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AI-Powered Pedagogy: Elevating Student Engagement in L2 Writing through Integrated Feedback

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Abstract

Because of its positive relationship with student learning outcomes, the construct of student engagement with feedback has gained increasing attention in higher education. However, while the literature acknowledges its significance, there is little research on what pedagogical approaches facilitate this engagement. This case study examines an authentic classroom with a group of 3 students engaged with a pedagogical approach that systematically integrated three types of feedback: AI-driven, peer, and teacher feedback. The research was carried out at a private university and was based on the analysis of multiple drafts of students' written assignments, feedback from an automated writing evaluation system, peers, and a teacher, as well as transcribed think aloud protocol and retrospective interviews between the teacher and students. The researcher discovered that the majority of students actively participated in this integrated approach, which effectively promoted students' behavioral, affective, and cognitive engagement with writing feedback and encouraged thoughtful revisions. The researcher concludes with pedagogical implications and suggestions for improving student feedback engagement.

Keywords: *Engagement; Written Feedback; Artificial Intelligence; L2 Writing; Approach*

Introduction

Effective instruction in second language (L2) writing necessitates the regular and comprehensive provision of feedback on students' drafts (Bitchener & Ferris, 2012). Feedback in the context of L2 writing is widely recognized as a valuable tool for enhancing learning, as it enables writers to develop an awareness of their audience and a comprehension of what elements readers find valuable in a text (Hyland & Hyland, 2006). Furthermore, the quality and effectiveness of feedback on student assignments can be attributed to the meticulous efforts of educators in identifying and addressing students' specific needs; however, its impact ultimately hinges on how students respond to it (Price et al., 2011). It is important to note that feedback serves a pedagogical purpose by providing students with insight into the potential of their text and the expectations of their readers (Hyland & Hyland, 2019).

In the realm of L2 teaching, educators may aspire for students to deeply engage with the feedback provided on both L1 and L2 learners' written compositions. Nevertheless, even the most dedicated and diligent teachers may find it challenging to offer such comprehensive feedback to a large class of writing students. Given the substantial time commitment required to provide written feedback on the written work

of L2 learners, this expectation may be deemed impractical (Han & Hyland, 2015). Nonetheless, it's important to recognize that written feedback is not solely about imparting information or delivering advice for improvement; it can only be truly effective when it actively engages the writer, conveying the sense that it is a personalized response to an individual rather than a mere evaluation of a script.

The rapid progression of technology has significantly impacted the delivery of written feedback, particularly within the context of writing classes (Miranty & Widiati, 2021). AI-driven feedback systems have emerged as a solution that enables educators to address the challenge of providing feedback by offering immediate computer-generated feedback, both quantitative and qualitative, for a large volume of submitted essays (Bai & Hu, 2017). AI-driven feedback systems consist of two primary components: a scoring engine that generates automated scores and a feedback engine that produces automated written feedback (Bai & Hu, 2017). In recent years, various AI-driven feedback systems have been developed, including CriterionR, Grammarly, Wordtune Paper Rater and Paperpal, among others, with the intention of not only supporting summative assessment but also facilitating formative assessment in writing classrooms (Chen & Cheng, 2008). These digital tools hold the potential to aid students in enhancing their writing skills and provide constructive feedback within the educational setting (Lim & Phua, 2019).

While students have the capacity to utilize feedback for the improvement of their academic papers independently, the role of teachers in elucidating critiques remains pivotal. The introduction of teacher-student conferences serves as a valuable mechanism within this instructional context (Isnawati et al., 2019). AI-driven feedback systems afford students the benefit of promptly receiving scores and written annotations through the utilization of automated rating algorithms. These scores and feedback are often perceived as more objective and consistent compared to assessments provided by human evaluators. It is worth noting that AI-driven feedback tools offer two distinct categories of feedback: quantitative and qualitative. Consequently, AI-driven feedback tools have the potential to enhance students' motivation and their understanding of the iterative revision process (Afzaal et al., 2021). They are also designed to ensure consistency over time, thereby enhancing the efficiency of the evaluation process. Furthermore, students can employ these scores and feedback for the purpose of self-reflection and self-revision, essentially fostering their autonomy in the writing process through the guidance provided by this feedback mechanism. The self-paced and personalized nature of AI-driven feedback tools can additionally contribute to a reduction in students' writing-related anxiety (Miranty & Widiati, 2021).

In addition to benefiting students, AI-driven feedback tools can also facilitate the role of teachers in delivering written feedback. The comprehensive evaluation results generated by these tools enable educators to engage in meaningful interactions with their students. While AI-driven feedback tools are adept at providing form-focused feedback, such as grammatical accuracy and mechanical aspects, teachers can allocate their time and effort towards evaluating content and organizational elements.

Extensive research efforts have been devoted to exploring the utilization of AI-driven feedback system in the realm of writing instruction across diverse educational settings. Numerous scholars have delved into the application of AI-driven feedback to enhance students' writing proficiency, as exemplified by studies conducted by Burstein et al (2020; Shang (2019); Shermis et al (2008); Wang et al (2013) and Wilson et al (2014). Additionally, researchers have investigated its role in fostering self-regulated learning, as evidenced by the work of Yu (2015) and in promoting students' self-efficacy in the learning process, as demonstrated in studies by Wilson & Roscoe (2020). Furthermore, the challenges and constraints encountered by students when employing AI-driven feedback have been examined by (Khoshnevisan, 2020), while the impact of such feedback on students' responsiveness and uptake has been explored in studies conducted by Guo et al (2021) and Ranalli (2018).

Within the realm of education, student engagement is widely recognized as a comprehensive meta-construct, encompassing multiple dimensions spanning academic, psychological, behavioral, emotional, and cognitive facets, as articulated by Anderson et al (2004). Additionally, Handley et al

(2011) emphasized that student engagement with feedback, as delineated in pedagogical literature, entails both overt and covert actions. Overt actions manifest as explicit behaviors, such as seeking clarification from feedback providers, while covert actions involve more subtle processes, such as internal reflection, where cognition and action are interlinked. Ellis (2010) further extended this concept, proposing that engagement with written feedback can be examined through cognitive lenses, involving elements like attention and noticing, behavioral aspects encompassing uptake and repair, as well as affective dimensions encompassing the elicitation of either negative or positive emotional responses.

In this case study, we delve into the practice of second language (L2) writing instruction, with a specific focus on the utilization of Paper Rater and Paper pal as an Ai-driven written feedback tool employed during the writing process. The assessment of the Paper Rater's efficacy within the L2 writing classroom is grounded in the analysis of two primary metrics: student perceptions and writing performance. These data points serve as the foundation for gauging the impact and utility of Paper Rater in the context of L2 writing instruction.

Literature Review

1) Engagement in the context of student learning encompasses various factors, including students' commitment, curiosity, interest, and their utilization of language proficiency and learning skills to advance their learning (Zhang, 2020). It involves affective, behavioral, and cognitive components that play a vital role in shaping effective feedback responses. While student engagement traditionally relates to their sense of belonging and academic performance, there is evidence connecting positive academic outcomes to it (Skinner & Pitzer, 2018).
2) Measuring and conceptualizing learner engagement can be challenging, but it is commonly understood through three dimensions: behavioral, emotional, and cognitive (Ellis, 2010). These various dimensions were dynamically interconnected (Han, 2017) and positively correlate with the development of L2 writing (Zhang, 2020). The definitions of Zhang & Hyland (2018) enlightened our understanding of learner engagement. Behavioral engagement is concerned with how learners respond to feedback behaviorally, as evidenced by their feedback uptake and revision actions; affective engagement is concerned with how learners perceive feedback emotionally and attitudinally; and cognitive engagement is concerned with learners' use of cognitive or metacognitive strategies to facilitate feedback uptake or revision actions.
3) Affective engagement is defined as a student's attitude (Han, 2017; Han & Hyland, 2015), which is manifested in affect, judgment, and appreciation (Mahfoodh, 2017). Similarly, student engagement can be examined from an affective perspective by focusing on how learners respond attitudinally to feedback received (Ellis, 2010). Accordingly, we refer to students' feelings and emotions expressed upon receiving written feedback in conjunction with changes in these feelings and emotions when revising text as the affect; personal judgements of admiration/criticism as well as moral judgements of praise/condemnation towards written feedback as the judgement; and valuing the worth of teacher written feedback as the appreciation. they are sub-constructs under the affective dimension of student engagement with teacher written feedback.
4) Cognitive engagement is considered as the cognitive investment in processing written feedback (Ellis, 2010), manifested in the depth of processing of written feedback, cognitive and meta-cognitive operations in processing written feedback and making revisions (Han & Hyland, 2015). specifically, students' awareness of the written feedback indicates the depth of processing written feedback, which can be at the level of noticing or understanding the written feedback (Qi & Lapkin, 2001; Sachs & Polio, 2007). cognitive operations are important indications of students' cognitive engagement because in responding to the written feedback students need to spend mental effort in considering questions such as how and to what extent their texts should be revised, as well as how the revision operations should take place (Storch & Wigglesworth, 2010). at the metacognitive level, how students monitor and regulate their mental effort to process

written feedback is also a manifestation of cognitive engagement with that written feedback (Ferris et al., 2013).

5) Behavioural engagement with teacher written feedback refers to what students do with the written feedback received from the teacher. a number of studies have investigated how students handle the feedback (Ellis, 2010), focusing on how they incorporate written feedback in revising their work (Hyland, 2003) and how they use strategies to revise the work (Ferris et al., 2013). For example, Hyland (2003) studied student revision operations by comparing students' original texts and revised texts in response to written feedback. Textual changes were identified to indicate behavioural engagement. (Ferris, 2014) used interviews to explore students editing strategies and strategies observed to apply previously learned linguistic rules in revision operations. Their focus was on those strategies that guided revision and had a manifestation in student behaviours.

Research Methods

Context and Participants

This study involved three participants, consisting of one male and two female students who were all pursuing the same major. The participants willingly agreed to share their written assignments and engage in interview sessions upon being informed about the research's objectives. These students were enrolled in a Critical Writing course spanning 16 weeks in a semester. Throughout the semester, they were assigned five tasks, each requiring the composition of 300-word paragraphs. For each of these assignments, students received feedback from three distinct sources: their peers, AI-driven systems, and their teacher.

The AI-driven feedback was facilitated through the utilization of tools such as Paper Rater and Paperpal. These tools provided comprehensive feedback covering various aspects of writing, including assessments for plagiarism, spelling, grammar, word choice, style, vocabulary, and even holistic scoring. The initial lecture of the course included a demonstration by the instructor on the functioning of AI-driven feedback systems to acquaint the students with their operation.

Additionally, the instructor furnished the students with explicit instructions on how to offer effective peer feedback. This guidance encompassed elucidation on the types of questions that could stimulate thoughtful reflection and revision in the recipients of peer feedback. The peer feedback process occurred independently of classroom sessions, allowing students the flexibility to engage in the feedback exchange without time constraints. Subsequent to revisions influenced by both AI-driven and peer feedback, the students received feedback from their teacher. It is important to note that the essays composed by the students held significant weight in their final course grade, contributing 40% to the overall assessment.

Data Collection and Analysis

Numerous researchers have undertaken investigations concerning the correlation between written feedback and student engagement in previous studies, with notable examples including the work of Han & Hyland (2015) and Zhang & Hyland (2018). The outcomes of these inquiries have provided insights into how student engagement, encompassing behavioral, affective, and cognitive aspects, can be examined by analyzing revisions made to student texts, their reflective commentary, and through interviews. This particular study distinguishes itself from many prior research endeavors by specifically delving into the intricacies of student revision operations, seeking to elucidate the methods and rationales behind these revisions. Consequently, this research centers its focus on a select subset of texts to ensure that participants do not experience excessive cognitive burdens.

To investigate student engagement with the multiple feedback sources received during the revision process, the Think Aloud Protocol (TAP) was employed. This method allowed for the systematic examination of the cognitive processes engaged by students as they interacted with the feedback. Additionally, in-depth interviews were conducted to garner more profound insights into student engagement. Notably, all three participating students willingly consented to partake in these interviews, thus enriching the dataset with comprehensive information drawn from their written texts and verbalized reflections.

Hong's instructional methodology, as mentioned in the work by Zhang and Hyland (2022), has been adapted and labeled as 'integrated' due to its amalgamation of AI-driven, peer, and teacher feedback modalities. This revised framework can be delineated as follows:

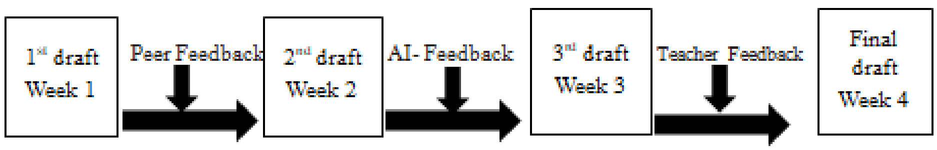
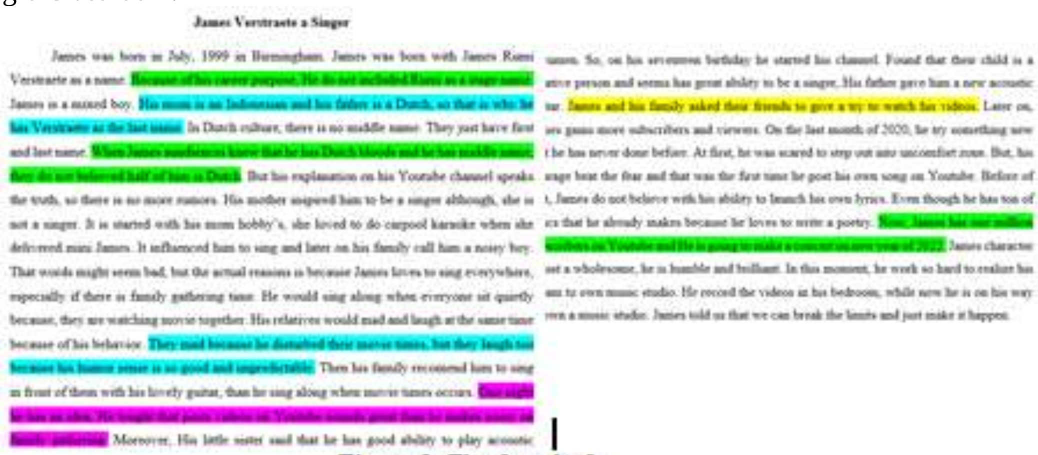


Figure 1. The AI-peer-teacher feedback system

1) In week 1, the students are instructed to start writing the first draft. The draft, then, submitted in Google Classroom.

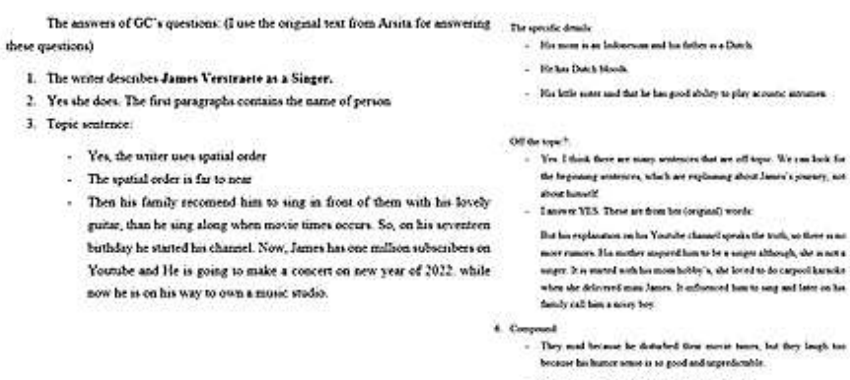


James Verstraete a Singer

James was born in July, 1999 in Birmingham. James was born with James Rismi Verstraete as a name. [illegible] James is a mixed boy. [illegible] In Dutch culture, there is no middle name. They just have first and last name. [illegible] But his explanation on his Youtube channel speaks the truth, so there is no more rumors. His mother inspired him to be a singer although, she is not a singer. It is started with his mom hobby's, she loved to do carpool karaoke when she delivered mini James. It influenced him to sing and later on his family call him a noisy boy. That words might seem bad, but the actual reasons is because James loves to sing everywhere, especially if there is family gathering time. He would sing along when everyone sit quietly because, they are watching movie together. His relatives would mad and laugh at the same time because of his behavior. [illegible] Then his family recomend him to sing in front of them with his lovely guitar, than he sing along when movie times occurs. [illegible] Moreover, His little sister said that he has good ability to play acoustic [illegible]. So, on his seventeen birthday he started his channel. Found that their child is a [illegible] person and seems has great ability to be a singer. His father gave him a new acoustic [illegible]. [illegible] Later on, [illegible] gains more subscribers and viewers. On the last month of 2020, he try something new [illegible] he has never done before. At first, he was scared to step out into uncomfort zone. But, his [illegible] beat the fear and that was the first time he post his own song on Youtube. Before of [illegible], James do not believe with his ability to launch his own lyrics. Even though he has ton of [illegible] that he already makes because he loves to write a poetry. [illegible] James character [illegible] a wholesome, he is humble and brilliant. In this moment, he work so hard to realize his [illegible] to own music studio. He record the videos in his bedroom, while now he is on his way [illegible] own a music studio. James told us that we can break the limits and just make it happen.

Figure 2. The first draft

2) The draft will be distributed randomly to peer. Then, the peers will give feedback. The second draft, then, will be submitted again in the Google Classroom



The answers of GC's questions: (I use the original text from Arsita for answering these questions)

1. The writer describes **James Verstraete as a Singer.**
2. Yes she does. The first paragraphs contains the name of person
3. Topic sentence:
   - Yes, the writer uses spatial order
   - The spatial order is far to near
   - Then his family recomend him to sing in front of them with his lovely guitar, than he sing along when movie times occurs. So, on his seventeen birthday he started his channel. Now, James has one million subscribers on Youtube and He is going to make a concert on new year of 2022. while now he is on his way to own a music studio.

The specific details

- His mom is an Indonesian and his father is a Dutch
- He has Dutch bloods
- His little sister said that he has good ability to play acoustic [illegible]

Off the topic?

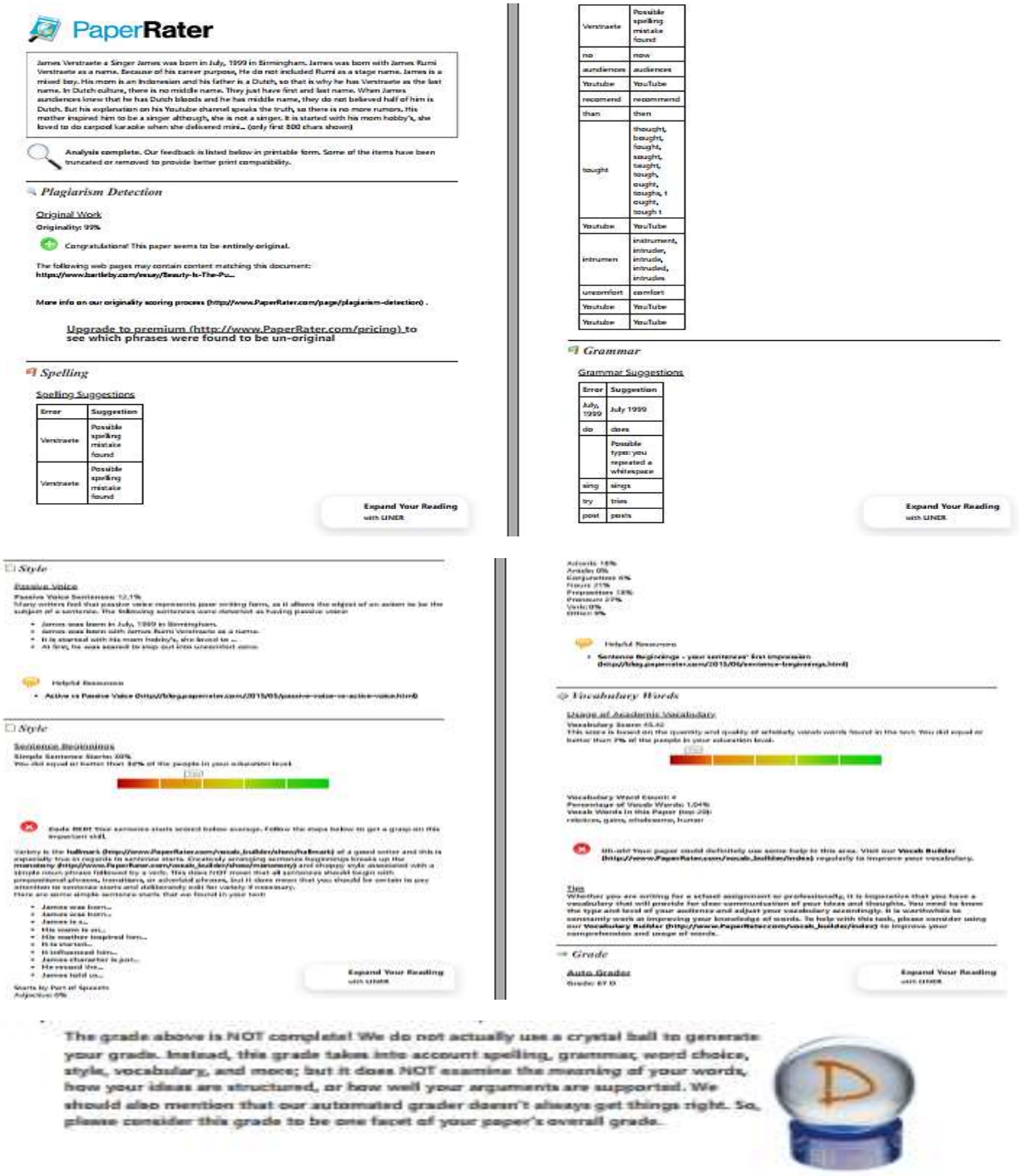
- Yes. I think there are many sentences that are off topic. We can look for the beginning sentences, which are explaining about James's journey, not about himself!
- I answer YES. These are from his (original) words:

  But his explanation on his Youtube channel speaks the truth, so there is no more rumors. His mother inspired him to be a singer although, she is not a singer. It is started with his mom hobby's, she loved to do carpool karaoke when she delivered mini James. It influenced him to sing and later on his family call him a noisy boy.

4. Compound
   - They mad because he disturbed their movie times, but they laugh too because his humor sense is so good and unpredictable.
   - So, on his seventeen birthday he started his channel

Figure 3. The peer feedback of the first draft

3) The second draft then will be submitted into and Paperpal and Paper Rater to get comprehensive feedback and final score.



4) The third draft evaluated using Paper Rater will be submitted in Google Classroom for final feedback from the teacher.

6) The teacher will have a conference with students to discuss the feedback given by the Paperpal and Paper Rater. In this conference, the teacher will explain each area of feedback given by the Paper Rater. Then, the students will revise their draft based on the teacher's explanation.

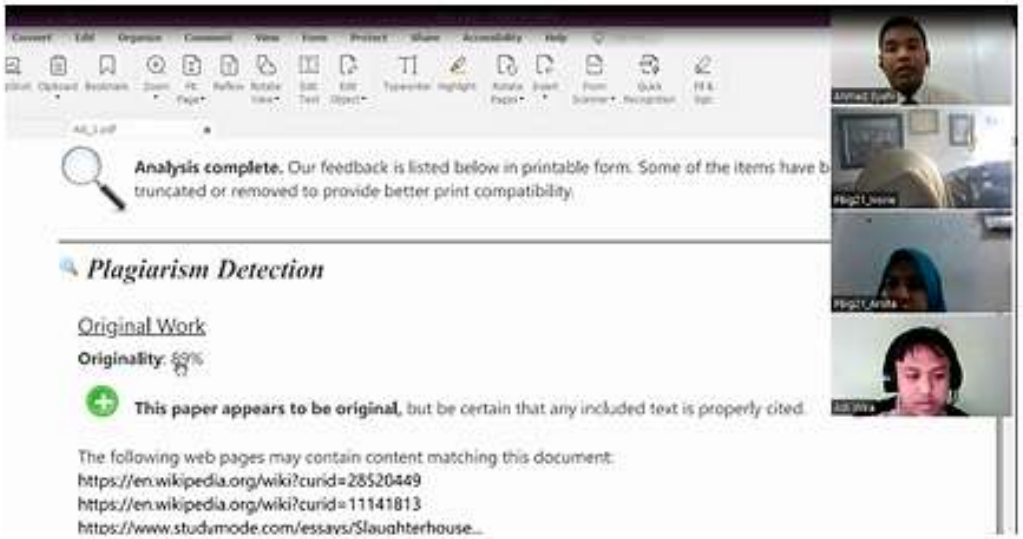


Figure 5. The Teacher-Student Conference feedback

Result and Discussion

Affective Engagement

In the course of the interviews, students' emotional and attitudinal responses were employed as indicators for the assessment of affective engagement. Notably, the majority of the interviewed students demonstrated positive attitudes concerning the integration of AI-driven feedback into their writing processes. Specifically, they frequently described this feedback as 'convenient,' 'timely,' 'effective,' and 'helpful,' emphasizing its ability to provide immediate, real-time diagnosis of their work. This formative assistance, unburdened by delays, was observed to effectively engage students in the learning process. Remarkably, a noteworthy 91 percent of students expressed favorable opinions regarding the inclusion of AI-driven feedback in their revision processes, suggesting heightened engagement with the feedback they received.

With regard to peer feedback, the majority of students expressed a preference for its inclusion in the revision process, highlighting its qualities as 'supportive,' 'understanding,' and 'less critical,' among other descriptors. In the case of one student, the incorporation of peer review yielded dual benefits, influencing both affective and cognitive engagement in the revision process. From an affective perspective, she perceived a greater sense of empathy within her peer group, which in turn alleviated her anxiety. This observation underscores the potential of peer review to reduce anxiety levels and enhance motivation, ultimately fostering affective engagement among students.

In addition, majority of students express positive affective engagement, indicating a degree of satisfaction with the feedback provided by Paperpal. Nevertheless, a notable portion of students reports negative affective responses, including feelings of anxiety and strong dislike towards the feedback from Paperpal. This suggests significant dissatisfaction among this subset of students.

Cognitive Engagement

The examination of cognitive engagement in this study was approached through a multifaceted analysis encompassing interviews, textual revision operations, and reflective reports derived from the Think Aloud Protocol. These investigative methods were integral components of the revision process,

providing insights into the cognitive dimensions of student engagement.

The introduction of AI-driven feedback and peer feedback into the classroom environment introduced novel dimensions to students' writing experiences. It served as a catalyst, encouraging students to perceive writing as an ongoing process of revision rather than a singular, one-time task. This pedagogical shift was particularly impactful, as it fostered a heightened level of interaction between students and the diverse feedback modalities, ultimately culminating in increased student involvement in the writing and revision processes.

In summary, the integrated approach, combining AI-driven, peer feedback, and teacher feedback, garnered widespread appreciation among the majority of students. This appreciation stemmed from the manner in which the approach enriched their revision experiences by actively involving them in the revision process. This integration allowed students to methodically partition their revision process into distinct stages, each focusing on different facets of their writing. Notably, from the teacher's perspective, the incorporation of AI-driven and peer feedback facilitated a more efficient allocation of time, enabling her to concentrate on providing feedback pertinent to the content and expression of ideas. In concert, these three distinct types of feedback emerged as instrumental in promoting students' behavioral, affective, and cognitive engagement throughout the entirety of the writing process.

The analysis of the questionnaire reveals that despite the mixed responses, a substantial number of students perceive Paperpal as providing useful feedback, indicating cognitive engagement in recognizing the value of the feedback. Many students actively engage cognitively by reviewing and considering the feedback from Paperpal before acceptance. Nevertheless, several responses such as “I understand the feedbacks suggested by Paperpal” and “I need to interpret the feedbacks suggested by Paperpal" suggests that students recognize the need for interpretation and cognitive engagement in understanding the feedback.

Behavioral Engagement

The measurement of behavioral engagement, a crucial indicator, was conducted by assessing the concept of "time-on-task." This assessment was carried out by leveraging data derived from the AI-driven system in conjunction with retrospective interviews with the participating students. Notably, all students who submitted their work to the AI-driven feedback system on more than five occasions demonstrated a pronounced willingness to actively engage with and subsequently revise their compositions based on the feedback received from the AI-driven system.

In-depth interviews provided further insights into the students' behavioral engagement patterns. The interviews revealed that, on average, students allocated approximately 5 hours of their time to the revision of their drafts following the receipt of AI-driven feedback. Remarkably, this duration exceeded the amount of time students reported spending on revising their work based on peer feedback and teacher feedback. These findings are indicative of the students' heightened engagement in the revision process, characterized by their active involvement in refining their written compositions.

In addition, the questionnaire result showed that A substantial proportion of students demonstrates behavioral engagement by incorporating the feedback into their revision process. It can be clearly seen from the statement such as "I always incorporate the feedbacks suggested from Paperpal when revising my draft." While there is intent to revise among some students, a significant number does not engage in immediate revision, suggesting varying degrees of behavioral engagement. It can be seen from the statement "I always plan to revise my draft after receiving feedbacks from Paperpal" (Score: 1.5) and "I always revise my draft right after receiving feedbacks from Paperpal". On contrary, subset of students exhibits disengagement by refraining from immediate revisions, which may indicate dissatisfaction or resistance to the feedback.

In summation, this analysis discerns a complex array of affective, cognitive, and behavioral engagement patterns among students engaged with Paperpal. While some students exhibit positive affective and cognitive engagement, others manifest negative affective reactions. Notably, a majority evince cognitive engagement by actively engaging with and evaluating the feedback. Additionally, behavioral engagement is characterized by a mixture of proactive engagement and signs of disengagement. These nuanced findings have implications for optimizing the Paperpal system, emphasizing the importance of addressing the concerns of students who may harbor negative affective or behavioral dispositions towards the feedback generated by the platform.

Discussion

The engagement of students with feedback is a multifaceted and intricate process that entails the dynamic interplay of three interconnected dimensions (Zhang & Hyland, 2022). In this multifaceted process, students are required not only to allocate time and exert effort towards their writing and revision efforts subsequent to receiving feedback but also to navigate the intricacies of regulating their emotional and attitudinal responses to the feedback provided. Furthermore, the process involves the evaluation of written texts, the identification of areas requiring improvement, and the subsequent execution of revisions, all of which can present substantial challenges for students.

Within this complex landscape, the teacher's integrated approach, which incorporates AI-driven feedback and peer feedback, serves to alleviate the perceived daunting nature of the revision process. By adopting this integrated approach, the teacher creates an environment that is more conducive to manageable revision for her students. This pedagogical strategy empowers students by facilitating the distribution of their attention across various facets of writing, encompassing both grammatical and content-related considerations, across multiple drafts. Moreover, it fosters a collaborative atmosphere among students, encouraging them to share their work with peers and engage in collaborative endeavors.

In essence, this integrated approach is instrumental in simplifying and streamlining the revision process, thereby promoting active student engagement and facilitating a more effective and collaborative approach to writing and revision.

The process of student engagement with feedback comprises three intricately connected dimensions, which together form a complex endeavor. To effectively engage with feedback, students are required not only to allocate substantial time and effort towards refining their written work based on the feedback received but also to manage their emotional and attitudinal responses to this feedback. This multifaceted process has been highlighted by various scholars, including Harland & Wald (2021), Mulder et al (2014), and Nicol et al (2014). Furthermore, it is important to recognize that the capacity to critically evaluate written texts, pinpoint areas of improvement, and execute revisions can prove to be exceptionally challenging for students. A consistent theme in research findings is that a significant number of students express dissatisfaction with the feedback they receive. Their discontent often stems from difficulties in comprehending and effectively acting upon the feedback provided, as evidenced by studies such as those conducted by (Mulliner & Tucker, 2017). Additionally, students frequently voice concerns regarding the perceived lack of specificity and timeliness in the feedback, as emphasized by the work of (Boud & Molloy, 2013).

An educator's adoption of a comprehensive strategy encompassing AI-driven feedback and peer feedback proved to be a highly effective means of alleviating the apprehensions associated with the revision process for her students. This pedagogical approach aligns with the assertions put forth by Ranalli (2018) and Warschauer & Grimes (2008), who have underscored those AI-driven feedback systems, can serve to liberate instructors from the time-consuming task of addressing lower-order writing concerns, such as grammar and mechanics. Consequently, educators are afforded greater latitude to direct their attention towards higher-order aspects of writing, including content and organization, along with

other facets of writing instruction. This shift in focus enables teachers to engage more deeply with students on issues related to grammar and content during multiple drafts, fostering an environment conducive to peer collaboration and the sharing of their written work.

The integration of AI-driven feedback and peer feedback within this instructional approach encourages students to diligently address both localized and global issues throughout various stages of their writing projects (Fleckenstein et al., 2023). Additionally, it instills in them a profound appreciation for the iterative nature of the writing process, wherein revision emerges as an indispensable component. This approach substantially enriches the learning experiences of students by affording them a diverse array of learning modes, encompassing both human and machine-mediated feedback, as well as readership that spans peers and teachers.

Furthermore, the incorporation of peer and teacher feedback in this integrated approach provides a compelling response to those who may raise questions regarding the legitimacy of computer-generated diagnostic assessments (Zou et al., 2022). Importantly, this approach generates a synergistic effect, fostering heightened student engagement and motivation in the process of revising their written work.

Incorporating a triad of feedback modalities yields a range of notable advantages that collectively enhance the educational experience. These advantages can be categorized into three distinct dimensions:

1. **Enhanced Behavioral Engagement:** The utilization of three feedback types effectively encourages students to dedicate more time and effort to their writing endeavors and the subsequent revision process (Zahida et al., 2014). This heightened behavioral engagement stems from the recognition that their efforts are directly linked to improvement. As students actively respond to feedback, they not only refine their written work but also cultivate a stronger commitment to the writing process itself (Sorrell, 1989).

2. **Affective Engagement Promotion:** The incorporation of multiple feedback sources addresses a common demotivating factor in the learning process - the protracted wait for timely feedback. By minimizing this waiting period and offering peer support for writing development, students experience a boost in affective engagement. The availability of peer support fosters a sense of camaraderie and shared learning experiences, which, in turn, bolsters students' emotional investment in the writing task.

3. **Cognitive Skill Development:** The integration of three types of feedback necessitates students to engage in a range of cognitive processes, including analysis, evaluation, monitoring, and regulation of their writing and revision practices. These cognitive strategies equip students with valuable skills that extend beyond writing and revision, enhancing their overall cognitive development. Moreover, this approach instills in students a greater degree of self-regulation, enabling them to take charge of their own learning and refine their writing skills independently.

In summation, the incorporation of diverse feedback modalities not only facilitates the improvement of written work but also cultivates deeper behavioral engagement, fosters affective engagement through timely feedback and peer support, and advances students' cognitive skills in the realm of writing and revision. These multifaceted advantages collectively contribute to a more enriching and effective learning experience.

Nonetheless, it's crucial to acknowledge that the integrated approach, while highly beneficial, is not a universal remedy for addressing low levels of student engagement. Individual factors, such as students' motivation and language proficiency, exert a significant influence on the overall dynamics. These factors can introduce variations in the effectiveness of the integrated approach, rendering it less impactful for certain students.

It's important to recognize that not all students may possess the intrinsic motivation to fully engage in what may appear to them as an attempt to compel greater effort towards revising the same piece of writing. Consequently, the endeavor to foster student engagement with feedback necessitates educators to cultivate a diverse set of skills and heightened awareness. It also involves creating inclusive and collaborative learning environments that accommodate the varying needs and motivations of students.

The fact that the teacher in this context was able to seamlessly integrate various forms of feedback without necessitating significant alterations to the classroom infrastructure underscores the potential value of her approach. This suggests that her instructional methodology could serve as a viable model for exploration and implementation in other classroom settings. By doing so, educators may be able to tap into the benefits of this integrated approach while accommodating the diverse range of factors influencing student engagement.

Conclusion

The incorporation of diverse feedback modalities within the educational context warrants substantial attention from both scholars and practitioners in higher education. This research endeavor has contributed to this domain by adopting a methodological approach that involves the monitoring of alterations in student drafts, a practice that is relatively common in the realm of second language (L2) writing research but less prevalent in the assessment procedures of college and university courses. It is worth noting that while the findings and insights derived from this case study are valuable, they should be regarded as indicative rather than prescriptive due to the inherent challenges associated with generalizing them to different classroom settings and diverse student populations.

Indeed, the limitations inherent in case studies, which restrict their generalizability, underscore the importance of considering them as instruments for raising pertinent issues that may elude larger-scale surveys. Despite their contextual specificity, case studies offer a depth of understanding and nuanced insights into the thoughts and practices of individuals within a particular context. Consequently, this case study serves as a catalyst, encouraging further exploration of how the incorporation of diverse feedback modalities can potentially enhance student engagement within varied educational settings.

In pursuit of fostering student engagement in the process of writing and revision, it is imperative to underscore the role of inclusive pedagogies and the creation of supportive learning environments. By integrating multiple forms of feedback, educators have the opportunity to provide students with a more multifaceted writing experience that can cater to diverse learning styles and individual needs. This approach has the potential to facilitate active redrafting and promote improved writing outcomes by fostering heightened behavioral, affective, and cognitive engagement among students.

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