

# Reinforcing Equity and Justice in Learning: Using Digital Co-Created Rubrics and Audio Feedback as/for Assessment

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## Abstract

The paper explores a study of a foreign learning experience during the pandemic that was unique due to the co-creative engagement with students. This study examines the effects of using technologically novel feedback strategies and assessment practices to analyze student performance within the frame of the justice theory. Using targeted blended means of assessment to provide leveled methods included auditory and co-created rubric conversations to support bilingual learners in a diverse environment. Qualitatively, using a questionnaire to collect student feedback on co-created decoding of rubrics with thematic analysis and quantitatively using a paired sample t-test by comparing scores for the first and final draft provided fulsome results. Findings indicate how these uses of technology can promote learner autonomy by allowing students to take agency of their own learning and increase students' performance. The findings reflect the need for using technological avenues to assist bilingual learners in the development of their language skills through extended feedback.

**Keywords:** blended learning, rubric, feedback, educational technology, justice theory, bilingual learners



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## **Introduction**

During the COVID-19 pandemic, post-secondary instruction was impacted due to the flux of in-person to online or blended learning modes (Canabarro et al., 2022). In an intermediate-level language course, a more dynamic approach of engaging students in the co-creation of an essay learning task rubric as well as utilizing audio feedback provided more connection and fairness in the assessment process. Amidst the lack of stability in the learning environments in post-secondary, bringing students into the process of co-constructing the evaluation mechanism served to help students decode and more readily understand the assessment expectations (Pham, 2023). Intentionality in the formative feedback through audio recordings housed in the learning management system also complimented the co-creative measures and reinforced transparency of learning and assessment in a very disruptive time in the students' lives (Banu et al., 2024).

Assessment can be a very raw experience for students, and coupled with a global pandemic, the stakes in a lot of ways would be higher (Valverde-Berrocoso et al., 2022). The lack of fluency and stability in a post-secondary classroom, as well as the change in modalities, has wide-scale implications for learners who were used to in-person frames (Raes et al., 2020). Additionally, being assessed as an adult learner and having these achievement markers impact one's academic standing. Furthermore, the eventual transition into the world of work necessitated instructors to ensure that their ways of reframing the learning in a blended or online modality would complement the students' existing abilities and ways of knowledge building (Topping et al., 2022).

An international university was the focus of our research; bilingual students were the focus of this study related to their engagement within an intermediate language course. Through the lens of the justice theory, the study is positioned to ascertain the degrees to which learning and assessment were seen to be equitable, transparent, reliable, and accessible for students (Smith et al., 2016). Much of the literature about online learning and responsive pedagogical techniques can provide a bridge for students in times of crisis or when the learning environment is more dynamic in nature (Ghufron & Nurdianingsih, 2019). Interventionist types of approaches as seen in this context will support the foundations that already exist surrounding assessment, learning design, and student engagement; students function best in environments where they have the tools to be more self-directed and whereby learning is personalized for individual learners in the form of feedback and supports for advancing learning within the continuum of beginning a learning sequence to the end or summative assessment (Lafferty, 2022).

Rubric creation is a complex endeavor for many instructors, given the different criteria, the importance of declension, leveling, organization, and the appropriate language to support clarity and understanding of the meaning to students of what it means to perform well (Arter & Chappius, 2006). In this research context, the three areas of the rubric were prescribed given the relationship of these metrics to the writing task typology. For example, quality of writing, grammatical components, and structure were given to the students to elicit a deeper conversation about:

- What the class should be looking for or showing in their writing, which shows the correctness of idea development, depth of examples, and relevance of the discussion.

- How the grammar, which includes sentence structure, can influence the fluency of the writing and thereby, the clarity of the message.
- What are the structural elements that are needed within an essay to help the reader orientate to the purpose of each section and convey their ideas in an organized manner?

Working through these rubric development areas with students created a strong dialogical interchange that was supplemented with sample rubrics and sample responses to help students acclimate to the questions, “How can we create high-quality work?” and “What does it look like given the criteria in the rubric?” In this process, the instructor acted as a guide and culmination of the student's feedback to represent the rubric in a cohesive manner. Taking away this step from students allowed for concerted thought, questioning, and a helpful arrival at what Arter and Chappius (2006) indicate as what quality work should look like as students craft their responses within a learning task.

Ascertaining how co-creating rubrics supplemented with audio feedback influenced student learning during the pandemic provides important context not only for times of disruption but also to support responsive teaching (Lafferty, 2022; Topping et al., 2022). Furthermore, analyzing the extent to which there were affordances and constraints in the latter can be a window into how students were able to find success, contribute to their success, and perceive their role as learners within an online or blended learning environment. Moreover, in a blended learning course design, reflecting on how best to manifest the course sequence and build out the tools to be used from the learning management system (LMS) are other layers to providing a rich learning experience for learners. During this period of change, instructors needed to explore, in the real-time of teaching, potential methods to facilitate success in the learning of bilingual students.

### Literature Review

The COVID-19 pandemic created extraordinary circumstances in the field of education. In post-secondary, classes that were once offered in-person had to be shifted online or in some form of hybrid learning to mitigate the mandate for people to quarantine across the world (Canabarro et al., 2022). Instructors designed blended learning methods and leveraged online platforms and tools to support student learning and assessment in a time of extreme flux (Horn et al., 2021; Raes et al., 2020). The pandemic demonstrated the importance of promoting learner agency and engagement, and technological intervention seemed to be a robust and just way of promoting both (Liu & Chao, 2018; Wenmoth et al., 2021).

In research and one such post-secondary case, instructors had to consider how best to deliver an intermediate composition course to diverse bilingual learners and ensure the assessments were equitable not only in terms of technological access but also concerning accessibility of learning. To mitigate equity challenges of technology access to learning technologies, two primary methods, the LMS and feedback tools, were used to support all learners in understanding the assessment methods and intentions of the learning to ensure there was alignment between the instruction and evaluation (Liubashenko & Kornieva, 2019; Zhao & Zhao, 2023). It is important to consider that the success of online learning is directly connected with the effectiveness of, and facilities present within the LMS, and the teacher's willingness to utilize the system (Alomari, 2024; Banu et al., 2024). Concerning the educational technology infrastructure, the LMS and the integrated learning tools, such as the rubric creator and learning task drop-box features for written and audio feedback, were utilized. In this way, the distance

between the learner and the instructor because of the shift from in-person to blended learning approaches was mitigated through the LMS, and a more self-directed model for students was advanced (Güneş, 2021).

Research has shown that bilingual students participate more in their knowledge acquisition process in a blended or hybrid class environment due to the touchpoints afforded in these modes (Martin, 2023). With the process of student participation in the lessons and co-construction of learning as well as assessment methods, students can be a direct part of the learning process (Kumas, 2022; Zhao et al., 2021). Blended learning models can be framed to increase student agency, self-directed learning, and touchpoints to foster co-creation as a mechanism for collaborative learning (Ataizi & Aksak Kömür, 2021). Learner agency, characterized by self-direction and negotiated engagement in the process of learning, is an integral part of the life-long learning practices of the 21st century (Charteris & Thomas, 2017; Moffitt & Bligh, 2024). Blended learning methods that increase equity in the learning environment can be reached by ensuring a fair assessment system aligned with the learning intentions, along with transparency in relation to the instructions. It also requires formative check-ins, and the students' ability to communicate their learning. One way to cultivate the latter is through co-creation and universal design methods embedded within the instruction and assessment design (Bray et al., 2024). As Ironsi (2023) asserts, students can fully engage in more interactive methods and increase agency when they attain targeted feedback while being part of the assessment process (Ghaffar et al., 2020; Ma & Bui, 2021).

In the assessment system that can be created in post-secondary courses, formative feedback can provide a natural scaffold to support student engagement and create the necessary building blocks for bilingual learners, in particular (Gonulal & Loewen, 2018; Valverde-Berrocoso et al., 2022). As researchers indicate, bilingual students provided with just-in-time support in multiple modes in an online learning environment can serve to bridge learning, build needed context, and provide schemas for students to reflect and continue to build their knowledge and skills (Ellision, 2023; Morton & Nashaat-Sobhy, 2024). Furthermore, using co-created methods and multi-modal feedback, such as in audio form, can elicit positive behaviors related to student engagement, such as clarity for students in their learning, student buy-in and investment in the learning process, and subsequent participation (Farley & Burbules, 2022; Nerad, 2020; Rasooli et al., 2019).

Rubric co-creation in a blended learning format can provide the needed learning context for students and affirm for instructors that students are at a place where the assessment can be considered reliable (Daniel & Mazzurco, 2020). Additionally, this process increases transparency and can serve to support equitable assessment measures that focus on instruction and create organic conversations related to how students communicate their learning. Much of the assessment literature promulgates that co-creation leads to higher levels of self-efficacy as students are a part of their learning journey and can confidently chart a course for success with the support of the instructor (Pham, 2023). In a time of flux, this method can foster greater stability in the learning continuum and instructors can confidently "elicit the behaviors of student engagement" (Quinton & Smallbone, 2010, p. 97). When coupled with audio feedback, students can listen to the feedback, replay the feedback, and apply the feedback at their own pace. This reinforced a student-centered approach in that when instructors use audio feedback, it can result in greater student self-regulation and participation in enacting the necessary constructive feedback and applying it to their learning tasks (Lafferty, 2022; Topping et al., 2022). Conversations and co-creation of rubrics with added audio feedback can be a rich addition to

more traditional methods of giving students a static rubric with minimal opportunities to converse around this type of heuristic (Pang et al., 2022; Poehner & Yu, 2022).

The continuum of learning from the start of the learning sequence to the end, resulting in some form of summative assessment, needs to be transparent, and a level of safety should be engineered for students during a time of unprecedented shifts such as the COVID-19 pandemic; justice theory underpins these notions and provides an important backdrop to this research (Chambers & Monaco, 2023). From the vantage point of justice theory, the learner's learning experiences, engagement, and motivation directly relate to the perceived fairness or equity in the evaluation process and the measures taken by the instructor to ensure fairness across the assessment tools (i.e., rubrics) and methods (Smith et al., 2016).

From the lens of justice theory, the assessment system is analyzed through a multi-prong series of conditions promulgated within the assessment process by instructors (Adams, 1963; Huseman et al., 1987; Fowler & Brown, 2018). Overall, areas such as how an instructor designs the assessment and their instruction, the rubric articulation, how the assessment is perceived in terms of fairness, and the evaluation metrics in relation to validity and reliability are considered in this approach and assessment system explored in this study. Table 1 below includes an abbreviated summary of the application of this theory (Smith et al., 2016).

**Table 1**

*An Abbreviated Summary of Justice Theory in Assessment*

Justice theory	Determinants in the assessment system
1. Distributive justice	Outcome is perceived transparency for everyone participating in the task—personalization and student-centered.
2. Detailed marking guides	Explicit assessment methods and language, such as in a rubric and complementary oral feedback.
3. Justice and fairness in allocation decision	Evaluation using a rubric and criteria with subsequent exemplars.
4. Fair system	Assessment system is fair—student is allocated the mark they deserve based on how they performed.
5. Validity and reliability of the marking process	Products, conversations, and outputs—triangulation of assessment methods. Rubric and language from course instruction to task development, and implementation to evaluation and grading.
6. Correctly designed rubrics match the intended learning outcomes of the assessment	Rubrics were designed to: cover the right content, criteria are well organized, the number of levels fit targets and users, and levels are defined well and parallel (Arter & Chappius, 2006).

Within the context of the COVID-19 pandemic, shifting to online or blended learning methods was done out of necessity, given the need to abide by the quarantine and other restrictions made by governments globally. The review of the literature on how university instructors responded to this shift is continuing to advance and the ways in which assessment methods were kept reliable and valid are also being examined. Looking through the lens of justice theory to ascertain the degree of equity and fairness in assessment is an important way to consider instructor responses during this period. Supporting bilingual learners within a language learning frame can provide greater insight into how students within this time of change adapted to blended learning methods and the adjustments made to the instructional design and assessment practices.

### **Methodology**

A mixed-methods approach was employed in this study. Both quantitative and qualitative methods have been used to explore the phenomenon of bilingual student learning using a co-created rubric and audio forms of formative feedback in the assessment methods for an intermediate English language course at an international university during a time of flux and within the context of shifting learning modalities from in-person to a blended medium. The area of focus was how to best support student learning during the pandemic and ensure the assessment methods remained reliable and valid. In this methods approach, Creswell and Creswell (2018) posit that mixed methods have two forms, one of which includes the usage of a social science framework. Using both quantitative and qualitative means can help research move toward a “clear and deep understanding of the research problem being addressed” (Ponce & Pagán- Maldonado, 2015, p. 124). Therefore, the chosen methodology helps in part of this study to generate quantitative and qualitative data to gain a deeper understanding of the impact on student learning through multi-modal feedback (Dörnyei, 2007). To deepen the inquiry, the following research questions shaped the research:

- How does using a co-created rubric and audio feedback in a blended learning environment help the student's learning during the pandemic?
- In what ways does applying justice theory in the assessment system create more equitable learning for students?

Quantitatively, two hypotheses were considered:

- H0) Using assessment interventions such as co-creating rubrics and increasing modes of formative feedback to include audio will have no effect on student achievement from the start of the learning task (i.e., initial draft) to the final submission (i.e., an increase of the mean result from the first submission to the final submission).
- H1) Using assessment interventions such as co-creating rubrics and increasing modes of formative feedback to include audio will have positive effects on student achievement from the start of the learning task (i.e., initial draft) to the final submission (i.e., an increase of the mean result from the first submission to the final submission).

The mean marks from the first and final submission of a graded essay, using a paired sample t-test, were compared to discern whether there was growth based on the assessment interventions utilized. Specifically, data was collected from 26 student scripts consisting of essays written on the same topic at the beginning and at the end of the term. Then, student marks from the first and final submissions were compared using the student's paired t-test to determine if there was a significant difference between the mean scores.

Additionally, a qualitative student questionnaire with seven questions was administered to the students to ascertain their experiences from the co-creation, decoding methods, and audio feedback utilized to create a transparent assessment system for the intended tasks. Responses were collected from 16 respondents. The collected data were analyzed using the principles of justice theory; the responses were thematically coded by each investigator, and the principal investigator independently compared the codes and established intercoder reliability of above 75%.

## Results

The findings from the quantitative segment of the research rejected the H0 hypothesis and confirmed the H1 hypothesis displaying improvements due to usage of assessment interventions, thereby helping to gauge student progress, and the qualitative portion of the research served to collect student feedback on the assessment experiences during the experiences in the course. Further, the quantitative data helped to track student progress from the beginning to the end of the course by showing the results of the class, followed by observations on individual student performances. The qualitative responses were thematically coded, and connections were established between themes found from student responses and themes extracted through the lens of justice theory.

### Quantitative Method

The results of this study begin with the quantitative scores from the learning task, which was an essay students had to write, whereby the co-created rubric and audio feedback were used to evaluate the student's first and final drafts related to grammar, quality of writing, and structure. A paired-sample t-test was conducted to compare the mean marks of students in the first draft and the final draft of students enrolled in the course. There was a significant difference in the scores for the first draft ( $M = 7.163462$ ,  $SD = 1.177799$ ) and final draft ( $M = 7.742308$ ,  $SD = 1.410864$ );  $t(25) = -3.4733$ ,  $p = 0.001888$ , as shown in Figure 1. The effect size shows the impact of the instructional and assessment approaches on the student's results from the initial draft to the final draft. This was calculated using Cohen's  $d$ , which showed a medium effect size of 0.68.

**Figure 1**

*Marks in First Draft and Final Draft*

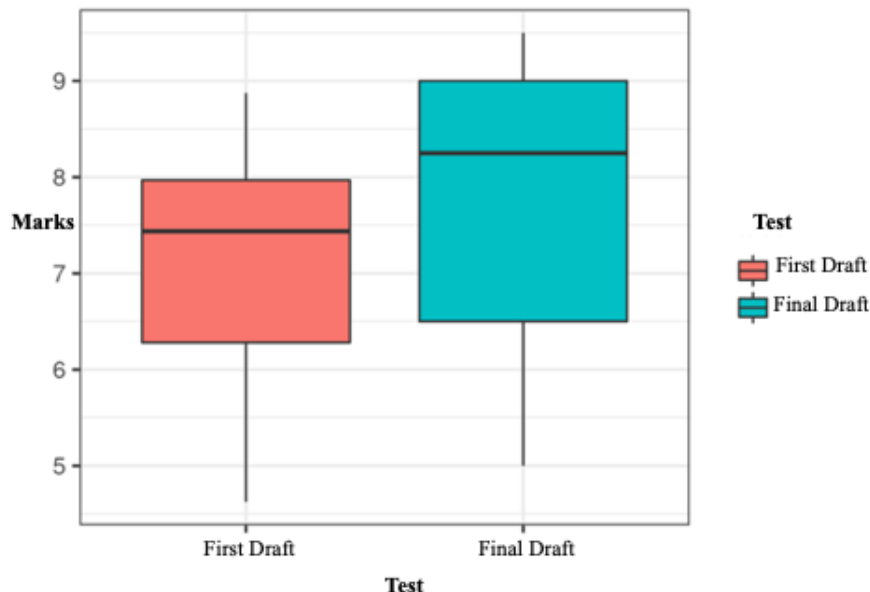


Figure 1 portrays a box plot consisting of marks from the first draft and final draft of an essay written for the course. On the x-axis, the test type has been represented, and on the y-axis, the marks of the assessment have been displayed. The lines for each test depict the range of marks for that type: the first draft ranges between 4.6 to 8.9 out of 10, while the final draft marks are between 5 to 9.5 out of 10. The shaded area of the plot indicates an overlap of marks and an increase in the range of marks in the final draft, indicating the improvement of marks.

In Table 2, the formal results of the first draft and final draft are shown to see the range of the mark from start to finish. In accordance, after analyzing the first and final draft marks, a progress method was used to ascertain the progress of the individual students and an overview of how all the learners performed in the first draft and final draft. As seen in Figure 2, the plotted marks reflect the first draft and then the final draft by different colored points.

**Table 2**

*Student Marks of the First Draft and the Final Draft*

Student ID	Final draft	First draft
1	6.0	7.5
2	7.0	7.0
3	8.0	7.75
4	8.5	6.875
5	9.0	8.125
6	6.5	6.75
7	5.5	5.5
8	6.0	4.625
9	8.5	5.75
10	8.5	7.375
11	9.5	7.75
12	9.0	8.375
13	9.0	8.625
14	6.5	6.125
15	5.0	5.75
16	8.0	7.875
17	5.5	5.5
18	9.0	8.5
19	9.0	8.5
20	9.0	8.875
21	7.3	7.125
22	9.0	7.625
23	9.0	8.0
24	8.0	7.375
25	6.0	5.25
26	9.0	7.75



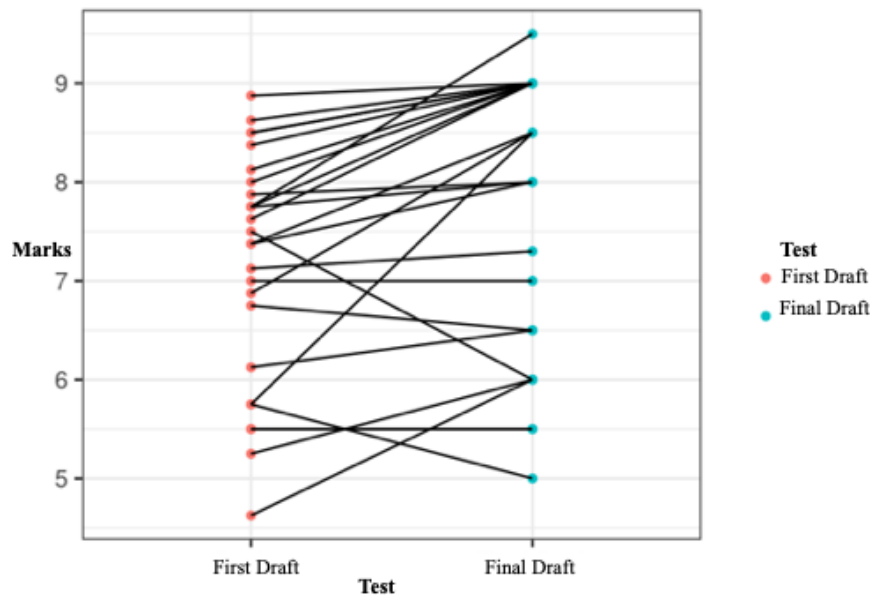
**Figure 2***Pairwise Marks of Individual Students*

Figure 2 displays the quantitative approach of using the pairwise relationship of the marks from the first draft to the final draft. The ggplot above is a graphical representation of changes in student marks from the first draft to the final draft. The positive slopes (lines going upwards) and negative slopes (lines going downwards) indicate an increase or decrease in performance, while the steepness of the slopes shows the magnitude of change. As a result, Cohen's  $d$  shows a medium effect size of 0.68, thus representing that cumulatively there is a moderately significant improvement between the first and final draft.

In bringing together these quantitative results, as signified by the positive slopes, there has been an increase in marks in the final draft. Although there was the presence of negative slopes in Figure 2 indicates that some students performed lower than they did initially, there was an overall increase in the final draft. Figure 1 also shows a marked increase in the overall range of marks from the first to the final draft. To reiterate, the rubric was divided into three categories, that included grammatical competence with a weighting of 25 percent, quality of writing weighted at 35 percent, and structure with a weighting of 40 percent, respectively. The medium effect size indicates that students had substantial improvements in structure since the mark allotted for structure has the highest weighting across the rubric; however, overall improvement was seen across all three criteria. This shows that the audio and written feedback supported the students to correct their errors and helped them to achieve more control over their learning as they referred to the feedback and applied it to their final draft.

### Qualitative Method

In this study, the qualitative approach included a questionnaire of seven open-ended questions that was completed by 16 participants after they had finished the first draft and final draft, resulting in a grade. In Table 3, the themes that arose from the data analysis as well as the number of respondents linked to each theme are articulated.

**Table 3***Qualitative Findings and Results*

Themes	Description
F1- Assessment transparency	Student respondents affirmed that using a digital rubric provided transparency of assessment and student learning intentions, equity of the learning process and increased engagement and achievement. (n=13)
F2- Rich collaboration in a co-creation process	Student respondents felt strongly about the processes in place to decode the language and methods in the rubric. Although the amount of detail initially seemed overwhelming to the students until the instructor helped with clarity, the overview from the instructor and digital notes helped support a fairer assessment system. (n=12)
F3-Intentional and relevant assessment system	Student respondents affirmed that they felt the assessment system was reliable and valid. Using a variety of methods to instruct during the COVID-19 pandemic, such as Zoom, recorded oral comments housed in the learning management system, video, and exemplars corresponding to the rubric helped to make the system more reliable. Students being able to contribute to the rubric creation also helped with agency and decoding. (n=15)
F4- Equity in learning	Student respondents shared that, as adult learners, the alignment supported an effective and efficient learning experience. (n=15)
F5- Importance of the meaningful use of educational technology	Student respondents affirmed that audio was a point of elevating the feedback and helped with comprehension and another level of the feedback in this assessment process. Audio contributed to multiple means of representation as students affirmed they could look at the task description, review the rubric, listen to the audio, and practice within this iterative cycle. (n=15)
F6- Using formative feedback is part of the scaffold	Student respondents asserted that the formative feedback was layered as a result of the multiple touch points. The depth of approaching this entire assessment system as building blocks using a number of modal cues resulted in students affirming transparency, equity, and a 'learning' not a 'mark' focus. (n=13)
F7- Agency and student engagement	Student respondents affirmed that the way in which the assessment process was designed reinforced their agency and autonomy in the learning, self-reflection efforts, and targeted feedback cycle. (n=13)

The justice theory reflects that learners seek fairness in the evaluation process to ensure the processes of assessment in a course duly underscore the reward-to-effort ratio (Smith et al., 2016). Table 4 reflects the intersection of justice theory with the themes derived from the coding process. Additionally, overlaying the research questions with the data from the qualitative theming of this study indicates clear connections emerged. Each theme, as indicated above, has a relationship to the core tenets of the theoretical framework and serves to refine the context of the student's feedback from their experiences in the class and within the assessments the participants had undertaken. These core elements reflect how justice theory can be seen playing out in the learning environment during the pandemic and amongst intermediate bilingual students.

**Table 4**

*Connection to Justice Theory*

Justice Theory Components	Student Quotes
Justice - instruction	"The instructional approaches influence my understanding of how I would be assessed. If the teacher effectively explains and demonstrates how the rubric aligns with the assignment's objectives, it can enhance my comprehension of the assessment criteria. Clear examples and explanations help me understand what is expected and how my work will be evaluated, enabling me to better meet those expectations." (Student 8)
Clarity and distinctness	"The rubric was definitely helpful as it clearly stated all the details and requirements of a good paragraph. After every quiz or assignment, it helped me go through my mistakes and what to do exactly to learn from it." (Student 2)
Guidance and learning	"Yes, at first it was a little difficult to interact with and understand the many components of the rubric, but as I became more used to it, the procedure became clearer. We received a lot of assistance from our teachers in understanding and engaging the rubric." (Student 16)
Design and learning outcomes	"I think the assessment totally lined up with what we were supposed to learn in the course. It helped me see how well I was meeting the goals we had for improving our writing skills." (Student 15)

Fair system	"The audio feedback was super helpful. Hearing specific comments and suggestions really pinpointed where I needed to improve. It helped me understand my weak spots and gave me guidance on how to develop my writing skills further." (Student 10)
Validity and reliability	"The feedback process added another level to my learning process in addition to the rubric decoding. My reflections on the work were echoed in the feedback from the instructor. This process was not just about grades; it offered insights into how I could improve. It felt more like a conversation, helping me grow continuously throughout the course." (Student 12)
Distributive justice	"The evaluation procedure, which included the written comments, audio feedback, and rubric, was significant in helping me become a more independent learner." (Student 7)

Overall, when the quantitative and qualitative results are merged, the results from the first submission to the last submission indicate growth in writing structure, quality of content, and grammatical competence. Additionally, these results affirm the processes from the course instruction and assessment methods resulted in growth for the students. The qualitative results further illuminate the voices of the students in their learning and assessment experiences within the intermediate English language course through themes that include assessment transparency, rich collaboration in the co-creation process, intentional and relevant assessment system, equity in learning, and so forth.

Moreover, the student quotes affirm that justice was experienced in the learning process from the design of the instruction and assessment, co-creation methods, and how the audio feedback complemented the decoding approach of the rubric. The students indicated they felt more comfortable with access to auditory comments that partially replicated a face-to-face experience in which they could listen again or pause the feedback to adapt their writing. Lastly, students within this course saw the process of learning as more equitable during a time of disruption such as the COVID-19 pandemic, whereby a blended learning model was used as students had to move from in-person instruction to an online approach.

### **Discussion**

In this research, in response to the COVID-19 pandemic, the use of a co-created rubric design with students and the use of audio feedback from a robust learning management system was utilized to mitigate the potential dislocation of learning during a time of global crisis. Using these methods to support student learning in an international post-secondary context created a highly robust and positive learning environment for students (Ataizi & Aksak Kömür, 2021). In cohesion, viewing learning through the lens of justice and equity reinforced the importance of ensuring the learner was exposed to methods that provided clarity of not only the instructional design and enactment but also the ways in which the assessment was articulated and then evaluated (Smith et al., 2016). This study reaffirms the need for mindfulness in the digital space and the awareness of student positioning and affordances within the learning process.

While learning in these global circumstances was highly uncertain and volatile, mitigating these realities through clear design, and intentionality, along with the goal of reinforcing student agency, resulted in more equitable learning as multi-modal methods were harnessed by means of written and auditory feedback and formative methods that supplemented the constant decoding of the rubric at the same time as students were writing their essays (Kumas, 2022). Therefore, co-created methods can be a first touchpoint in understanding the requirements and, in this case, the essay responses and the alignment with the learning outcomes. This alignment is critical to helping students initially take charge of their learning (Zhao et al., 2021). Further, creating opportunities for students to hear instructions and feedback honed their listening skills, and gave the language of the assessment system (i.e., assessment literacy) increased clarity. Being able to listen to the audio feedback nested agency in the hands of the students. This level of personalization was well received by all students and motivated them to continue to improve their writing. Prescribing feedback in audio form in complement to the rubric reinforced fairness and equity in learning, which is sometimes difficult to solidify in times of societal disturbance, such as during the pandemic (Farley & Burbules, 2022).

In a transparent assessment system, students can move from a mindset of 'attaining high marks' to deepening their understanding of how best to communicate their learning and iterate their written drafts to more aptly reflect the evaluation criterion (Banu et al., 2024). Comprehending multi-leveled rubrics can be overwhelming for students, even at an intermediate level, and the act of co-creating coupled with a concerted language to support assessment literacy resulted in continual learning, arguably beyond the final essay submission (Arter & Chappius, 2006). The tools used to keep the assessment transparent in the learning management system and the rich feedback processes helped learners navigate a time of disruption while maintaining their academic goals of comprehensive learning and academic success.

Even without a time of crisis, this study behooves educators to consider enacting multiple modes of assessment, harnessing the capabilities of the learning management system, and co-creating opportunities for students to participate as a concerted learning mechanism as the teacher and student share in the construction of the evaluation tools. Even though the intentions may appear student-facing, co-creation can result in increased clarity for both the instructor and the student through the dialogical interchanges through the assessment language, the process of creating a common language surrounding the task, outcomes, and evaluation. Additionally, providing students with the opportunity to enact agency can be done best by ensuring the infrastructure of the learning is aptly framed and every method and tool used to support student learning is intentional and reinforces equity within the assessment process.

## **Conclusion**

Within this study, the benefits of using quantitative and qualitative methods to delve into the phenomenon of study that related to how technology-enhanced methods were optimized in both the instructional design and assessment approaches during the COVID-19 pandemic to continue to support the learning of bilingual students enrolled in an intermediate language course need to be underscored. Utilizing the technologies within a robust learning management system, the co-creation of an assessment rubric, a natural scaffold, and audio feedback to support bilingual students yielded an increase in achievement based on student marks from the initial draft to the final draft with deeper qualitative responses providing further context of the

student's positive experiences within the versatile approach to their learning during a tremendously disruptive time in our contemporary history.

Students were able to harness a more self-directed and student-centered method during this time of flux as the technological tools, as well as approaches, used instructionally supported the learning of students within a justice theory frame (Adams, 1963; Huseman et al., 1987; Fowler & Brown, 2018). Specifically, assessment was a system whereby students were able to function, learn, and succeed in this system through elements such as outcome alignment to the assessment, transparency of learning and assessment expectations, equity, and fairness in the choice to co-create and use multiple touch points to develop the students' assessment literacies. This allowed students to be more active in their learning by transferring their understanding of the expectations to the drafts and applying feedback across the continuum of the learning sequence.

Another positive result was that the participants were able to shift mindsets away from a more mark-driven approach to inculcating learning and the importance of taking risks, applying feedback, and being iterative in their learning journey. A point to which effort and understanding translate into agency and efficacy within a rich writing assessment process. An area of consideration is the sometimes-overwhelming nature of rubrics with much text and explanatory statements for bilingual learners. Using methods to co-create and decode can help students acclimate to the expectations and have a voice in the assessment process.

This study positions further inquiry well in using co-creation and multi-modal interventions as consistent methods within post-secondary learning environments, regardless of whether a global pandemic is occurring. The results yield important considerations for student empowerment, clarity of learning, and the influence of well-designed and enacted formative feedback within a blended learning environment. Arguably, whether the modality is blended, in-person, or hybrid, these methods of practice can strongly support student-centered learning.

### **Author Contributions**

Conceptualization: ND, ST; Data curation: ST; Formal Analysis: ND, ST; Investigation: ND, ST; Methodology: ND, ST; Project Administration: ND; Resources: ND; Software: ND; Writing draft, review, and editing: ND, ST.

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### **Ethics Statement**

Ethical approval was obtained through the standard of the international university that was a part of this research.

### **Conflict of Interest**

The authors do not declare any conflict of interest.

### Data Availability Statement

Data is not available as per the ethics agreement for this study. Authors have taken responsibility for ensuring that all steps necessary to protect the privacy of human research subjects have been taken.

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