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## Exploring the Effects of the Classbank Online Program on Student Engagement in Reassessment in Education

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### Abstract

This research study examines the impact of the online tool “Classbank” on student engagement in reassessment in middle school. Research questions for this study are (1) To what extent does Classbank affect students' willingness to improve their performance through reassessment? and (2) How do students perceive the role of Classbank in their learning process, specifically in terms of reassessment and mastery-based learning? The tool was implemented to reward students for reassessment in science class. Students were surveyed before and after implementation to rate their willingness to improve their performance through reassessment due to Classbank. Pre-Surveys results showed that the student's motivation to reassess would be due to the use of Classbank. Though post-surveys results show that the student's motivation to reassess was not due to the use of Classbank; students took the opportunity to reassess and in return their academic grade did improve with the use of Classbank. Classbank implementation demonstrates improvement of education. Recommendations for educators suggest they need to provide adequate time to grade and provide feedback for students to review and study before their next attempt. For Educators, I recommend the same as the student because to re-grade the re-attempt assessments can be time consuming. Another recommendation is to embed reassessment attempts at the time of future assessments.

### Introduction

The purpose of this research was to seek ways whereby middle school students can master content in science. The study was conducted in a large urban school district in California. The district is transitioning to a new grading system. This new grading system is called Equitable Grading and Instruction (EGI). Equitable Grading and Instruction gives students the chance to retake or redo assessments to show mastery of content or skills. It has been stated that, “when compared to one-shot testing, second-chance testing is better suited to potentially promote learning” (Herman et al., 2020, as cited in Emeka et al., 2021). In general, as educators we know that students benefit from a second chance given the number of factors that influence the outcome of a student's first attempt at assessments. Purposely using game-like elements, students then are motivated to reassess because they are rewarded with fictional currency, the game-like element, to use in various ways using Classbank.

Research asserts that, “Gamification is a learning method that is considered capable of increasing student motivation and interaction” (Nurhikmah et al., 2022). The features of Classbank give students autonomy to interact with class opportunities, such as reassessment, to be rewarded. It is similar to any game where you win points. The goal is to have students try again just as students would if they played a game and were trying to pass a level within that game. Nurhikmah et al., (2022) further assert, “that the presence of gamification features makes classroom learning more effective and dynamic, allowing students to know immediately how many points they earned based on the amount of time spent”.

Classbank rewards and keeps track of this fictional currency similarly to points for the amount of times students retake their assessments. Students can access their accounts and deposit their money for each attempt. Students do not have to perform at mastery level to receive points. Instead, they must attempt and complete the assessment to receive a reward. Educators can use this as another tool that has game-like features to support their classrooms. This online tool has been created to enhance student engagement and built to be easy to use for teachers and students. Classbank, an online platform that is used not only for financial literacy but also to motivate students to engage in the classroom at multiple levels, from classroom management to engage with the content and skills more often.

According to Deci and Ryan (1985, as cited in An, 2020), self-determination theory (SDT) suggests that autonomy, the freedom of choosing what challenges to undertake, is one of the three essential elements that facilitate intrinsic motivation. Students can choose when and how much to interact with Classbank in connection with the classroom. Research questions for this study are (1) To what extent does Classbank affect students' willingness to improve their performance through reassessment? and (2) How do students perceive the role of Classbank in their learning process, specifically in terms of reassessment and mastery-based learning?

## **Review of Literature**

### **Digital Learning Tools and Motivation for Reassessment**

In contemporary classrooms, digital tools are increasingly leveraged to address motivation and engagement challenges. Reassessment, a cornerstone of mastery-based learning, depends heavily on student initiative, yet many students fail to re-engage with content after initial failure. Digital platforms that embed motivation strategies may help address this issue. Tools like *Classbank*, when integrated into the classroom, have the potential to incentivize reassessment by combining learning goals with elements that stimulate engagement, such as immediate feedback, goal setting, and visible progress indicators. Mackenzie T., a teacher featured on the ClassBank testimonials page, noted that students became more responsible and excited to participate (ClassBank, n.d.).

### **Gamification and Motivation in Reassessment**

Gamification the use of game-like features such as points, badges, leaderboards, and levels has been shown to increase student motivation in educational settings. Deterding et al. (2011) define gamification as the application

of game elements in non-game contexts to enhance user engagement and experience. In the context of reassessment, gamification can transform an otherwise mundane or anxiety-inducing process into a more rewarding and engaging one. For example, platforms like *Classbank* use point systems and progress tracking, which may encourage persistence by tapping into extrinsic motivators. However, the educational effectiveness of such extrinsic incentives depends on whether they promote deep learning or merely surface-level compliance (Hanus & Fox, 2015). Therefore, it is crucial to examine whether gamified reassessment tools lead to meaningful learning or simply incentivize repetitive task completion.

### **Self-Determination Theory**

Deci and Ryan's (1985) Self-Determination Theory (SDT) provides a useful lens to evaluate motivation in educational technologies. SDT posits that intrinsic motivation is supported when learners experience autonomy (a sense of control), competence (a sense of efficacy), and relatedness (a sense of connection). A platform like *Classbank* may enhance motivation if it provides students with choices in when and how to reassess (autonomy), opportunities to see their progress (competence), and responsive feedback from peers or teachers (relatedness). An's (2020) application of SDT in gamified classrooms found that tools aligning with these needs tended to support longer-term academic engagement and performance.

### **Mastery-Based Learning and Reassessment**

Bloom's (1968) Mastery Learning Theory emphasized that students should be given adequate time, practice, and feedback to achieve understanding before progressing. Guskey (2007) later expanded on this, highlighting the need for frequent formative assessments and flexible instructional timelines. Reassessment opportunities are central to this approach. Digital tools like *Classbank* facilitate mastery-based learning by offering students multiple attempts to improve and signaling progress in a transparent way. When reassessment is encouraged and normalized, students may shift from a performance-based mindset to one of continuous growth.

### **Student Perceptions of Educational Technology**

Understanding how students perceive technology is critical for its successful implementation. The Technology Acceptance Model (TAM) developed by Davis (1989) identifies perceived usefulness and perceived ease of use as key predictors of whether users will adopt a digital tool. In a classroom setting, if students find *Classbank* both helpful for their learning and easy to navigate, they are more likely to use it voluntarily for reassessment. Perceived barriers, by contrast, can hinder adoption even if the tool is pedagogically sound.

### **Engagement with Educational Technology**

Student engagement with digital tools can be analyzed through the framework developed by Fredricks et al. (2004), which distinguishes among behavioral, emotional, and cognitive engagement. A tool like *Classbank* may support behavioral engagement by prompting reassessment activity, emotional engagement through its game-like

rewards system, and cognitive engagement by encouraging goal setting and reflection. Gathering qualitative feedback from students can help determine which types of engagement the tool is actually promoting, and where it may fall short.

### **Self-Regulated Learning (SRL) in Digital Contexts**

Zimmerman's (2000) Self-Regulated Learning Theory describes how learners plan, monitor, and reflect on their learning process. Effective educational technology should support SRL by scaffolding these processes. For instance, if *Classbank* includes features that let students set reassessment goals, view progress, and receive feedback, it may help students become more metacognitive about their learning. Tools that encourage this type of reflection and control have been linked to improved academic outcomes in digital learning environments (Panadero, 2017).

### **Assessment for Learning**

Black and Wiliam's (1998) work on Assessment for Learning emphasizes the importance of ongoing formative feedback in helping students improve. Digital tools can complement teacher-led feedback by providing immediate, automated responses or by visually representing student progress. In the context of this study, it is important to explore whether *Classbank* acts as a substitute for or a supplement to teacher feedback, and how that affects students' learning and motivation.

### **Research Study**

The overall purpose of this research is to explore whether the use of *Classbank* increases student motivation to engage in reassessment, particularly because students previously showed little interest in reassessing without structured support. The goal is to improve my practice and understand what works for my students. As an educator it is important to reflect, adjust, and learn in real time. The research will take place in the researcher's own 8th grade science classroom and will involve students currently enrolled in that class. The intervention involves the use of an online platform called *Classbank*, which allows students to track their learning progress and earn rewards for reassessment attempts. The tool is designed to promote student engagement in reassessment as part of a mastery-based learning approach.

The research was conducted at a public magnet middle school in a large urban school district located in California. The school serves grades 6 through 8, and is designated as a Title I school, meaning it receives federal funding to support students from low-income families. Of approximately 1,100 students enrolled, the majority identify as Hispanic (63.5%) and African American/Black (26.9%), with smaller percentages of Asian (2.7%), Filipino (1.5%), Pacific Islander (0.6%), White (1.1%), and multiracial students (1.6%). About 85% of the student population is economically disadvantaged. In terms of language proficiency, 9% of students are current English learners, and 26.9% have reclassified as fluent English proficient.

The study was implemented in the researcher's 8th grade science classes. Although the total number of students across all class periods was approximately 100, only 39 students participated in the action research after returning signed consent forms. The average class size was around 30 students. The intervention involved using Classbank, an online platform that allows students to track their learning and earn rewards for reassessment attempts. The tool was incorporated into regular instruction to support mastery-based learning and encourage student ownership of progress.

The broader school environment is in a transitional phase toward adopting mastery-based learning practices. While the school uses standards-based grading, not all teachers offer reassessment opportunities, and implementation of growth mindset strategies varies. However, the researcher's classroom actively supports reassessment and student improvement. By integrating Classbank, the goal was to build a more structured and motivating system for reassessment aligned with mastery learning principles. The classroom serves as a supportive space for students to reflect on their learning, track progress, and be encouraged to revise and improve their work.

### **Data Collection and Analysis Procedures**

The analysis in this study focuses on both quantitative data and descriptive patterns to evaluate student motivation and engagement with reassessment after using Classbank. The primary data sources include pre- and post-motivation surveys, the number of students who chose to reassess, and student test scores based on standards mastery. The motivation surveys used scaled (Likert-type) questions. The surveys were analyzed quantitatively to identify any shifts in student attitudes before and after the Classbank intervention. Survey scale items were compared to assess whether student motivation to reassess increased following the introduction of the tool.

Additionally, the number of students who completed reassessments was tracked and counted to identify behavioral trends in reassessment engagement. Test scores, which reflect student mastery of standards, were also collected. These grades, tied directly to assessment performance, are treated as quantitative data and provide insight into whether students showed academic improvement during the intervention period.

Overall, the goal of the analysis was to determine whether students' attitudes toward reassessment shifted positively and whether the presence of Classbank served as a motivating factor for them to take advantage of reassessment opportunities. This research is valuable because it addresses a critical need in supporting students' ability to engage with science content through reassessment. By exploring whether Classbank can serve as a motivator, the study aims to help students take ownership of their learning and improve their mastery of science standards.

Encouraging reassessment not only promotes deeper understanding but also supports long-term academic growth and confidence in a content area where many students traditionally struggle. Kusrkar et al. (2023) found that, active learning assessments "led to increased skills, confidence, and motivation after the completion of each stage of the learning journey" (Kusrkar et al., 2023) indicating that opportunities for reassessment not only deepen understanding but also foster long-term academic growth and confidence in traditionally challenging subject areas.

## Method

A mixed-methods research approach was used to examine the impact of a gamified digital tool, *Classbank* on student motivation and participation in reassessment activities in an 8th-grade science classroom. The study consisted of three phases: a pre-study phase (10 weeks without reassessment incentives), an implementation phase (10 weeks with Classbank-based incentives), and a post-study phase involving comparative analysis of student engagement and performance.

### Participants

The participants in this study were 8th-grade students enrolled in periods 1, 2, 5, and 6 at a public middle school. The student population was culturally diverse, consisting primarily of Latino, Black, and Asian students. All students were exposed to the intervention; however, only data from students who provided informed consent were included in the final analysis. To ensure confidentiality, students' names were removed from the data and replaced with unique 8-digit ID numbers.

### Instrumentation

Multiple tools and platforms were used to collect, manage, and analyze data throughout the study:

- *Qualtrics*: An online survey platform used to administer both pre- and post-intervention motivation and engagement surveys. Students accessed surveys through Schoology using their Single Sign-On (SSO) credentials.
- *Classbank*: A digital classroom management tool adapted for this study to reward students with fictional currency (coins) for each reassessment attempt, regardless of performance.
- *Google Forms*: Used to deliver science assessments in locked mode and to document each reassessment attempt (date, student ID, period, assessment name).
- *SPSS*: A statistical analysis tool used to evaluate survey results, reassessment frequency, and grade improvements.
- *Microsoft Excel*: Used to track and manage 8-digit student ID numbers.
- *Microsoft Word + Mail Merge*: Employed to distribute unique student IDs via email.
- *Schoology*: The school's Learning Management System (LMS) used to host surveys and communicate with students.

### Procedures

#### *Pre-Study Phase (Weeks 1–10)*

During this phase, students had the opportunity to retake assessments, but no incentives (i.e., Classbank rewards) were provided for doing so. Classbank was only used for non-academic incentives such as classroom behavior or participation. Students completed a pre-intervention motivation and engagement survey via Qualtrics, using only their assigned 8-digit ID for anonymity.

### Implementation Phase (Weeks 11–20)

At the beginning of Week 11, students were informed that they could earn 200 Classbank coins for every reassessment attempt, regardless of their final score. Clarification was given to students that their highest score would be retained and that they could reassess as many times as they wished. Reassessments were made available during lunch or after school. Students had access to their original assessments and could use notes to prepare. After each reassessment, students received written feedback. Reassessment activity was tracked using Google Forms. The teacher logged each attempt by recording the student's ID, period, and the assessment retaken.

### Post-Study Phase

At the end of the 10-week intervention, students completed a post-intervention motivation and engagement survey via Qualtrics. The data collected was analyzed using SPSS to compare pre- and post-intervention responses. Additionally, the number of reassessment attempts and changes in academic performance (assessment scores) between the pre-study and implementation phases were examined.

Table 1. Descriptive Statistics: Pre/Post Motivation, Grades, and Reassessments

|                                | N  | Minimum | Maximum | Mean | Std. Deviation |
|--------------------------------|----|---------|---------|------|----------------|
| Grades Before implementation   | 39 | 0       | 4       | 2.10 | .912           |
| Grades After Implementation    | 38 | 1       | 4       | 2.34 | 1.192          |
| Number of Reassessments before | 39 | 0       | 0       | .00  | .000           |
| Number of reassessments after  | 38 | 0       | 10      | 3.55 | 3.177          |
| Post-Survey                    | 37 | 2       | 5       | 3.49 | .666           |
| Pre-Survey                     | 36 | 3       | 5       | 3.99 | .594           |
| Valid N (listwise)             | 32 |         |         |      |                |

Table 2. Paired-Samples t-Test Results

|                                    | Mean Difference | t      | df | Sig. (2-tailed) | Interpretation                        |
|------------------------------------|-----------------|--------|----|-----------------|---------------------------------------|
| Pair 1 Pre-Survey<br>- Post Survey | 0.475           | 3.995  | 33 | < .001          | Significant decrease in<br>motivation |
| Pair 2: Grades<br>Before – After   | -0.263          | -2.135 | 37 | .039            | Significant increase in<br>grades     |

Table 3. Correlation Table

|                                    | Mean Difference | t      | df | Sig. (2-tailed) | Interpretation                        |
|------------------------------------|-----------------|--------|----|-----------------|---------------------------------------|
| Pair 1 Pre-Survey -<br>Post Survey | 0.475           | 3.995  | 33 | < .001          | Significant decrease in<br>motivation |
| Pair 2: Grades<br>Before – After   | -0.263          | -2.135 | 37 | .039            | Significant increase in grades        |

Table 4. Correlations Number of Reassessments and Post-Survey after Classbank

|                                                  |                        | Number of<br>reassessments<br>after Classbank | Post-<br>Survey | Interpretation                                                                                                     |
|--------------------------------------------------|------------------------|-----------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------|
| Number of<br>reassessments<br>after<br>Classbank | Pearson<br>Correlation | 1                                             | .111            | Students who reported higher motivation<br>also completed slightly more<br>reassessments, but it's not meaningful. |
|                                                  | Sig. (2-tailed)        |                                               | .520            | This means there is no evidence of a<br>meaningful relationship between<br>motivation and reassessment.            |
|                                                  | N                      | 38                                            | 36              |                                                                                                                    |

Table 5. Number of Reassessments After Classbank

|         |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid   | 0      | 10        | 25.6    | 26.3          | 26.3               |
|         | 1      | 2         | 5.1     | 5.3           | 31.6               |
|         | 2      | 5         | 12.8    | 13.2          | 44.7               |
|         | 3      | 4         | 10.3    | 10.5          | 55.3               |
|         | 4      | 5         | 12.8    | 13.2          | 68.4               |
|         | 5      | 1         | 2.6     | 2.6           | 71.1               |
|         | 6      | 2         | 5.1     | 5.3           | 76.3               |
|         | 7      | 3         | 7.7     | 7.9           | 84.2               |
|         | 8      | 2         | 5.1     | 5.3           | 89.5               |
|         | 9      | 3         | 7.7     | 7.9           | 97.4               |
|         | 10     | 1         | 2.6     | 2.6           | 100.0              |
| Total   |        | 38        | 97.4    | 100.0         |                    |
| Missing | System | 1         | 2.6     |               |                    |
| Total   | 39     | 100.0     |         |               |                    |

Table 6. Paired Samples Effect Sizes

|                           |                  |            |      |       | 95% Confidence |       | Interpretation  |
|---------------------------|------------------|------------|------|-------|----------------|-------|-----------------|
|                           |                  |            |      |       | Interval       |       |                 |
| Standardizer <sup>a</sup> |                  |            |      |       | Point Estimate |       |                 |
|                           |                  |            |      |       | Lower          | Upper |                 |
| Pair                      | Grades Before    | Cohen's d  | .760 | -.346 | -.672          | -.017 | Classbank       |
| 1                         | implementation - | Hedges'    | .776 | -.339 | -.658          | -.016 | helped improve  |
|                           | Grades After     | correction |      |       |                |       | grades, but the |
|                           | Implementation   |            |      |       |                |       | change was      |
|                           |                  |            |      |       |                |       | small.          |

|      |                  |            |                           |                | 95% Confidence |       | Interpretation                                                     |
|------|------------------|------------|---------------------------|----------------|----------------|-------|--------------------------------------------------------------------|
|      |                  |            |                           |                | Interval       |       |                                                                    |
|      |                  |            | Standardizer <sup>a</sup> | Point Estimate | Lower          | Upper |                                                                    |
| Pair | Number of        | Cohen's d  | 3.177                     | -1.118         | -1.520         | -.707 | Classbank had a strong influence on student reassessment behavior. |
| 2    | Reassessments    | Hedges'    | 3.243                     | -1.095         | -1.489         | -.692 |                                                                    |
|      | before - Number  | correction |                           |                |                |       |                                                                    |
|      | of reassessments |            |                           |                |                |       |                                                                    |
|      | after            |            |                           |                |                |       |                                                                    |

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

### Data Analysis Summary

Descriptive and inferential statistics were used to explore how the implementation of the Classbank online platform influenced students' academic behaviors, particularly their motivation to reassess, science mastery, and frequency of reassessment. The study focused on two research questions (1) To what extent does Classbank affect students' willingness to improve their performance through reassessment? and (2) How do students perceive the role of Classbank in their learning process, specifically in terms of reassessment and mastery-based learning?

Descriptive statistics including means, standard deviations, and score ranges were used to summarize students' test scores before and after the intervention, motivation levels (as measured by pre- and post-surveys), and the number of reassessments completed. The sample consisted of 39 middle school science students at a Title I public magnet school, with 38 valid cases analyzed across most variables. Inferential statistics were conducted using SPSS.

A paired samples t-test was used to evaluate differences in motivation and academic performance before and after the Classbank intervention. Results showed a small but statistically significant increase in student grades ( $p = .039$ ), and a highly significant increase in reassessment activity ( $p < .001$ ), with a large effect size (Cohen's  $d > 1.1$ ). Interestingly, despite the increase in reassessments, post-survey scores showed a small but statistically significant decrease in motivation, suggesting that the behavior changes may have been more influenced by Classbank than by a change in students' intrinsic motivation.

Correlation analysis (Pearson's  $r$ ) revealed no statistically significant relationship between post-survey motivation scores and the number of reassessments, reinforcing the possibility that students reassessed for reasons other than personal motivation. Because the pre-survey reassessment values were all zero, no student reassessed prior to Classbank, effect size and correlation for this pair could not be computed. This reinforces the conclusion that the Classbank intervention directly initiated reassessment behavior. While the sample size and setting limit generalizability, this exploratory data analysis provides meaningful insight into how game-like online tool, Classbank, may support student engagement with mastery learning principles in underserved communities.

## Findings and Discussion

This section presents the descriptive and inferential statistical results used to evaluate the impact of Classbank on students' motivation, reassessment behavior, and science achievement. The analysis is based on pre- and post-intervention data collected through surveys, grade records, and reassessment tracking logs.

### Descriptive Statistics

Descriptive statistics were calculated to summarize student performance and behavior before and after the Classbank intervention. As shown in Table 1, the average grade before implementation was 2.10 ( $SD = 0.912$ ), while the post-implementation average increased to 2.34 ( $SD = 1.192$ ). Reassessment activity increased substantially, with students completing an average of 3.55 reassessments after Classbank, compared to zero before. Motivation, measured on a 1–5 Likert scale, decreased from a pre-survey average of 3.99 ( $SD = 0.594$ ) to a post-survey average of 3.49 ( $SD = 0.666$ ). This pattern connects with the notion that gamified learning tools can incentivize behavior without always increasing intrinsic motivation (Hanus & Fox, 2015). Increase in reassessment is supported by prior research suggests that extrinsic motivators such as points and rewards, with the use of Classbank, can encourage students to reengage with material (Deterding et al., 2011). However, the decrease in motivation could be influenced by other reasons.

### Inferential Statistics: Paired Samples t-Test

To evaluate the statistical significance of these differences, paired samples t-tests were conducted (Table 2). Results indicated a statistically significant increase in student grades after Classbank was implemented,  $t(37) = -2.135$ ,  $p = .039$ . Additionally, there was a statistically significant decrease in motivation,  $t(33) = 3.995$ ,  $p < .001$ , suggesting students were more likely to reassess, but not necessarily more internally motivated. According to Self-Determination Theory (SDT), intrinsic motivation is sustained when students experience autonomy, competence, and relatedness (Deci & Ryan, 1985). Decrease in motivation may indicate that Classbank's structure emphasized performance goals (e.g., points, rewards) and could include more autonomy-supportive features, such as student choice and personal relevance (An, 2020). These finding reflect: digital tools may improve outcomes through behavior nudges rather than fostering genuine engagement (Panadero, 2017; Hanus & Fox, 2015).

### Frequency of Reassessment

Table 5 shows that 26.3% of students did not reassess at all, but the majority (73.7%) reassessed at least once. Some students reassessed as many as 10 times. A notable portion of students (23.7%) completed 7 or more reassessments, indicating that Classbank effectively promoted reassessment behavior in a substantial subset of the class. Suggests that Classbank effectively encouraged repeated engagement with content, a key feature of mastery-based learning (Bloom, 1968; Guskey, 2007). The increased frequency also reflects behavioral engagement, one of the three dimensions outline in Fredricks et al.'s (2004) engagement framework. Classbank's point system and visible progress features appear to have reinforced student behavior.

## **Correlational Analysis**

A Pearson correlation analysis (Table 4) examined the relationship between motivation (post-survey) and reassessment frequency. The result was not statistically significant ( $r = 0.111$ ,  $p = .520$ ), indicating that higher motivation scores were not strongly or meaningfully associated with more frequent reassessment. Instead, the results support the idea that well-designed digital tools can influence academic behavior independently of motivation levels (Zimmerman, 2000; Panadero, 2017). Classbank may be particularly effective for students who would not typically opt into reassessment. By providing immediate feedback, progress tracking, and features associated with the technology acceptance model (Davis, 1989). Classbank lowered the effort cost of reassessment, making it more accessible even to less motivated students.

## **Effect Sizes**

Effect sizes were calculated to evaluate the magnitude of changes (Table 6). The increase in grades showed a small effect size (Cohen's  $d = -0.346$ ), while the increase in reassessment behavior showed a very large effect (Cohen's  $d = -1.118$ ). These results confirm that Classbank had a strong behavioral impact, especially in encouraging reassessment. These outcomes align the power of formative assessment tools to promote skill development and persistence when reassessment is normalized (Black & William, 1998; Guskey, 2007). Shifts of behavior correlates with Zimmerman's (2000) theory of self-regulated learning, which emphasizes the role of tools in supporting metacognition, reflection, and goal setting. Classbank scaffolds reassessment behaviors, especially for students needing external structure.

## **Conclusion**

This study examined the impact of the online tool Classbank on student engagement in reassessment in middle school. Two research questions guided the investigation:

- (1) To what extent does Classbank affect students' willingness to improve their performance through reassessment?
- (2) How do students perceive the role of Classbank in their learning process, specifically in terms of reassessment and mastery-based learning?

Classbank was implemented as a gamified incentive system to reward students for retaking assessments in science class. Students were surveyed before and after the implementation and their grades and reassessment attempts were tracked throughout. Results showed a significant increase in both reassessment behavior and academic grades following the introduction of Classbank. The number of reassessments jumped from zero (pre-intervention) to an average of over three per student, and students' science scores improved modestly but significantly.

However, post-survey results indicated a slight drop in students' self-reported motivation to reassess, suggesting that while Classbank may have succeeded in prompting behavior change, it did not necessarily increase intrinsic motivation. The correlation analysis further supported this, showing no statistically meaningful relationship

between student motivation scores and the number of reassessments completed. Despite this complexity, Classbank appears to be a useful classroom tool for encouraging reassessment and supporting mastery-based learning, especially in contexts where student re-engagement is low. Students may not always feel intrinsically motivated to retry assessments, but when given structured, rewarding opportunities to do so, they can and do improve academically. Educators using Classbank or similar tools should consider allowing time for reassessment feedback and make space in the schedule for students to take advantage of the opportunity. It is recommended that reassessments be embedded into future assessments or routines, rather than left solely as an optional extra, to promote equity in access and opportunity.

Ultimately, this study supports the idea that when students are given the right tools, structures, and incentives, their behavior can shift in positive ways, even if deeper motivational changes take more time and targeted strategies to emerge. Classbank demonstrates one promising approach to scaffolding that changes in a way that is both engaging and impactful in real-world classrooms. These results contribute to ongoing conversation by offering data from a classroom context where reassessment was previously limited.

## **Recommendations**

As with most classroom-based action research, this study encountered several limitations that should be considered when interpreting the results. One of the primary limitations was the sample size. Although 100 students were eligible across all class periods, only 39 students submitted consent forms and were included in the analysis. Future research with a larger and more diverse population is recommended to examine whether such tools influence not only behavior but also deeper motivational shifts over time. This limited the statistical power of the study and affects the generalizability of the results. Additionally, incomplete survey participation where some students completed only the pre-survey or post-survey further reduced the number of matched data points available for paired analysis.

Another limitation was time constraints. The implementation phase was limited to a 10-week period, which overlapped with testing windows, holidays, and other school interruptions. This shortened timeline may not have allowed enough time for students to fully integrate new habits related to reassessment, nor for teachers to provide as much feedback and support as they might in a more sustained rollout. Student absences and varying access to reassessment opportunities (due to lunch or after-school availability) may also have impacted how often some students reassessed. This uneven access could have introduced bias in the number of reassessment attempts logged and may not reflect all students' willingness to participate.

Moreover, while Classbank was successful in increasing reassessment behavior, the post-survey showed a small but significant decrease in self-reported motivation. This raises questions about whether external incentives alone can foster sustained engagement or if intrinsic motivation must also be addressed explicitly through other instructional strategies. For future research, a longer implementation period would allow students more time to adapt and reflect on the reassessment process. It is also recommended to expand the sample across multiple classrooms, grade levels, or schools, potentially collaborating with other teachers. Doing so would allow for more

robust data collection and help determine whether the observed benefits of Classbank are replicable in other contexts. Future studies could also incorporate qualitative data such as focus groups, student interviews, or written reflections to better understand the student experience beyond numerical survey ratings. This would help clarify whether students reassessed out of genuine interest, external reward, or teacher expectation—and how they viewed their learning progress in the process.

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