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OPTIMISING PEDAGOGICAL PRACTICES THROUGH FEEDBACK LOOPS: A STUDY ON STUDENT-CENTRED LEARNING IN HIGHER EDUCATION

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Abstract

In higher education, the process of closing the feedback loop requires a multifaceted approach which encourages meaningful student-teacher interactions and fosters student-centred learning. This paper builds upon existing studies on student-centred feedback conducted in other regions to examine the impact of student feedback on the learning process in a Pakistani institute. It utilises student feedback loops, data and information about the course objectives, assessments, tasks, and activities to continuously refine the instructional process, thus highlighting a learning and process-focused approach in place of a teaching and product-centred one. An action research design was used to foster 'action-focused' change in the learning process. 28 creative writing students were selected using convenience sampling to participate from the outset by giving feedback and recommendations through a Google form on the activities and tasks suggested by the teacher. The continuous dialogue between the learners and the teachers indicates the iterative nature of the process, aiming to improve instructional practices and promote student agency. Feedback loops in education allow educators to refine their teaching methods and enhance students' learning experiences. This paper used student grades as data for descriptive quantitative analysis, while student interviews and anonymous reflections underwent Braun & Clarke's (2006) thematic qualitative analysis to further refine instructional practices. This research will emphasise the importance of self-study for teachers in making their practices more feedback-oriented. Incorporating mutual feedback will demonstrate how a dynamic learning process can enhance both teaching and learning, showing its potential for continuous improvement in education.

Keywords: Feedback, Pedagogical, Agency, Thematic, Collaborative.

Introduction

Enhancing pedagogical practices through feedback loops: a dynamic approach to student-centred learning

The concept of "closing the feedback loop" underscores the transformative potential of feedback when it is systematically gathered, critically reflected upon, and effectively applied. In education, as in astronomy, this process represents an ongoing quest to refine our understanding of the unknown. In the same way that astronomers use telescopes to look deeper into space to gain better insights, feedback loops in education allow educators to refine their teaching practices to improve students' learning. Correcting errors is not the sole purpose of feedback loops; they also allow a better understanding, adaptation, and growth for both the students and their teachers. They require constant reflections that lead to adjustments in education, like astronomy. Within the context of a creative writing course, closing feedback loops highlights the ever-changing nature of the student-teacher relationship, focusing significantly on collaboration rather than outdated, traditional methods of instruction. Drawing from Mezirow's Transformative Learning Theory (Mezirow, 1991; Kitchenham, 2010), feedback loops can promote reflection, leading to significant and transformative learning experiences for students and teachers. Feedback loops can allow them to refine and change their perspectives, yielding a more profound understanding of their learning journey. Feedback loops also help teachers evolve, and Fuller's Teacher Development Stages (Fuller, 1969; Conway & Clark, 2003) provide an understanding of how this process occurs. Initially, teachers may focus on surviving the day-to-day challenges in the classroom, but with time and through iterative feedback, they shift their concerns to mastering pedagogy and improving student outcomes. However, reflective practice is key to fostering change in teachers' professional actions and a way teachers can extract meaning from their teaching experiences. This said, reflecting on experience alone and in a vacuum may be difficult (Thies-Sprinthall 1984; Zeichner 1996; Reiman 1999); Reflective practice usually needs to be guided to fulfil its learning potential (Boud, Keogh, & Walker 1985; Dewey 1933). This shift from a teacher-centred approach to learner-centred teaching is focused on the process rather than on content and promotes meaning-making, is progressive and constructivist (Grubb et al., 1999; Karabell, 1998). Active learning is at the heart of a learner-centred approach, as learners participate in creating knowledge rather than being passive recipients of content, while teachers focus on learning and the content of the course becomes ancillary (Cranton, 1998). Thus, this iterative process of closing feedback loops is essential to foster a learner-centred environment, enabling continuous and meaningful dialogue between the students and the teachers, and influencing both students' academic development and teachers' professional development.

Context

This study was conducted in an ENGL250: Creative Writing course open to undergraduate students at varying levels of their degrees, at an American chartered liberal arts university in Lahore, Pakistan. The 28 students enrolled in the course are second-language learners of English, having used English as the medium of instruction throughout their education. They come from both urban and rural areas across Pakistan. The course teacher is an expert in the English language, having experience of over 15 years in teaching higher education courses, as well as a background in teacher training and school leadership. She has taught this course for the past five years and designed it according to Deefink's Instructional Design Framework. The course materials incorporate a variety of texts and media, including classic as well as contemporary literature, along with various talks, documentaries, movies, and songs. This course was designed by incorporating the process of feedback loops as an iterative process, prone to continuous adjustments. The teacher understood that the traditional feedback approach at the end of the course was not enough to address student needs. Thus, in this course, feedback was gathered continuously and served as a tool that promoted student and teacher reflection, motivating them to refine their practices. Allowing students to provide feedback as an ongoing process not only helps improve their outcomes but also fosters teachers' professional growth, guiding them through Fuller's stages of development toward greater mastery and self-awareness.

Research Objectives

1.To explore the process of closing the feedback loop and its influence on students' learning

outcomes, engagement, and overall academic development in a creative writing course.

2.To analyse the role of closing the feedback loop in the teacher's professional development, specifically how it enables them to adapt their teaching strategies and enhance student learning.

3.To examine the iterative feedback process that fosters student autonomy, competence, and motivation and encourages student agency in this creative writing course.

Research Questions

1. How does the process of "closing the feedback loop" impact students' learning outcomes and engagement in a creative writing course?

2. In what ways does "closing the feedback loop" contribute to the teacher's professional development, particularly in refining pedagogical practices and improving student outcomes?

3. How does the iterative feedback process between students and teachers impact student autonomy, competence and motivation?

Rationale for the Study

Shallow learning occurs when teachers merely skim the surface, teaching only textbook content without fostering deeper understanding (Case, 2013). In contrast, educators who prioritise conceptual understanding within a relevant context create environments that encourage original thinking and authentic learning. Breaking free from traditional content delivery may be uncomfortable at first, but as the saying goes, "If you always do what you've always done, you'll always get what you've always got" (Teo & Chen, 2024). Over time, a shift in perspective can foster student growth and allow teachers to discover the creative potential in their teaching. This process requires the courage to relinquish certainty and embrace new possibilities (Fromm, 1951). To truly engage students, education must build pathways that connect them with ideas, prior knowledge, and personal experiences, enabling them to reshape and reimagine information. Achieving this goal requires a reevaluation of teaching methods—one that considers not only the unique needs of students but also the importance of questioning, discussion, and debate that challenge our own deeply held beliefs. It is essential to view teaching as a dynamic and ever-changing process, allowing mutual growth of students and teachers. This is the most effective way to trigger deep and critical thinking and make content that is suitable for the students, creating a significant impact. While previous research has examined and studied the impact of feedback and a student-centred approach to learning across different regions, little attention has been paid to how feedback loops would be received in Pakistani institutes. Moreover, teacher feedback through assessments that inform pedagogical practice has gained greater attention in the current educational discourse (Andrade & Brookhart, 2016; Dinsmore & Wilson, 2016; Laveault & Allal, 2016), but the role of student feedback remains relatively unexplored. There is growing evidence that showcases the shift from unilateral and teacher-initiated feedback processes to co-constructed teacher-student dialogues and their impacts on student learning and engagement (Boud & Molloy, 2013; Yang & Carless, 2013). Thus, this research seeks to fill the gaps by examining how student feedback and closing the feedback loop can enable their development as critically reflective and informed learners.

Significance of the Research

The significance of this research lies in its potential to redefine the process of receiving feedback as one of continuous mutual growth and change. When feedback loops are "closed" through reflection, required adaptation in learning, they allow teachers and students to be in an ever-evolving partnership in learning. By considering Mezirow's Transformative Learning Theory, this research depicts how feedback can be a catalytic lens for reflection, changing the perspective of students on course development and altering how they normally engage with the course content. This research is additionally significant to the teacher's role in the context of Fuller's Teacher Development Stages. It provides a lens to understand how receiving feedback facilitates the teacher to reach mastery in their field. As opposed to being static and fixed, the teachers evolve alongside their students, moving towards deeper engagement with student-centred pedagogy. By addressing the research gap as mentioned in the previous section, this study provides valuable insights into student-centred feedback and the organic process of closing these feedback loops through feedback incorporation and implementation. This knowledge can benefit pedagogical practices in Pakistan; a shift from traditional teaching practices to more innovative methods that focus on continuous

student feedback can improve the overall teaching culture across the country and encourage student development in critical thinking, innovative and imaginative abilities and openness to differing perspectives (Dewey, 1933; Vygotsky, 1978; Hattie & Timperley, 2007; Al-Zahrani, 2015; Toom et al., 2015; W. Y. Li, 2016)

Conceptual and Theoretical Framework

At the heart of this study is the metaphor of the telescope, an instrument that is used to refine one's focus. Within the context of education, the purpose of feedback loops is like that of a telescope, as they help refine both the students' and teachers' understanding of the learning process. Teachers continue to adjust and change the teaching process to meet the needs of students according to the feedback they receive, much like how an astronomer adjusts the lens for better clarity. This study uses Fuller's Teacher Development Stages (Fuller, 1969; Conway & Clark, 2003) to demonstrate the impact of feedback on student learning and its contribution to educational development. Initially, feedback is about survival, course management and meeting immediate needs. As it continues, the teacher becomes perceptive to student needs, shifting towards mastery. This iterative process is akin to astronomers evolving their instruments to capture more accurate data over time. Mezirow's Transformative Learning Theory (Mezirow, 1991; Kitchenham, 2010) further provides a theoretical basis, illustrating the profound shifts in students' perspectives due to feedback. Additionally, feedback loops support the elements of autonomy, competence and relatedness found in Self-Determination Theory (SDT) (Deci & Ryan, 1985). They allow students to become agents of their learning, enhance their sense of competence and increase their intrinsic motivation to engage with the material independently.

Literature Review

Feedback loops are recognised as powerful tools in education, promoting continuous reflection and improvement. Their cyclical and iterative structure makes them different from other active learning techniques. Unlike peer groups, role-plays, problem-based learning and case-based learning, feedback loops foster improvement over time instead of the immediate engagement and application provided by other techniques. Research on feedback loops suggests that they provide students with opportunities to reflect on their understanding, adjust their approach, and refine their learning (Hattie & Timperley, 2007). In this context, feedback loops serve as instruments, like telescopes, that help students and teachers gain clearer insights into the learning process. Classroom passivity in traditional teaching practices significantly hinders student learning (Marioara, 2015) due to the static curriculum and constrained instructional strategies. Paulo Freire (2000), in his book *The Pedagogy of the Oppressed,* criticised the traditional, didactic education system in which the students were passive vessels that the teachers filled with information. Relevant to this, Freire stated, "education is suffering from narration sickness" (Paulo Freire, 2000, p. 71). Pedagogical practices continue to be teacher-centred, and students remain passive listeners. However, in today's technological and globalised world, there is a pressing need for better innovative approaches in academic development and instructional practices (Colet, 2016). This ensures students' exponential growth in a world that demands more active and progressive ways of learning. Moreover, these changes must stem from a philosophical approach that underscores the importance of active and hands-on experiences as fundamental to learning. Dewey (1933) argued that it is essential to learn that students build their knowledge, and that the teachers should adjust the curriculum to fit students' prior knowledge and interests as fully as possible. The concept of feedback is also supported by socio-constructivist theories, which assume that reality is subjective and socially constructed as individuals build their understanding of the world through real-life experiences and interactions with others. Therefore, the learners in this study are provided with multiple opportunities to immerse themselves in varied experiences and interact meaningfully with their peers and the course materials. Vygotsky (1978) argues that learning is most effective when learners engage in dialogue, actively constructing knowledge through feedback and reflection. This aligns with the idea of feedback loops as ongoing dialogues between students and teachers, where both parties refine their understanding and teaching practices through continuous interaction. Implementing these ideas, the past few decades have seen pedagogical practices beginning to move from teacher-centric models to student-centric

models focusing on learning experiences (Colet, 2016). Instead of being the authoritative figure, the teacher thus becomes a facilitator (W. Y. Li, 2016), receiving and encouraging questions, fostering a culture of conceptual and context-based learning and teaching. In a study investigating preferences for instructional practices and approaches to learning, Baeten et al. (2016) reported that students who adopted a deep approach to learning preferred knowledge construction and cooperative learning, whereas students who adopted a surface-level approach preferred directions provided by teachers and passive learning. Al-Zahrani (2015) studied the impact of flipped classrooms on the creative thinking of students in higher education and reported that the students found the approach of flipped classrooms to improve their creativity, particularly when it came to fluency, flexibility, and novelty. Li (2016) reported similar results, stating that learner-centred teaching that utilised active learning helped students gain a better understanding and made the learning process more interesting. Due to the static content, teachers fail to develop their concepts and knowledge, negatively affecting teacher quality (Priestley & Drew, 2016). This contradicts modern curriculum that includes flexibility, alternative textbooks, and evaluation based on the quality of skills acquired by students (Marioara, 2015). Dynamic and innovative pedagogical practices are more likely to drive a progressive curriculum and give momentum to conscious decision-making in teachers, thus promoting student learning and collegial development (Toom et al., 2015). This professional agency in teaching is the hallmark of modern education, in which teachers are lifelong learners who "systematically reflect on their teaching practice and who are in search of information and ideas" (Van der Heijden et al., 2015, p. 684). Research indicates that effective teachers exercise their professional agency and employ feedback practices to improve learning. "Becoming an active professional agent implies perceiving oneself as an active learner who can act intentionally and reflect thoroughly on the impact of one's actions" (Toom et al., 2015, p. 616). Schneider & Preckel (2017) conducted a systematic review of variables associated with achievement in higher education. They highlighted the practices adopted by teachers that are most effective, including investment of time and effort in designing the microstructure of the courses (reflecting the impact of a dynamic curriculum), employing feedback practices, and encouraging questions and discussion. They found that teaching was the least effective when students mindlessly followed classroom routines set in place, a culture of learning still highly prevalent around the globe even today. These predefined routines are often set up by the administration, as reported in a meta-analysis on professional agency in the stream of change conducted by Vähäsantanen (2015). Li (2021) discussed the need for increased complexity of tasks that lead to excessive demand on learners, but these complex tasks motivate the students to come up with strategies to deal with the issues, improving cognitive abilities. Extant research points to a culture that provides a scaffolding that opens avenues for teacher development through reflection and action. Feedback prompts students to engage with the material at a deeper level, challenging their assumptions and encouraging transformative changes in their perspectives. Like an astronomer adjusting their telescope to see new stars, feedback allows students to adjust their understanding and gain deeper insights into themselves and the subject matter. Resultantly, this enables them to achieve higher levels of performance. Furthermore, feedback loops provide students with the autonomy to reflect on and adjust their learning, while also fostering a sense of competence and relatedness with both the material and the teacher. The Self-Determination Theory (Deci & Ryan, 1985) emphasises the role of autonomy, competence, and relatedness in fostering intrinsic motivation, implying how feedback loops enhance the SDT principles. This intrinsic motivation leads to greater engagement with the learning process, further enhancing the effectiveness of feedback loops. While existing literature has highlighted the importance of creating learner-centred environments and feedback, there is a dearth of research on feedback loops, an iterative process between students and teachers that influences instructional strategies and pedagogical practices. Although teacher feedback based on formative assessments has gained greater attention in the current educational discourse (Andrade & Brookhart, 2016; Dinsmore & Wilson, 2016; Laveault & Allal, 2016), the role of student

feedback remains relatively unexplored. There is growing evidence that supports a shift from viewing feedback processes as unilateral and teacher-initiated to a co-constructed sequence of dialogues between students and teachers (Boud & Molloy, 2013; Yang & Carless, 2013). There is a scope to examine how student feedback on the learning process can enable the development of students as 'critically reflective connectors' (Dann, 2014; L. M. Earl, 2013; Fletcher, 2016). Moreover, previous research looks at the impact of feedback loops in different institutes in Europe, the United States, the United Kingdom, Australia and Saudi Arabia, implying a lack of literature on how feedback loops would translate in a Pakistani context. Thus, this paper seeks to explore this gap, presenting the importance of iterative feedback both as a pedagogical tool for course design and implementation for teachers in Pakistan.

Research Methodology

This study employed convergent mixed-method action research, in which data from surveys were used for descriptive quantitative analysis, and information gathered through surveys, written reflections, and mid-course evaluations were used for qualitative thematic analysis. These methods allowed for continuous feedback from students at various stages of the course, enabling the teacher to adjust the course content and teaching methods to better meet students' needs. But more importantly, this feedback process activated student agency and action (Vähäsantanen, 2015). Surveys were administered through three Google forms to (a) propose tasks and activities for the creative writing course, inviting students' preferences and seeking input from all enrolled students a week before the beginning of the course, (b) gauge their engagement with course material one month into the course, and (c) invite feedback about their overall learning from the end of the course. These surveys were developed as per the need for this study and were piloted on a sample of 5 students. New questions were added, and several were tweaked by the responses given by the students. Both open-ended and closed-ended survey questions were used. Data was also gathered by inviting reflections on their experiences on the set tasks at various stages of the course. Data analysis focused on Braun & Clarke's (2006) thematic analysis framework by coding and identifying patterns in the feedback, particularly how students' perspectives evolved and how their engagement with the material shifted (Gichuru, 2017). An inter-coder reliability check was performed with several people to ensure consistency in qualitative coding. The study also examined how feedback contributed to the teacher's development, using Fuller's stages to explore how the teacher's pedagogical practices evolved in response to the feedback provided by students. Tutor reflection notes and changes in the course outline, materials and teaching strategies provided data for both feedback and subsequent changes in the pedagogical practices.

Ethical Considerations

Permission was taken from the Institutional Review Board (IRB) to proceed with the research. Participation in this research is entirely voluntary, and consent was sought through informed consent forms before proceeding with data collection. It was ensured by the researchers that hard as well as soft copies of research data could only be accessed by the authorised personnel. In addition, hard copies were locked in a file cabinet with one key, and the electronic data was accessible through encrypted passwords that were frequently changed. Students' grades were not affected and were kept anonymous.

Findings

This section presents the key findings from the analysis of student and teacher feedback, as well as responses on three surveys and observations gathered throughout the ENGL250: Creative Writing course. The findings are organised according to the research questions that guided the study, emphasising the impact of feedback loops on student learning outcomes, classroom engagement, teachers' professional development, and the development of student autonomy, competence, and motivation. The students enrolled in the elective undergraduate course were at differing levels of their undergraduate degree, with 47.6% sophomores, 38.1% juniors, and 14.3% seniors. They belonged to a range of departments, i.e. Political Science, Philosophy, Computer Science, Biotechnology, Physics, Linguistics, Sociology, Education, Mass Communication, etc. Although the students did not belong solely to the English department, they remained engaged in the class activities throughout the course. When asked regarding their current level of experience in creative writing, 38.1% considered themselves

beginners, while 61.9% considered themselves intermediate. The feedback was collected through a combination of surveys, assignment reviews, and class discussions, allowing for an ongoing dialogue between students and the teacher. The findings suggest that the process of "closing the feedback loop" played a significant role in shaping both the learning environment and teaching practices, fostering an iterative and dynamic relationship between students and the teacher. Student feedback was invited at different stages of the undergraduate creative writing course. After conducting a thematic analysis according to Braun & Clarke's (2006) framework, distinct patterns emerged around the theme of closing the feedback loops. Continuous and reciprocal feedback between students and the teacher played a crucial role in shaping a more engaging and meaningful learning experience. This feedback loop involved a dynamic multilayered exchange between the teacher and the students, helping refine the course design, tasks and activities, teaching strategies by reducing the gaps in teaching and learning, leading to improved students' engagement and participation. Not only this, but closing the feedback loops involved self-assessment, peer review and teacher's reflection and subsequent refinement were instrumental in building students' confidence in their ability to write and their gradual receptiveness to collaborative learning. Furthermore, this three-pronged approach enabled the teacher to close the feedback loops, establishing students' trust in the teacher's receptiveness to their feedback. For the teacher, the value of this approach meant a departure from the traditional focus on course objectives to achieving student learning outcomes through mastery in pedagogical practices. The following subsections address each research question in detail, drawing on specific examples from the student feedback and the iterative nature of feedback loops embedded throughout the course.

Research Question 1: How does the process of "closing the feedback loop" impact students' learning outcomes and engagement in a creative writing course?

The process of closing the feedback loop significantly impacted students' learning outcomes and engagement, helping create a more interactive and personalised learning experience. Many students appreciated the chance to offer feedback, which made them feel involved in shaping the course by giving feedback on both course design and group dynamics. It highlighted the trust built between students and the teacher and the confidence the students had in their voices being heard. This openness was reflected in a student's comment: *"I think surveys should be part of the communication between instructor and students…so I can finally speak about things,"* underscoring the importance of ongoing dialogue for student engagement. This professional teacher agency is one of the principles of modern education in which teachers reflect on their teaching and keep searching for new information and ideas to incorporate into their practice (Van der Heijden et al, 2015). Feedback helped multiple students refine their writing skills and encouraged creative exploration. However, not all students felt entirely supported in their creative journeys. One student expressed, *"I feel the structure of the assignments should be redesigned a little bit to allow for a little more room to reflect and navigate the passion,"* suggesting that, for some, the pace and structure of assignments impeded deeper reflection and full creative exploration. The feedback loop also prompted collaborative learning, changing student and teacher perceptions regarding their expectations of how the course would go. Initially, one student noted, *"I had expected to do most of the work, and would have to beg to get some kind of camaraderie,"* reflecting the challenges in group work. However, group collaboration improved significantly after teacher intervention because of the feedback. One student later shared, *"This time, it was rather peaceful, and everyone was willing to work. Each member of our group contributed to the story equally."* This illustrates how student feedback improves collaboration, fostering a more engaging learning environment. It also demonstrates how unmet expectations, especially early on, can lead to challenges in balancing the group dynamics, if not handled timely manner. Additionally, "closing the feedback loop" allowed for creative input and response. One such segment of the course required students to reimagine traditional fairy tales, encouraging innovative thinking and creative expression. In certain cases, this manifested as students putting unique spins on familiar tales like Cinderella. One student explained, *"The takeaway from this experience was how everyone has their version of a fairytale and*

how different themes can come into light even if the concept used is the same." However, some students struggled with the workload, which affected their overall engagement and ability to keep up. The sheer volume of work and the complexity of assignments and reading tasks sometimes created stress. Despite this, students understood their value. One student said, *"I want less work, but understand that without implementing what we learn, we won't get anywhere."* This suggests that while some students felt overwhelmed, they recognised the importance of continuing their engagement with the course material.

Research Question 2: In what ways does "closing the feedback loop" contribute to the teacher's professional agency and development, particularly in refining pedagogical practices and improving student outcomes?

The feedback loop also provided the teacher with valuable insights that allowed for refinement in teaching practices, improving overall student outcomes. One student noted, *"I am always a big fan of instructors who are passionate about what they teach and challenge my pre-existing beliefs and experiences,"* suggesting that the teacher's responsiveness to feedback made the learning environment feel more dynamic and personalised. At the same time, feedback helped address some of the challenges with collaborative learning. Initially, students expressed dissatisfaction with the subpar work done by their group or the predisposed expectations of having to do the work themselves, which affected group dynamics and their overall mood. The teacher's careful attention to this feedback led to more positive group experiences later. By closing the loop with a change in the structure of group work, the teacher built in more flexibility while assigning collaborative learning tasks. Depending on the nature of the assignments, students were put in groups of choice or were given the option to vary the tasks within groups, ranging from brainstorming to giving peer feedback. One student observed, *"This was the first time I liked being part of a group because the discussion, the ideas, the writing, everyone played an equally important part in it."* This shift highlights the teacher's ability to adapt to students' concerns and create a more productive and supportive environment. In addition to group work, the teacher also adapted to the individual needs of students, showing that the teacher used feedback to provide targeted support for students who may have otherwise been overlooked, either due to different fields of study or low confidence. However, some students felt the workload could still be better managed. One mentioned, *"I feel the structure of the assignments should be redesigned a little bit to allow for a little more room to reflect and navigate the passion,"* indicating that while the teacher's responsiveness was appreciated, the workload remained a challenge for some. Overall, the feedback loop allowed the teacher to consistently align and refine their teaching practice and course development, improving both collaborative learning and individualised support, which ultimately enhanced the learning experience for students. The teacher 'closed' the loop by incorporating more structured peer review tasks that responded to the concern about needing more time for reflection. In addition, pairs were formed keeping in mind mixed ability, and students were encouraged to read each other's work and provide constructive feedback and analysis. Where this strategy helped develop empathy among the more competent learners for their classmates, it also inspired developing writers to fine-tune their work based on the exemplars and taught them analysis and grading based on a rubric. One student wrote, *"When reviewing a story of one of my classmates, I realise that everyone has iconic ideas."* Adjusting to students' initial concerns about group work by changing the strategy to assign pair work proved to be effective. The majority of the students recorded this being a positive experience as it fostered critical thinking and receptiveness to different perspectives held by their classmates, a phenomenon also noted by Hattie & Timperley (2007). The foregoing reflections and student feedback are indicative of the positive outcome of the change in strategy the teacher made by responding to students' concerns and closing the loop. Another aspect that may have contributed to students' positive response to the collaborative learning could have been the timing, as the course was well underway by this time, and students had become more comfortable with each other. A second reason for their active engagement in this segment could be their interest in fairy tales. Regardless, one month into the course, the course showed an improvement in the group dynamics,

and students were comfortable with the teacher and also their classmates.

Research Question 3: How does the iterative feedback process between students and instructors impact student autonomy, competence, and motivation?

Students' engagement with the course and their responses are indicative of the effectiveness of the iterative feedback process in fostering student autonomy, competence, and motivation—key elements of Self-Determination Theory (Deci & Ryan, 1985). These student reflections demonstrated their critical thinking, which further established their ownership and motivation to learn, particularly through creative tasks such as reimagining fairy tales. Their responses illustrated the creative and novel results of the feedback process—students' exploration of new ideas beyond their creative boundaries promoted autonomous learning and imaginative thinking. Learning autonomously has also been stressed by Dewey (1933), who considered the importance of autonomy in helping students build their knowledge. However, data further revealed that some students felt frustrated with their progress. Despite regular attendance, a supportive environment and feedback, they felt stunted in their growth as their creative output did not match their expectations. One student shared, *"Every day, despite attending classes, I am failing to learn something new,"* showing the difficulties that can arise due to different levels of creative writers attending the course. In response, the teacher offered more individualised attention that helped students understand their problem areas and ways to overcome them. Individualised attention also exposed the teacher to students at different levels of ability and allowed her to tweak the curriculum, keeping in mind everyone's knowledge and interests. Dewey (1933) also stressed the importance of a curriculum that fits students' prior knowledge and interests. This shows how engagement barriers can be overcome by personalised feedback, and helps students feel more competent in their work. The iterative feedback process also supported students in developing a sense of competence by challenging them to step out of their comfort zones by experimenting with new writing styles and peer reviewing. According to Al-Zahrani (2015), non-traditional teaching methods like feedback loops in the classroom can improve students' creativity, especially when it comes to fluency, flexibility and novelty. The peer review process was especially valuable in pushing students to evaluate their work. This reciprocal feedback loop helped students refine their writing while also enhancing motivation and engagement. Student feedback highlighted that while most students appreciated the challenge and found it motivating, some still felt that the structure of assignments hindered their ability to fully reflect and explore their creativity. One student expressed, *"I feel the structure of the assignments should be redesigned a little bit to allow for a little more room to reflect and navigate the passion,"* highlighting the need for a balance between challenge and creative freedom. Considering the student responses, the teacher closed the loop by incorporating the feedback and redesigned subsequent assignments.

Discussion

In exploring how closing the feedback loops enhanced engagement and learning, the data reveals several encouraging trends. The value of continued closing of the feedback loop at different stages of the course impacted three major areas, namely: student engagement and collaborative learning; teacher development and reflection on action to enhance pedagogical practices; and student autonomy, competence and motivation. While the findings of this study demonstrate the significant positive impact of closing the feedback loop, several negative cases highlight potential limitations of this process. The study's findings solidify the importance of feedback in fostering student agency, reflection, and deeper engagement with the material throughout the learning process. As a tool and a process, feedback deepens students' understanding and improves their learning strategies (Hattie & Timperley, 2007). Students reported that feedback—whether from peers or teachers—significantly shaped their work. For instance, one student reported that feedback enabled them to "see their work from a different perspective," demonstrating the power of reflection in refining their creative output. This supports Vygotsky's (1978) view that by co-constructing meaning with others through social interaction and dialogue, learning is better facilitated, leading to improved results. The iterative nature of feedback loops featuring the ever-changing approaches of the students and

teachers significantly fosters learner autonomy. This aligns with Dewey's (1938) assertion that students' active engagement with the material under study and reflection on their understanding leads to effective learning. The positive experiences shared by students in this study, such as 'enjoying the collaborative brainstorming of ideas' and 'appreciating the mutual exchange of feedback', align with the emphasis on student-centred learning characterised by autonomy and active participation (Colet, 2016). For example, when students were empowered to provide and receive feedback during creative projects, they felt an enhanced sense of ownership and agency over their learning, leading to an overall satisfactory and positive experience. One student noted the collaborative aspect of this experience that allowed them to "combine our creativity," enhancing both individual and collective learning. The overall feedback process encouraged growth, motivation, and a deeper engagement with creative writing. This reciprocal feedback loop not only helped improve writing but also encouraged critical thinking and reflection, strengthening students' engagement and motivation towards the subject. In line with the Self-Determination Theory (Deci & Ryan, 1985), students feel a sense of competence and relatedness upon receiving feedback, which enhances their intrinsic motivation and engagement. The opportunities for feedback, whether through individual reflection, peer reviews, or teacher comments, provide students with the autonomy to adjust their learning approach. This increased autonomy can lead to greater involvement in the learning process, further emphasising the role of feedback in fostering student agency. Active management of group dynamics and ensuring the productivity of feedback loops can promote student agency; caution must be exercised to structure them so that all students feel empowered to contribute. Moreover, closing the feedback loops is likely to be more effective if the way a conflict is addressed encourages learning instead of the opposite. This highlights the importance of the teacher's role both in providing feedback and facilitating the feedback process. When teachers design active learning environments and foster a culture of feedback, they encourage a deeper level of student engagement and promote better learning outcomes (W. Y. Li, 2016; Schneider & Preckel, 2017). According to Mezirow's Transformative Learning Theory (1991), receiving feedback is essential to the role of teachers and their development as professionals. Acting as a catalyst for deep reflection, feedback can lead to notable shifts in the understanding of both teachers and students. Course content, design, and instructional approach could be altered according to the feedback provided by the students. The process of closing this feedback loop ensures that pedagogy changes and evolves according to the students' responses and needs. The concept of professional agency is one in which teachers take complete responsibility for their teaching practices and constantly partake in continuous reflection to improve the effectiveness of their teaching methods (Toom et al., 2015). Feedback two-way process supported by the findings of this study, indicating the importance of a student-centred pedagogical approach. Traditional methods of education, which are primarily teacher-centred, still dominate many educational settings. However, the shift toward a learner-centred approach is essential to motivate and improve student engagement and learning (W. Y. Li, 2016). When the course content is aligned according to the needs of the students, students feel more in control over the entire process of giving and receiving feedback. In contrast, when feedback was not effectively integrated into the learning process, students reported feeling disengaged or frustrated. This finding aligns with previous research, such as that by Schneider & Preckel (2017), which emphasises the importance of intentional feedback strategies embedded into the course development by the teacher for enhanced student outcomes. However, the findings also point to the complexities of feedback loops. Negative case analysis indicates that the feedback process is not always smooth or universally positive. Some students expressed frustration with group dynamics and unequal contributions, which led to a feeling of disengagement. For instance, one student mentioned that, in previous experiences, they had expected to "do most of the work" and "beg for camaraderie," indicating a disparity in group participation that undermined their engagement. This reflects the findings of Baeten et al. (2016), who noted that students who adopt a surface-level approach to learning may struggle in collaborative settings where group dynamics are

not managed effectively. Moreover, conflicts within groups, while potentially valuable for critical thinking, can also create tension that impacts the emotional well-being of students. Students' experience of having to deal with dissatisfactory group performance indicated how unresolved group tensions can affect students' overall learning experience. For the teacher, this feedback was an opportunity to 'adjust their lens,' by incorporating this feedback in the subsequent tasks to smooth group flow. The negative cases that were discussed highlight the challenges that arise when the feedback loops process is considered and adopted. Although incorporating feedback can greatly enhance learning, the process should be dealt with utmost care to make sure that it does not become frustrating. For example, the students who think that feedback is not relevant to their studies may report feeling less motivated to work. The experiences of the students who were not equally involved in group work or who dealt with many interpersonal conflicts can be considered evidence. Therefore, it is of utmost importance that both the teachers and students engage in the process of feedback actively (Carless & Boud, 2018), aiming to create an environment that is supportive and encourages collaboration and constant improvement. In the cases in which students received feedback that was too complicated, they felt less empowered due to a sense of being overwhelmed. This confused and interfered with their ability to focus on the key areas of improvement. Due to this reason, the entirety of the feedback was not implemented or used effectively, indicating that various factors regarding feedback, i.e. quality, clarity, and timing (Haughney et al., 2020), are essential to successfully closing the feedback loop process. Implementing a feedback loop is a complex process and varies for each student. Although feedback loops can facilitate the learning process, additional strategies may be required to address the diverse needs and make sure that the entire process is productive and fruitful for everyone.

Conclusion

This study highlights the important role of closing feedback loops in influencing student engagement, reflection, and professional agency. This leads to deep learning whereby individuals are challenged to critically reflect on and evaluate deeply held beliefs, aligning with Mezirow's Transformative Learning Theory. Moreover, feedback loops enhance a sense of autonomy, competence and relatedness in students as they work together with their peers and the teacher. This shows how teacher-initiated, student-focused feedback loops align with the principles of Deci & Ryan's (1985) Self-Determination Theory, leading to increased motivation and success. It considers the constant and ongoing dialogue between the students and teachers as a mechanism that helps refine both learning and teaching practices. The positive and negative feedback from the students highlights the multifaceted nature of the feedback loops, underscoring the importance of collaborative learning and constant open interactions. It also emphasises the need for holistic constructive criticism (positives and negatives) in the process of refining teaching practice. When teachers effectively utilise this feedback loop by encouraging an open student-teacher dialogue, it serves to improve student learning outcomes as well as continuous reflection and development. However, this study also highlighted some challenges during its implementation, which are usually observed in a classroom setting. The findings highlighted aspects like unequal participation of students in collaborative tasks, leading to group conflicts and strained relations. These challenges were resolved by the teacher through implementing certain changes that changed the group structure to encourage an effective student-to-work ratio. The study also emphasised how unproductive feedback is counterproductive to its purpose and benefits. Feedback is counterproductive if it only focuses on the positive aspects; as was seen in the findings, many of the changes in the course resulted from negative feedback that was later addressed by the teacher. Thoughtful incorporation of both positive and negative feedback in a learning experience can be a powerful tool for student and teacher development, aiding and contributing to a learner-centred educational experience.

Recommendations

Considering this study's findings, the following recommendations are proposed: educators should incorporate iterative, continuous feedback loops as one of the crucial aspects of their course development and implementation. Steps must be taken to break away from the traditional teaching practice that sees students as passive vessels. This

pedagogical practice makes the students responsible for their learning by following a simple formula; if adjustments are necessary, bring them to the teacher's attention. Future research should employ larger sample sizes across different institutes and cities to ensure generalizability. This research solely focused on a creative writing course; although it was an open course, resulting in a student body comprising different disciplines, the course content largely focused on creative writing. Novel insights may be found if future studies include a wide category of classes and courses, beyond the humanities. Questions such as possible differences and similarities in closing the feedback loops in STEM majors, for example, can be answered through such research. This can be beneficial to explore if insights of feedback loops from pedagogical practice in the humanities can translate to STEM. Additionally, new research can look at any changes that may need to be employed to better fit the criteria and requirements of these two categories of disciplines. Furthermore, the results of this study recommend policies across different educational organisations and institutes advocating for a student-centred, teacher-led, continuous feedback process. This pedagogical process can contribute to the development of creative, innovative, reflective learners with a deeply imbued openness to challenges and multifaceted perspectives. Moving past the obsolete, traditional teaching practice to active, hands-on feedback loops can lead to prominent changes in the students, the system, and thus, the country.

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