be enhanced, leading to more effective teaching practices, which, in turn, translate into improved student outcomes. This iterative process underscores the dynamic relationship between teacher growth and student success (Hattie & Timperley, 2007).

Building Positive Relationships

Seeking feedback from students fosters positive teacher-student relationships. The act of actively soliciting and responding to student feedback supports a culture of open communication and trust between teachers and students. Strong relationships contribute to a supportive learning environment and positively influence student engagement and motivation (Li et al., 2022). The teacher-student relationship goes beyond merely transmitting knowledge; it is about forging meaningful connections with students. One teacher in the study said, "their feedback allows me to create more relevant connections with them, and building a supportive environment." While not statistically significant, students did notice the improvement in the learning environment (Table 19). The teacher-student relationship becomes a space of mutual respect, understanding, and encouragement (Ryan & Deci, 2000). In this context, feedback fosters an environment where students feel heard, valued, and part of the learning process. Positive teacher-student

relationships, nurtured through feedback, play a significant role in student motivation. When students feel respected, supported, and valued, they are more likely to engage in their learning (R. M. Ryan & Deci, 2000). Therefore, the implications of student feedback extend to the realm of student motivation and investment in education.

Long-term Career Satisfaction

Teacher retention is a crucial factor in the stability and quality of the educational system. Continuous feedback and opportunities for professional growth contribute to teacher job satisfaction and professional retention (Ingersoll & Strong, 2011). Various factors, including job satisfaction and growth opportunities, influence the decision to stay in the teaching profession. Teachers who feel supported and valued are more likely to stay in the profession (Ingersoll & Tran, 2023). This, in turn, stabilizes the educational system and ensures a consistent quality of instruction (Podolsky et al., 2019). Therefore, the implications of formative feedback ripple out to impact the overall health of the education system.

Mentoring and support play a critical role in teacher retention and professional growth. Formative feedback often serves as a basis for the design of mentoring programs, which further support early-career teachers' development (Ingersoll & Strong, 2011). Formative feedback emerges as a linchpin in this dynamic relationship between mentoring and teacher development. It serves as a foundational element for designing effective mentoring programs, providing a structured basis for mentors to tailor their guidance to the specific needs and challenges faced by individual teachers. The insights gleaned from formative feedback not only inform mentoring relationships but also enable mentors to identify precise areas where early-career teachers require targeted support. This personalized approach ensures that professional development is finely

tuned to align with the unique needs of each teacher, creating a more impactful and tailored learning experience.

Culturally Responsive Teaching

Feedback from a diverse range of students and peers can help teachers adapt their instruction to be more culturally responsive and inclusive (Gay, 2002). In the study, four teachers in the experimental group utilized student feedback to modify their instructional methods and class structures in response to identified student anxiety, of which they were previously unaware. This inclusive approach not only addresses issues of educational equity but also enhances the overall learning experiences for all students. Inclusive pedagogy recognizes and values diversity in the classroom. It promotes the idea that all students, regardless of their background, have the right to an education that respects and reflects their experiences (Ferguson, 2001). The implications of feedback, therefore, extend to the fundamental principles of equitable education. Equity in education is a foundational principle. Feedback-driven improvements in cultural responsiveness contribute to creating a fair educational environment where all students can thrive, regardless of their background (Banks & Banks, 2019).

Support for Teacher Evaluation and Accountability

Student and peer feedback can complement other teacher evaluation forms and provide a more comprehensive view of a teacher's effectiveness (Darling-Hammond, 2013). It adds a student perspective to the assessment of teacher performance, which is especially relevant in the context of teacher evaluations and accountability measures. Comprehensive teacher evaluations incorporate multiple data sources, including student feedback, peer observations, and self-assessments. Such a model offers a wholistic view of a teacher's performance, enhancing the

fairness and accuracy of evaluations (Goe et al., 2008). Student and peer feedback can be an essential catalyst for growth in the teacher evaluation process. When feedback is treated as a constructive tool rather than a judgment, teachers are more likely to use it as a stepping stone for improvement, positively impacting the teacher evaluation and accountability process (Danielson, 2007).

Hawthorne Effect in Observations

The Hawthorne effect, a fundamental concept in organizational psychology, emerged from a series of studies conducted by Mayo (1933) at the Western Electric Hawthorne Works during the 1920s and 1930s. Initially designed to investigate the relationship between lighting conditions and worker productivity, researchers unexpectedly discovered a consistent improvement in productivity regardless of changes in lighting levels. Subsequent analysis revealed that the observed changes were not solely attributable to the experimental manipulations but were significantly influenced by the workers' awareness of being subjects under scrutiny (Mayo, 1933). This phenomenon, later coined as the Hawthorne effect, underscores the profound impact of social and psychological factors on human behavior within organizational settings. The workers' heightened awareness and the desire to meet perceived expectations led to a self-imposed pressure, resulting in increased productivity and an enduring realization that the mere act of observation could influence workplace dynamics.

The Hawthorne effect has since transcended from its original context, finding relevance in diverse fields and settings beyond organizational psychology. Its implications extend to educational environments, and teachers have expressed how this changes their instruction and "performance" in their classroom during an observation by their supervisor. The concern arises

that if teachers exclusively excel when under supervision, the authenticity of the observation and subsequent feedback might be compromised. In contrast, given that students are consistently present in the classroom, feedback from them could provide a more genuine reflection of the typical instructional environment.

Limitations

This study was conducted at a high school in Maine. While it provides valuable insights, . the focus on this particular school restricts its generalizability. The absence of data collection from other grade levels within the district or from different states limits the extent to which the findings can be applied to a broader educational context. While the study's findings are valuable for understanding the specific dynamics within this high school, they may not necessarily represent the experiences and outcomes of students in diverse grade levels or other parts of the country. Future research encompassing a more comprehensive and varied sample would be necessary to draw broader conclusions.

Recommendations for Future Study

This study focused on the impact formative feedback has on teacher professional growth. However, it did not examine the impact of parent/guardian instructional feedback on teacher professional development. I believe this alternate form of feedback would work in conjunction with student and peer feedback and provide more insight into the needs of students. Examining my conceptual framework, it could be an important element between evaluation and reflection to add to the holistic understanding of instructional needs. There is a gap in the research and our understanding of the relationship between home-based feedback and a teacher's professional growth. As an educator, I believe the communication channel between parents/guardians and

teachers has inherent value. Further research should be undertaken to better understand the significance of this form of parent feedback in enhancing teachers' professional growth.

The experimental group for this study used feedback from high school students to pinpoint potential areas for professional development. The value of formative feedback obtained from elementary-aged children about a teacher's professional growth should also be studied. This age group, characterized by its unique developmental needs and educational requirements, may offer insights that differ from those of high school students. Any future research at the elementary level would need to consider adjusting the feedback-gathering methods to ensure their appropriateness for the specific grade level being investigated. Such research could offer valuable insights into how teachers can best utilize feedback from elementary-aged students to enhance their professional development, potentially uncovering new strategies and approaches tailored to this critical stage of education.

The interviews and open-ended survey responses brought to light a potential theme pertaining to the interconnection between growth mindsets and the application of feedback for instructional adaptations. Teachers professing a growth mindset exhibited a propensity for implementing more pronounced instructional changes in contrast to those lacking such a mindset. To systematically explore this relationship and its implications for instructional adjustments and professional development, it is recommended that future research consider employing a mindset scale, such as the one devised by Dweck (2008). Additionally, it is suggested that further investigations delve into this realm to ascertain the potential broader implications, establishing it as a noteworthy area for future research endeavors.

The analysis using one-way ANOVA to explore potential differences in feedback value across different departments (Table 11) did not find any significant results, indicating that there were no noticeable variations based on departmental affiliations. Similarly, there were no statistically significant differences observed in relation to years of experience (Table 12). Although these findings may seem inconclusive, further investigation through a customized survey with focused interview questions could provide deeper insights into how feedback perception varies across departments and among individuals with diverse levels of experience. Such an approach would enhance our understanding of the factors that impact feedback reception and utilization within the organizational context. Moreover, extending the research beyond just high schools to encompass the entire K-12 school environment would allow for a more thorough examination of feedback perceptions influenced by students' developmental stages, teaching methods, and administrative structures specific to each educational level. Broadening the study's scope in this way would facilitate the development of tailored interventions and strategies to improve feedback effectiveness across all educational stages.

Implications

Formative feedback exerts a profound influence on education by fostering a dynamic and responsive learning environment. Educational policies prioritizing formative feedback underscore the importance of ongoing, personalized assessment and guidance for students. This not only enhances student learning and understanding but also encourages teachers to adapt their instructional approaches to meet the diverse needs of their students. Such policies promote data-driven decision-making, emphasizing the collection and analysis of formative assessment data to inform teaching strategies. This approach reduces the reliance on high-stakes summative

assessments, easing the pressure associated with standardized testing and fostering a culture of continuous improvement within schools.

Formative feedback, when effectively integrated into education policy, does not replace summative assessments but complements them. The combination of formative and summative feedback allows for a more comprehensive understanding of student progress and achievement. While formative feedback occurs during the learning process and helps identify areas where students need additional support, summative feedback is typically delivered at the end of an instructional period, such as a semester or academic year. It provides a summary evaluation of what students have learned. Furthermore, it stimulates professional development among teachers, cultivating a more skilled and adaptable teaching workforce, and promotes integrating educational technology for effective feedback delivery. These policies are instrumental in shaping a more inclusive, equitable, and student-centered education system.

The shift towards personalized learning approaches and differentiated instruction, supported by formative feedback, is integral to these policies. This provides students with tailored learning experiences that cater to their individual needs and learning styles. Overall, formative feedback in education policy represents a significant step towards creating a more adaptable, responsive, and inclusive education system that focuses on the holistic development of students, fostering their success and well-being in a rapidly evolving world. When used with summative feedback, which offers a comprehensive evaluation of student performance at specific milestones, formative feedback becomes an essential tool for ongoing improvement. It ensures that students are well-prepared for these summative assessments. By combining both

types of feedback, education policies aim to balance accountability and support, fostering a more effective and student-centered learning environment.

Implications for Educational Leaders

Principals play a pivotal role in facilitating a culture of continuous professional growth within a school by allocating time for formative feedback from peers. By prioritizing regular opportunities for teachers to engage in collaborative discussions and share insights, principals foster a community of professional growth. These structured sessions can be dedicated to the exchange of ideas, lesson observations, and constructive critiques. Principals must actively encourage an environment where educators feel comfortable providing and receiving feedback from their colleagues, emphasizing a collective commitment to enhancing instructional practices. This not only enhances individual teacher development but contributes to the overall effectiveness of the entire teaching staff.

Creating a school environment supportive of collaborative growth is another essential responsibility of principals. This involves establishing a culture that values collaboration, values diversity in teaching approaches, and promotes the sharing of successful strategies. Principals can organize professional development opportunities that encourage collaborative planning and team-based initiatives. Providing resources and time for teachers to engage in joint projects, interdisciplinary collaborations, and learning communities further fosters an environment where educators can collectively learn and grow. Principals should actively champion collaborative efforts and celebrate successes to reinforce the importance of collaborative growth within the school community.

Additionally, principals must ensure support for student formative feedback, recognizing its significance in promoting effective teaching and learning. This involves creating mechanisms for students to provide constructive feedback on instructional methods and classroom experiences. Principals can institute feedback channels such as surveys and allow students to express their perspectives on teaching approaches. By incorporating student input into the feedback loop, principals enable teachers to make informed adjustments to their instructional methods, ultimately enhancing the overall learning experience for students. This holistic approach to formative feedback reinforces the principal's role as a catalyst for continuous improvement and creates a collaborative and supportive school environment.

Furthermore, the importance of principals and supervisors visiting classrooms regularly cannot be overstated. These visits not only provide firsthand insights into the teaching and learning processes but also demonstrate a genuine commitment to understanding the challenges and successes within the educational setting. By observing classroom activities, principals gain a nuanced understanding of the instructional dynamics, allowing them to offer targeted support and guidance. Moreover, frequent classroom visits help build a higher level of trust between principals and teachers. When educators witness administrative engagement in their daily work, it fosters a sense of collaboration and mutual understanding. This trust is foundational for an open and transparent communication channel, encouraging teachers to share their experiences, seek guidance, and readily embrace constructive feedback. In establishing this trust-based relationship, principals contribute significantly to the overall professional development and growth of the teaching staff, creating a positive and supportive school culture.

Implications for Teachers

A paradigm shift towards a more holistic evaluation, encompassing both formative and summative feedback mechanisms, emerges as a compelling proposition for empowering teachers to identify and address their instructional needs autonomously. Central to this transformative pedagogical philosophy is the cultivation of a robust data culture within educational establishments, placing the locus of control firmly in the hands of educators. Advocating for a departure from the narrow fixation on summative assessments towards a more nuanced understanding of student progression entails reconceptualizing data as a dynamic instrument for iterative refinement, thereby granting teachers agency in determining the most effective instructional strategies. Formative feedback, derived from ongoing assessments and classroom interactions, assumes a pivotal role in furnishing educators with timely insights into student comprehension, thereby facilitating responsive instructional adjustments tailored to individual learning needs. Integral to the operation of daily classroom praxis, this holistic orientation not only empowers teachers to make informed decisions but also fosters a culture of professional autonomy and self-reflection. Embracing a multifaceted evaluation approach permits educators to transcend the confines of standardized metrics, affording them a more authentic appraisal of student growth trajectories and reinforcing their role as architects of educational excellence. Such a methodological pivot not only augments pedagogical efficacy but also nurtures a sense of ownership and empowerment among educators, fostering a dynamic ecosystem wherein teaching practices evolve organically in response to student needs and pedagogical insights.

Moreover, the integration of formative and summative feedback within a cyclical feedback cycle cultivates a milieu conducive to continuous growth. By iteratively engaging with

feedback, educators are empowered to refine their instructional strategies, thereby fostering a culture of lifelong learning and professional development. Teachers, as gatekeepers to formative feedback, play a crucial role in initiating and leveraging this feedback for their benefit. Furthermore, they should engage in meaningful dialogues with administrators, sharing insights gleaned from formative assessments to contribute to a more holistic view of instructional effectiveness and support. Through this recalibration of assessment practices and collaborative engagement with administrators, educators propel both themselves and their students towards a trajectory of sustained growth and development, thereby exemplifying the transformative potential inherent in a holistic instructional paradigm.

Implications for Students

When students actively engage in providing feedback to their teachers, they become not just recipients but active participants in their own educational journey. This involvement fosters a heightened sense of self-awareness and self-reflection regarding their learning process. Through the act of providing feedback, students are prompted to reflect on their own learning experiences, gaining insights into their strengths, weaknesses, and areas for growth. This heightened self-awareness enables students to acknowledge the extent of their capabilities and recognize the potential for further development. As students contribute to the feedback loop, they develop a deeper appreciation for the interconnectedness of their efforts and the instructional strategies employed by their teachers. This meta-awareness cultivates a sense of agency, as students recognize their role in shaping their learning environment and influencing the trajectory of their academic progress. By actively participating in the feedback process, students not only

gain a better understanding of their own learning preferences and needs but also develop the confidence to advocate for themselves and actively engage in their own learning journey.

Furthermore, as students witness the tangible impact of their feedback on instructional practices and classroom dynamics, they become more attuned to their own potential for growth and learning as seen in Table 20. By acknowledging the iterative nature of a cyclical feedback loop, students come to appreciate that learning is a continuous process, characterized by adaptation and refinement. This recognition instills a sense of empowerment, as students realize that they possess the capacity to shape their own educational experiences and achieve their learning goals. In summary, the process of providing feedback to teachers not only enhances the educational experience but also fosters a culture of self-awareness and self-reflection among students. By actively engaging in the feedback loop, students become more attuned to their own learning needs, recognize their capabilities, and embrace the potential for growth and development. This heightened sense of agency and self-awareness not only enriches the learning experience but also equips students with the skills and mindset necessary for lifelong learning and success.

Conclusion

Formative feedback from students and peers is not merely a tool but a dynamic, reciprocal relationship that catalyzes growth, change, and excellence in education. Its far-reaching implications touch upon various dimensions of the educational landscape, intertwining with one another to create a comprehensive and transformative impact. Student feedback enhances teaching effectiveness, propelling educators to refine their strategies and practices continually. It paves the way for personalized professional development, nurturing a growth

mindset among teachers and making them committed to their ongoing growth journey. It fosters heightened self-awareness among educators, leading to a profound understanding of their roles and impact on students' lives.

Beyond the classroom, student feedback is intricately tied to student success. Effective teacher growth, driven by feedback, positively impacts student outcomes, making it a key driver of academic achievement. The relationships fostered through feedback between teachers and students extend beyond the realm of instruction. Trust, respect, and open communication become foundational, shaping the essence of the teacher-student dynamic, and motivating students to engage in their education actively.

Moreover, formative feedback shapes the career satisfaction and retention of teachers, ensuring the stability and quality of the educational system. When educators feel valued and supported in their professional development, they are more likely to remain in the profession, contributing to the long-term health of the education system. Additionally, feedback from students and peers is critical in advancing culturally responsive teaching and promoting inclusivity and equity in education.

Lastly, in teacher evaluation and accountability, student and peer feedback complement other assessment methods, offering valuable perspectives. A comprehensive evaluation model incorporating multiple data sources, including feedback, enhances the fairness and accuracy of teacher evaluations, ensuring that they reflect the multifaceted nature of effective teaching. When feedback is treated as a constructive tool for growth, it becomes a catalyst for teacher development and accountability, strengthening the educational system.

As education continues to evolve and adapt to the changing needs of society, it is clear that student and peer feedback will remain a cornerstone of educational excellence. This reciprocal relationship between educators and their students enriches the educational experience, not as a mere adjunct but as a fundamental force for positive change. It is a testament to the ongoing transformation of the educational landscape, guided by the quest for continuous improvement and the pursuit of excellence.

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APPENDICES

Appendix A: Student Evaluation of Instruction

1. The subject matter of this course was well organized.

> a. Strongly disagree
>
> b. Somewhat disagree
>
> c. Neither agree nor disagree
>
> d. Somewhat agree
>
> e. Strongly agree

2. This course was intellectually stimulating.

> a. Strongly disagree
>
> b. Somewhat disagree
>
> c. Neither agree nor disagree
>
> d. Somewhat agree
>
> e. Strongly agree

3. The instructor was genuinely interested in teaching.

> a. Strongly disagree
>
> b. Somewhat disagree
>
> c. Neither agree nor disagree
>
> d. Somewhat agree
>
> e. Strongly agree

4. The instructor encouraged students to think for themselves

> a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree.

5. The instructor was well prepared.

 a. Strongly disagree

 b. Somewhat disagree

 c. Neither agree nor disagree

 d. Somewhat agree

 e. Strongly agree

6. The instructor was genuinely interested in helping students.

 a. Strongly disagree

 b. Somewhat disagree

 c. Neither agree nor disagree

 d. Somewhat agree

 e. Strongly agree

7. I learned a great deal from this instructor.

 a. Strongly disagree

 b. Somewhat disagree

 c. Neither agree nor disagree

 d. Somewhat agree

 e. Strongly agree

8. The instructor created an atmosphere conducive to learning.

> a. Strongly disagree
>
> b. Somewhat disagree
>
> c. Neither agree nor disagree
>
> d. Somewhat agree
>
> e. Strongly agree

9. The instructor communicated the subject matter clearly.

> a. Strongly disagree
>
> b. Somewhat disagree
>
> c. Neither agree nor disagree
>
> d. Somewhat agree
>
> e. Strongly agree

10. Overall, I would rate this instructor as…

> a. Poor
>
> b. Fair
>
> c. Good
>
> d. Very Good
>
> e. Excellent

11. What would improve the class or instruction? (Short Answer)

Appendix B: Teacher Pre-Survey on Feedback

Demographics

1. Please create an anonymous user name using the following protocol.

First Name (Make of your first car)

Middle Name (Name of your first pet)

Last Name (Year you graduated from high school)

2. Years of total experience as an educator.

a. 1-5 years

b. 6-10 years

c. 11-15 years

d. 16-20 years

e. 21-25 years

f. 25-30 years

g. 31+ years

3. Years of experience in the Bangor School Department.

a. 1-5 years

b. 6-10 years

c. 11-15 years

d. 16-20 years

e. 21-25 years

f. 25-30 years

g. 31+ years

4. What department are you in?

    a. English

    b. Guidance

    c. Math/Business

    d. Physical Education/Health/JROTC

    e. Special Education

    f. Science

    g. Visual and Performing Arts

    h. World History

    i. World Language

5. What is your highest level of education?

    a. Bachelors

    b. Masters

    c. CAS/EdS

    d. Doctorate

7. Are you a participant collecting feedback for my study this semester?

    a. Yes

    b. No

Evaluation Model Effectiveness

8. I am familiar with the district's current evaluation system.

    a. Strongly disagree

    b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

9. The evaluation system in my district improves teacher effectiveness.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

10. The evaluation process in my district has improved the quality of my teaching.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

11. The evaluation process is used as a professional growth tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

12. The evaluation process is used as an accountability tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

13. The evaluation process plays an important role in who I am as an educator.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

Student Feedback

14. I regularly collect student feedback in my classes.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

15. I use student feedback to improve my instruction.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

16. Student feedback has improved my effectiveness as an educator.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

17. Student feedback can be used as a professional growth tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

18. Student feedback is important in the setting of my professional growth goals.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

19. How have you used student feedback to improve your classes or instruction?

(Short Answer)

20. What issues or concerns have you had with student feedback?

(Short Answer)

Educational Peer Feedback

21. I regularly collect educational peer feedback in my classes.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

22. I regularly use educational peer feedback to improve my instruction.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

22. Educational peer feedback has improved my effectiveness as an educator.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

e. Strongly agree

23. Educational peer feedback can be used as a professional growth tool.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

24. Educational peer feedback is important in the setting of my professional growth

goals.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

25. Give an example of how you have used educational peer feedback to improve your

classes or instruction?

(Short Answer)

26. What issues or concerns have you had with educational peer feedback?

(Short Answer)

Supervisor Feedback

Definitions:

● Summative feedback is defined as feedback directly connected to your evaluation.

● Formative feedback is defined as feedback not connected to your evaluation.

● A supervisor is defined as any administrator that participates in your evaluation

process.

27. I regularly receive summative feedback from my supervisor about my instruction.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

28. I regularly use summative feedback from my supervisor to improve my instruction.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

29. Summative feedback from my supervisor has improved my effectiveness as an

educator.

    a. Strongly disagree

    b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

30. Summative feedback from my supervisor can be used as a professional growth tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

31. Summative feedback from my supervisor is important in the setting of my

professionalgrowth goals.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

32. My supervisor provides more summative feedback than formative feedback.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

33. Give an example of how you have used summative feedback from your supervisor to improve your class or instruction?

(Short Answer)

34. What issues or concerns have you had with summative feedback from your supervisor?

(Short Answer)

Appendix C: Teacher Post-Survey on Feedback

Demographics

1. Please create an anonymous user name using the following protocol.

First Name (Make of your first car)

Middle Name (Name of your first pet)

Last Name (Year you graduated from high school)

2. Years of total experience as an educator.

a. 1-5 years

b. 6-10 years

c. 11-15 years

d. 16-20 years

e. 21-25 years

f. 25-30 years

g. 31+ years

3. Years of experience in the Bangor School Department.

a. 1-5 years

b. 6-10 years

c. 11-15 years

d. 16-20 years

e. 21-25 years

f. 25-30 years

g. 31+ years

4. What department are you in?

    a. English

    b. Guidance

    c. Math/Business

    d. Physical Education/Health/JROTC

    e. Special Education

    f. Science

    g. Visual and Performing Arts

    h. World History

    i. World Language

5. What is your highest level of education?

    a. Bachelors

    b. Masters

    c. CAS/EdS

    d. Doctorate

7. Are you a participant collecting feedback for my study this semester?

    a. Yes

    b. No

Evaluation Model Effectiveness

8. I am familiar with the district's current evaluation system.

    a. Strongly disagree

    b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

9. The evaluation system in my district improves teacher effectiveness.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

10. The evaluation process in my district has improved the quality of my teaching.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

11. The evaluation process is used as a professional growth tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

12. The evaluation process is used as an accountability tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

13. The evaluation process plays an important role in who I am as an educator.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

Student Feedback

14. I regularly collect student feedback in my classes.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

15. I use student feedback to improve my instruction.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

16. Student feedback has improved my effectiveness as an educator.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

17. Student feedback can be used as a professional growth tool.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

18. Student feedback is important in the setting of my professional growth goals.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

Educational Peer Feedback

19. I regularly collect educational peer feedback in my classes.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

20. I regularly use educational peer feedback to improve my instruction.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

21. Educational peer feedback has improved my effectiveness as an educator.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

22. Educational peer feedback can be used as a professional growth tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

23. Educational peer feedback is important in the setting of my professional growth

goals.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

Supervisor Feedback

Definitions:

● Summative feedback is defined as feedback directly connected to your evaluation.

● Formative feedback is defined as feedback not connected to your evaluation.

● A supervisor is defined as any administrator that participates in your evaluation

process.

24. I regularly receive summative feedback from my supervisor about my instruction.

    a. Strongly disagree

    b. Somewhat disagree

    c. Neither agree nor disagree

    d. Somewhat agree

    e. Strongly agree

25. I regularly use summative feedback from my supervisor to improve my instruction.

    a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

26. Summative feedback from my supervisor has improved my effectiveness as an educator.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

27. Summative feedback from my supervisor can be used as a professional growth tool.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

28. Summative feedback from my supervisor is important in the setting of my professionalgrowth goals.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

29. My supervisor provides more summative feedback than formative feedback.

a. Strongly disagree

b. Somewhat disagree

c. Neither agree nor disagree

d. Somewhat agree

e. Strongly agree

Appendix D: Semi-Structured Interview Protocol

Semi-Structured Interview for formative feedback condition Group Teacher Questions

Script:

"Welcome and thank you for being here today. The purpose of this interview is to gather

your experiences in using formative feedback from a variety of sources this semester and how it

has impacted your instruction. I want to request that you confirm that you have read the consent

form and agree to participate?

I will guide our conversation by asking questions connected to formative feedback. I ask

you to please be honest with your answers; any and all responses can help determine the

effectiveness of formative feedback. I will be using Zoom for this interview both for recording

purposes and for transcription services. This video recording will be deleted immediately after

transcription is completed. If you do not want to be recorded, I will take notes instead.

Transcripts and notes for this interview will be kept on a password-protected computer and on a

password-protected cloud storage service. The information gathered from this interview will be

used as part of my doctoral dissertation, and will be shared with my instructors and peers.

Everything shared today is confidential, and your name will never be shared.

Do you have any questions?

(Pause to answer questions)

Okay then let's begin."

Demographics

How long have you been in the field of education?

How long have you been in this district?

How many evaluation cycles have you been through?

Formative Feedback Experiences

Student Formative Feedback

Share some examples of student feedback you received and how you used that to improve your teaching.

Follow up: How and in what ways did the feedback from students surprise you?

What are some reasons you believe teachers should use students' feedback to improve their instruction?

In what ways do you use or value student feedback differently than feedback from your supervisor?

Parent/Guardian Feedback

Share some examples of parent/guardian feedback you have received and how you used that to improve your teaching.

Follow up: How and in what ways did feedback from parents surprise you?

What are the reasons you believe teachers should use parents' feedback to improve their instruction?

In what ways do you use or value parent/guardian feedback differently than feedback from your supervisor?

Educational Peer Feedback

Share some examples of peer feedback you received and how you used that to improve your teaching.

Follow up: How and in what ways did the feedback from your peer(s) surprise you?

What are some reasons you believe teachers should use educational peer feedback to improve their instruction?

In what ways do you use or value educational peer feedback differently than feedback from your supervisor?

Formative feedback outcomes

What changes were observed in student outcomes for the class(es) you collected feedback from? For example: grades, attendance, and/or work completion.

Follow up: Please share specific student success stories, without using their name please.

Follow up: What are examples of the improvements in their work you could share?

Looking at the five core propositions from the State of Maine, which areas do you feel you have improved this semester because of the formative feedback you received. (Interviewer will list the five core proposition on the screen or in the chat so the interviewee can refer to them easily.)

Follow up: What are some examples of your improvements in those propositions?

The five core propositions from the State of Maine

1. Teachers are committed to students and their learning

2. Teachers know the subjects they teach and how to teach those subjects to students

3. Teachers are responsible for managing and monitoring student learning

4. Teachers think systematically about their practice and learn from experience

5. Teachers are members of learning communities

What forms of feedback, that you used this semester, would you continue using and why?

What advice would you give to another educator about using formative feedback from students, parents/guardians, and peers?

Appendix E: Peer Feedback Protocol

Teacher: Grade/Subject: Date:

Core Propositions
1. Teachers are committed to students and their learning.
2. Teachers know the subject they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning and performance in a positive learning environment.
4. Teachers think systematically about their practice and learn from their experience.
5. Teachers are members of professional learning communities.

Elements	Observed	Comments
Learning targets/outcomes are visible and communicated to the learner		
The classroom learning environment is conducive to learning		
Teacher questioning and/or instruction leads students to higher-level thinking		
Instructional resources/activities appropriately challenge all learners		
Students are engaged in the lesson		
Teacher enthusiasm for the subject/content is evident		
Class time is managed effectively and efficiently		
Instructional practice reflects whole, small, and individual settings		
Students can explain the purpose of the lesson and the purpose of the specific learning activity		
Other:		

Comments:

BIOGRAPHY OF THE AUTHOR

Eric Hutchins was born in Orland, Maine on August 22, 1980. While he moved around the country a lot growing up most of his time was spent in Maine. He graduated from The University of Maine in 2003 with a Bachelor's degree in Studio Art/Art Education and a Bachelor's degree in New Media with a minor in Art History. In 2020 he graduated from the University of Maine with his Master's degree in Educational Leadership. Eric has been teaching the Graphic Arts since 2003. Eric is a candidate for the Doctor of Education degree in Educational Leadership from the University of Maine in May, 2024.