FLOOP
VAN HORN HIGH SCHOOL

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LEANLAB EDUCATION

Cohort 6

Research

VAN HORN HIGH SCHOOL & FLOOP

2020 Research Report

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SCHOOL SUMMARY AND PROBLEM OF PRACTICE

Van Horn High School is a public high school within the Independence School District. It is one of three high schools in the Independence School district. The student body is both economically and ethnically diverse, as 74% of students qualify for free and reduced price lunch and 45% of students are students of color (25% Latinx, 12% Black, 7% Other).

The problem of practice identified by **Mr. Adam Surrey, an English teacher,** was one regarding the impact of **student agency on learning.** He described an assessment and instruction culture at Van Horn High School that discouraged iteration and growth, and described the teaching and learning model as one that is done *to* the learners. Teachers wanted to see students being more active (rather than passive) learners. Students reinforced this problem of practice, describing in the first month's interviews that they don't have a say in what they learn. Survey data also suggested that students don't know how to improve or learn from feedback and their mistakes. Teachers needed, therefore, a time-efficient way to provide meaningful, accurate, and timely feedback that is both engaging and empowering of student-led learning.

VENTURE SUMMARY AND INTENDED EFFECT

Floop is a web and mobile platform that helps teachers give "meaningful feedback faster" and teaches students to use feedback to learn. Floop was founded by Melanie Kong and Christine Witcher - high school teachers in Seattle. The Floop platform gives teachers the tools to create transformational feedback based on three conditions. First, Floop helps create *actionable information*, as teachers are able to give feedback four times faster than traditional methods with a digital dropbox and comment banks (floopedu.com). This allows students to get the feedback they need, when they need it. Second, Floop gives students *agency to act*; they are able to engage with feedback while it's still relevant, which helps students actively improve their work through conversations and resubmissions. Third, students learn how to better utilize feedback to improve, developing their *feedback literacy*. Floop empowers students to give feedback through guided peer review and coaches them with "feedback read" receipts. Ultimately, Floop seeks to save teachers time and support student engagement and growth.

RESEARCH GOALS

There were three research goals of this study. The first goal of this study was to evaluate the impact of Floop on students' academic performance. Accordingly, **the first hypothesis is that students who use Floop will see an increase in their writing exam scores from the first exam to the final exam.** The second goal of this study was to understand the impact of Floop on students' perception of agency in their own learning. Accordingly, **the second hypothesis is that students will have higher *perceptions of agency* after using Floop than at the beginning of the semester. It is also hypothesized that students who use Floop will see a larger increase in *perceived agency* than students who do not use Floop.** The third goal of this study was to gather feedback from the teacher and students on the usability and implementation of Floop in order to modify and/or enhance product features and development.[1]

[1] There was an additional goal in this study related to student feedback literacy. Feedback literacy is a student's ability to make sense of feedback and use it to grow and enhance their work. A supplemental goal of this study was, therefore, to understand the impact of Floop on student's feedback literacy. The analysis for this goal is still underway and will be published in Appendix B of this report.

METHODOLOGY

Sample

The sample for this study consisted of 170 students across Mr. Adam Surrey's seven English classes. The sample breaks down as follows (*Table 1*):

Table 1

AP Language and Composition	
Section 1	24 students
Section 2	26 students
Section 3	28 students
Honors English 1	
Section 1	20 students
Section 2	20 students
Section 3	27 students
English III	
	25 students

Mr. Surrey is the only Advanced Placement (AP) Language and Composition teacher and the only Honors English 1 teacher at Van Horn High School, so there were no available comparison groups at the school to use as a control group. For academic progress indicators, the study was, therefore, purely descriptive in that it assessed pre- and post- performance among just this sample of students, all of whom used Floop. While there was one other teacher that taught English III, the nature of the assignments between the two teachers was significantly different, so we were unable to use the other English III classes as a control group.

In regards to the second hypothesis related to student perception of agency, we used Mr. Surrey's seven classes as the treatment group and the other English teacher's seven classes as the control group.

While there were systematic differences in the context between the treatment and control group, a number of similarities existed, namely grade-level, subject, and school context. Furthermore, we were only interested in identifying possible correlations and do not imply causation.

Measurement of Outcomes

The first outcome pertaining to the first goal in this study was **student academic performance.** To assess change in academic performance, scores from two or more formal writing

assignments were compared. In the AP Language classes, there were four AP timed-writing assignments that occurred monthly, between September and December. Each was scored out of 6 points. In the Honor's English I class, there were three formal writing assignments spread out over the semester and scored out of 100 points. In the English III class, there were two formal writing assignments—one at the beginning of the semester and one at the end of the semester—and scored out of 100 points. While each assignment was different, the concepts and processes assessed were the same, and therefore, a valid comparison.

The second outcome pertaining to the second goal in this study was **student perception of agency**. Agency was measured by capturing student attitudes in a pre- and post-survey. All students in the treatment and control group took a pre-survey the week before they started using Floop (end of September) and then took a post-survey the week after they stopped using Floop (middle of December). The pre- and post-survey were identical. The majority of questions were taken from Zeiser et. al. 2018 and based on nine different categories of student-centered learning practices (see Appendix A). Some customized questions were also asked to gauge students' interest and knowledge about feedback. Students self-reported on a scale of 1 to 5, with higher numbers corresponding to more positive attitudes/perceptions and higher interest/knowledge.

Teacher and Student Interviews

Once a month between October and December, in-person interviews were conducted by the Manager of Community Organizing with the teacher and with students to collect qualitative evidence on the impact of Floop. The purpose of the interviews were to collect anecdotal feedback on the ways in which Floop was impacting students' learning, agency, and engagement in the classroom and with their work. Four different students were interviewed each month. A standardized questionnaire was created to guide the interviewer and to collect comparable evidence. Interviews were recorded and patterns in responses were later identified.

RESULTS

In this section, the quantitative results are presented in regards to the two research outcomes: academic writing performance and perception of agency.

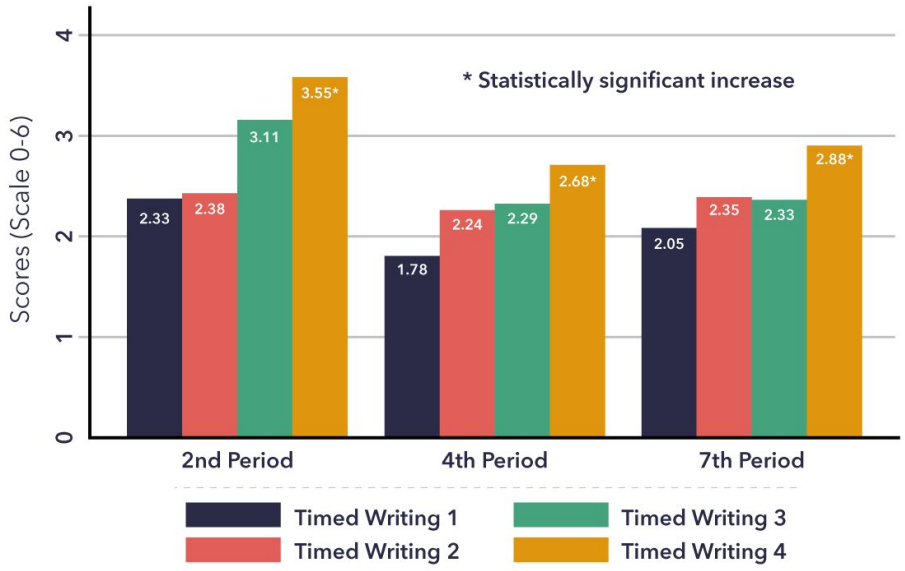
WRITING PERFORMANCE

Overall, there is support for the first hypothesis that students who used Floop will experience an increase in writing scores from the first to the final exam/assignment. The evidence presented here is strictly descriptive. The results illustrate changes in class-average scores from the first to the final assignment among all the students that used Floop in each class. There is no control group and no other confounding variables were controlled for, so causation is neither tested nor implied in the writing performance results below.

AP Language and Composition:

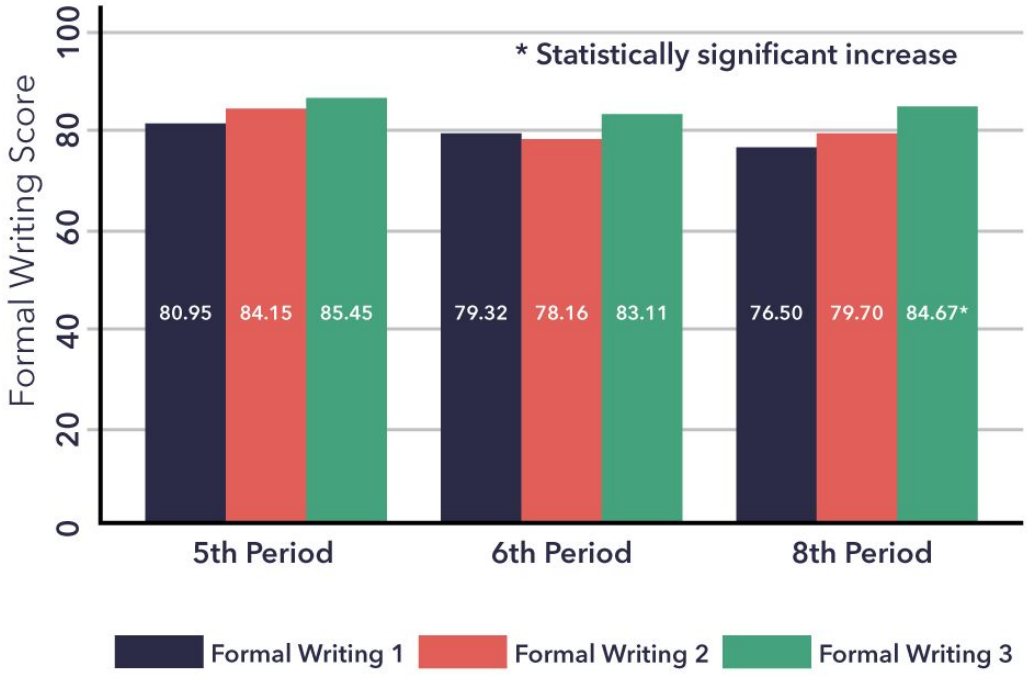
In Figure 1, the class-average scores from all four timed writings for each class period are illustrated. Students in all three AP Lang classes experienced statistically significant growth (as assessed with a paired t-test), on average, from the first to the fourth timed writing exam: 2nd period saw a 52% increase, 4th period saw a 51% increase, and 7th period saw a 40% increase.

Figure 1: Changes in Class-Average AP Language Timed-Writing Scores



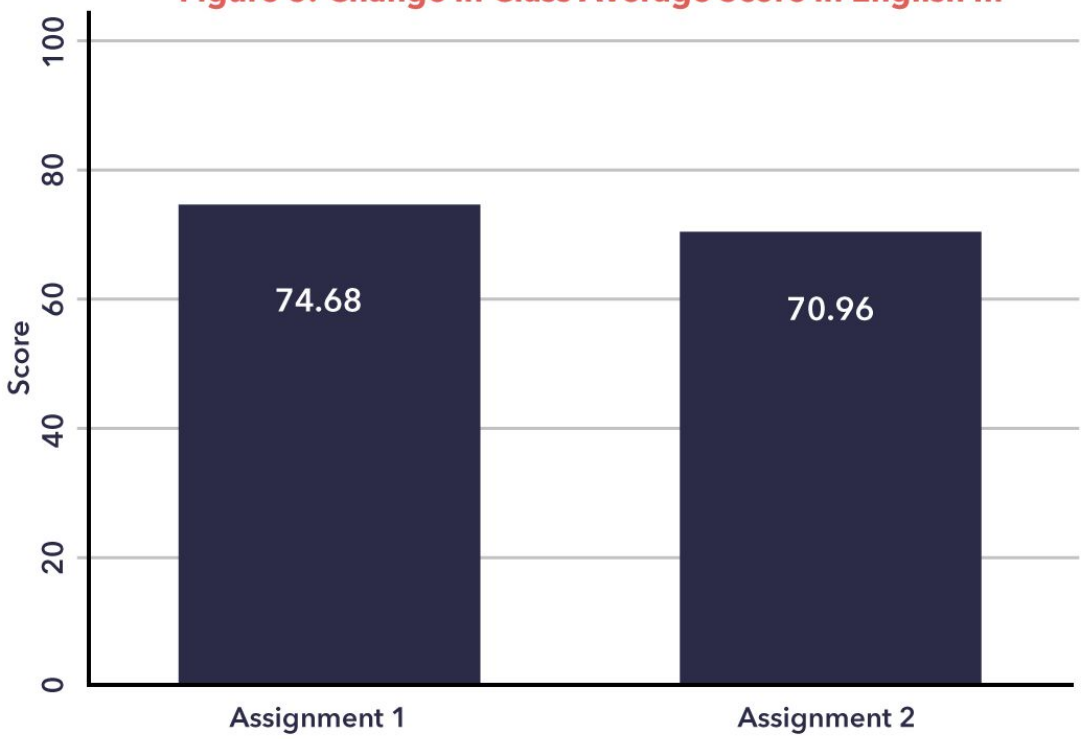
Honor's English I:
In Figure 2, the class-average scores from three formal writing assignments for each class period of Honor's English I are illustrated. While the class-average score in all three periods increased from the first formal writing assignment to the third, only students in 8th period experienced a statistically significant increase (as assessed with a paired t-test). The 8th period class averaged a 76.5 on the first formal writing assignment and they averaged an 84.67 on the third (and final) formal writing assignment, representing a 10.67% increase.

Figure 2: Change in Class-Average Scores in English I



English III:
Finally, in Figure 3, the change in the class-average score from the first to the second (and final) assignment for the English III class is shown. The class, on average, experienced a slight decline in their score from the first to the second assignment, although the decrease is not statistically significant.

Figure 3: Change in Class Average Score in English III



STUDENT PERCEPTION OF AGENCY

In this section, the results from survey data on students' perception of agency are presented. **There is some evidence in support of the second hypothesis that students who used Floop will experience more agency in their learning after using Floop than before.**

The evidence is based on a pre- and post-survey that was distributed to all the students in Mr. Surrey's English classes—the treatment group—and to all the students in Mr. Koon's English classes—the control group. **There were 81 students in the treatment group and 53 students in the control group that responded to *both* the pre- and post-survey.** There were additional students that completed *either* the pre- *or* the post-survey, but since the outcome of interest is *change* in students' perceptions, only the students that completed both a pre- and post-survey were used in this analysis.

The survey measured nine social-emotional components through 21 survey questions as referenced in Appendix A. Of those, there were two areas where the change in student responses in the treatment group (Floop users) from the pre- to the post-survey was statistically significant (as assessed with a paired t-test). As shown in Table 2, there was a 19% increase in one growth-mindset indicator: "Challenging myself won't make me any smarter." The average pre-survey response for this question was a 1.96 and the average post-survey response was a 2.34 (1-5 scale). There was a 10% increase, on average, for Floop users along one indicator in the Self-Awareness component: "In this class, I know what I need to work on." The average pre-survey response was a 3.71 and the average post-survey response was a 4.10 (scale of 1-5). There was no statistically significant change in any other SEL indicators of student agency among Floop users. Furthermore, there was not a single component among the control group (non-Floop users) where a statistically significant change occurred.

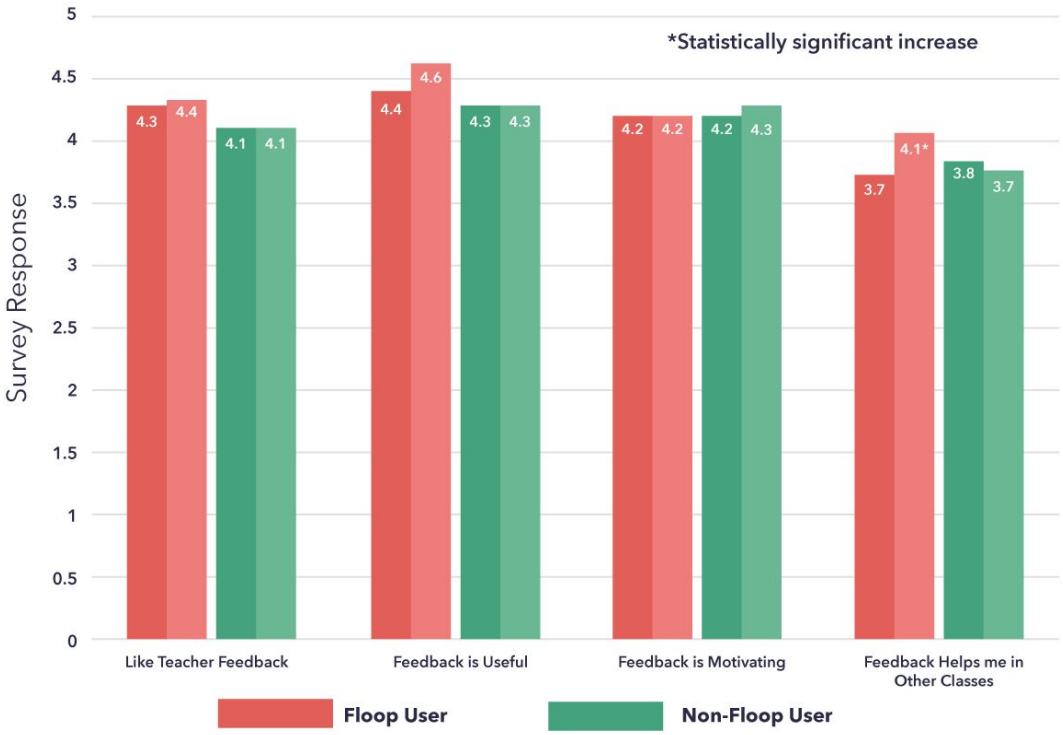
Table 2: Student Agency Indicators with Statistically Significant Increases

SEL Component	Question	Percent Increase
Growth Mindset	Challenging myself won't make me any smarter.	19%
Self-Awareness	In this class, I know what I need to work on.	10%

The survey also asked students about their perceptions regarding feedback. The purpose of these questions was to evaluate to what extent students' feelings about feedback changed after using Floop for one semester. As shown in Figure 4, there was one area where a statistically significant positive change occurred: "*how much does feedback help you in other classes*." Among Floop users, a 10% increase (from 3.7 to 4.1) in their responses occurred. There were no

statistically significant changes in any other area pertaining to perceptions of feedback for Floop users. Among non-Floop users, no statistically significant changes occurred in any indicator.

Figure 4: Changes in Student Perception Regarding Teacher Feedback



ANECDOTAL EVIDENCE

The responses from the in-person interviews with students and the teacher using Floop were overwhelmingly positive. The teacher liked that Floop gave him an opportunity to provide immediate feedback to students—feedback that would normally have taken him much longer to provide, if at all. He believed that the immediate feedback resonated more with students who were able to connect his comments to their work easier given that the assignment was more fresh in their minds. Not only was he able to provide feedback in a more timely fashion, he was able to do so quicker, which saved him valuable time and the capacity to provide more feedback to each student. As such, he believed that the quality of his feedback improved. Accordingly, he saw kids making more meaningful adjustments—particularly in the AP timed writings—than he saw in the past.

For students, they loved that they could respond directly to the feedback in a virtual way. For some, the opportunity to respond virtually was less intimidating and, for others, it was another way to engage deeper with the material and with the teacher. The students also liked that they could keep track of all the feedback in one place and compare their previous work in a way that helped them more easily see the areas they needed to improve. **Overall, the anecdotal evidence from students supports the second hypothesis that they would feel more empowered and engaged in their own learning after using Floop.**

PRODUCT MODIFICATIONS

The third goal of this research study was to gather feedback from teachers and students about product usability and implementation requirements. In the first couple of weeks of implementing Floop in the classroom, it became apparent that students were struggling to upload assignments to Floop. This was because it required them to convert their documents into a PDF before uploading it to Floop and that additional step was a barrier for many students. In response, Floop integrated its platform with Google Classroom so students could seamlessly transfer files from Google Classroom to Floop. Immediately after that enhancement, more students began using Floop on a more consistent basis.

Floop is currently working on two additional product enhancements based on teacher feedback that will make implementation in the classroom easier and better. First, Floop is adding a "gradebook view" to the platform that shows which assignments students have turned in and which ones the teacher has already given feedback on. In the past, the teacher had to click on each assignment for each student to see what had been completed. Second, Floop is going to add a general communication platform to the tool where the teacher can post a message to the whole class related to a particular assignment, which would help students further track general comments/feedback with each relevant assignment.

DISCUSSION AND NEXT STEPS

The results of this study reveal preliminary evidence for a positive association between Floop and writing performance and student agency and that certainly warrant additional research. There are a few limitations of this study that prevent causal claims. First, this study did not have a proper control group for which to compare outcomes. We cannot, therefore, say that Floop was the *reason* writing scores increased without having a control group and/or controlling for other possible explanations for growth. Mr. Surrey was the only AP Language and Honor's English I teacher, so there simply were no comparison classes. There was another English III teacher, but the nature of the assignments and the manner of grading were significantly different between the two teachers, so that made a direct comparison problematic. Future research should, therefore, include a proper control group and collect data on confounding variables to control for in a statistical analysis.

Second, the pre- and post-survey results on SEL competencies related to student agency and teacher feedback yielded little change with both the treatment and control group, which is likely due to the short timeline (ten weeks) between surveys. Changes in SEL outcomes likely take much longer to realize significant changes, particularly with those related to agency and ownership in learning. In future research, it may be helpful to collect more frequent data on student perceptions, such as student self-reports on exit tickets. In this way, there would be

more data points by which to assess short-term change and fluctuations that are not accounted for in one post-survey. A longer timeline between pre- and post-surveys would also allow for more time that is potentially needed for attitudinal change. Objective measures of SEL would also be helpful to avoid potential reliability bias with survey data.

Finally, it is important to also have a proper control group for assessing student agency. While we did administer the survey to a group of students who used Floop and a group of students that did not use Floop, it was not a perfect comparison group for many reasons. First of all, the treatment group was composed of a large number of Honor's and advanced English students, so systematic differences in attitudes about English and writing likely existed. The two groups were also systematically different in terms of their learning context—each having different teachers with different grading styles and approaches. In future research, the learning context should be better controlled for by each teacher having a treatment and control group(s).

Despite these limitations, there is some preliminary quantitative evidence and extremely positive qualitative evidence to warrant a larger efficacy study of Floop. In future research, English students of the same level and same course should be randomly divided into a treatment and control group and then compare changes on scores over time and perceptions of student agency over time. A larger sample size across multiple schools or contexts would also help validate the results and make them more generalizable.

CONCLUSION

Van Horn High School is excited about continuing to use Floop and about the promise it has for empowering students in their own learning. This study showed that students who used Floop experienced, on average, an increase in scores on writing exams or assignments, and they reported, on average, more positive attitudes related to growth mindset and self-awareness. While the evidence is only descriptive and limited by reliability bias and a short time frame, the preliminary, positive evidence this study found, combined with the overwhelmingly-positive, anecdotal evidence from the teacher and students lends support for a larger, more robust research study. Floop also proved to be a responsive partner in co-design with the school, as it very quickly integrated its platform with Google Classroom and is working to develop a "gradebook view" and communication tool.

APPENDIX A

Student Agency Questions

Adopted from Zeiser, Kristina; Scholz, Carrie; and Cirks, Victoria. 2018. "Maximizing Student Agency: Implementing and Measuring Student-Centered Learning Practices." Technical Appendix. Boston, MA: American Institutes for Research.

SEL Component	Survey Question
Self Efficacy	• In this class, I think that I can achieve goals that are important to me. • In this class, I will be able to successfully overcome challenges.
Locus of Control	• In this class, my learning and grade is determined by my own actions. • When I get what I want, it's usually because I worked hard for it.
Mastery Orientation	• I like classwork that I'll learn from even if I make a lot of mistakes. • In this class, an important reason why I do my classwork is because I want to get better at it.
Meta-cognitive Self-regulation	• When completing work for this class, I try to improve the skills I need to work on. • When I complete work for this class, I set goals for myself in order to direct my activities.
Future Orientation	• What I learn in class is necessary for success in the future. • Working hard in this class matters for success in my future classes.
Growth Mindset (reverse coded)	• Challenging myself won't make me any smarter. • If I am not naturally smart in a subject, I will never do well in it.
Self-Awareness	• In this class, I know what my strengths are. • In this class, I know what I need to work on.
Social Awareness	• I listen carefully to other people's point of view. • I care about other people's feelings.

	• I am able to describe my thoughts and feelings in ways that others understand.
Teacher Relationships	• My teacher really listens to what I have to say. • My teacher believes I can do well in this class. • My teacher discusses his or her expectations on assignments with me. • If I walked into class upset, my teacher would be concerned.

APPENDIX B

Data analysis on student feedback literacy to come!

Feedback literacy rubric