

# **BODDLE LEARNING**

*Usability Findings  
Research Report*



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## **About LEANLAB Education**

LEANLAB Education is a nonprofit research organization that helps schools understand and solve their biggest problems. We listen to parents, educators, and students to help them pinpoint specific problems that hinder student achievement. Then, we match those schools with education entrepreneurs. Together, they develop the next generation classroom tools through research and direct, community feedback.

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## OVERVIEW

The goal of this study was to identify usability features or functionalities of Boddle that could be enhanced or added to make Boddle more user-friendly and valuable to teachers. The study also set out to collect preliminary data on how teachers implement Boddle in the classroom with greatest success. To both ends, qualitative data was gathered from teachers at Citizens of the World and Guadalupe Charters Elementary School, both charter schools in Kansas City, Missouri. LEANLAB Education facilitated a co-design research process that included the voices of teachers, administrators, and parents from the school alongside the voices of the founders of Boddle to develop the above research goals and processes of this study. The intent of co-design research is to elevate the voices of those most impacted by education

tools being used in the classroom in order to help create a tool that is responsive to the needs of school communities and provide evidence-backed data to those responsible for adoption decisions.

This report first describes in more detail the three research partners in this endeavor: Boddle, the company, and Citizens of the World and Guadalupe Centers Elementary School, the school partners. It then summarizes the research methodology and outlines the key findings from the usability and implementation designs.

# Guadalupe Centers Elementary School



The vision of the Guadalupe Elementary school is a family of critical thinkers who celebrate our culture and empower our community. We believe our students are the first priority ensuring a culture of success. Our school provides a rich bilingual environment promoting academic excellence in all content areas.

### School Type

Public Charter

### Location

Kansas City, MO

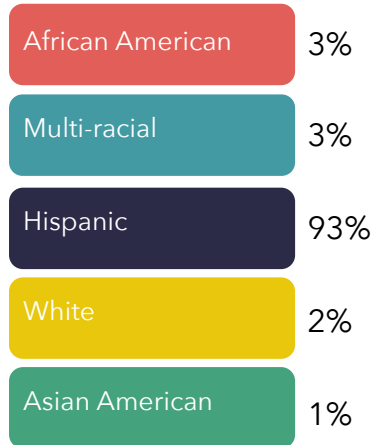
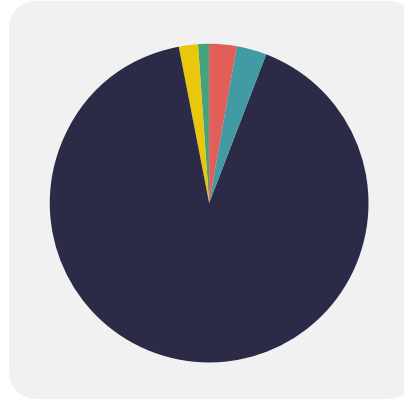
### Grades

Pre-K - 5

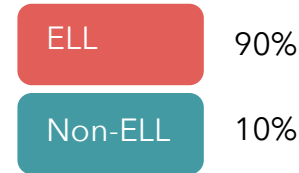
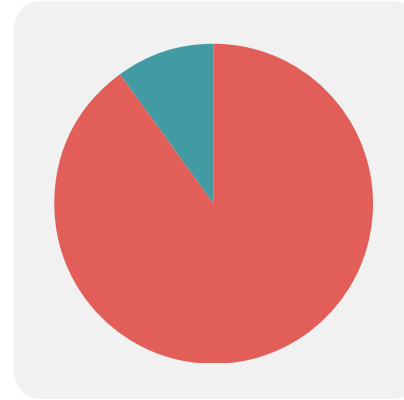
### Total Students

683

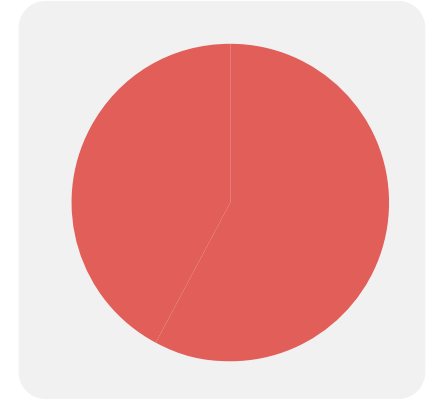
Race/Ethnicity



English Language Learners

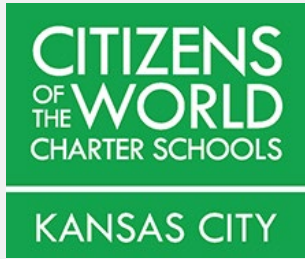


Free & Reduced Lunch



**14%** Receive Special Ed Services

# Citizens of the World KC



The mission of CWC Kansas City is to provide an excellent public education focused on developing and demonstrating understanding while building connections within a diverse community.

**School Type**

Public Charter

**Location**

Kansas City, MO

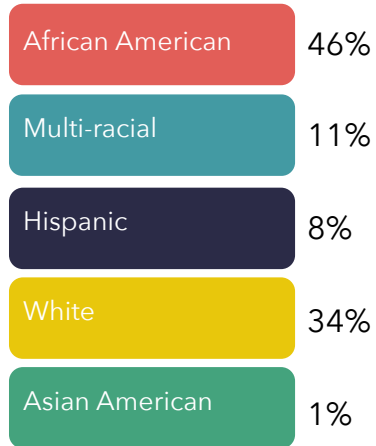
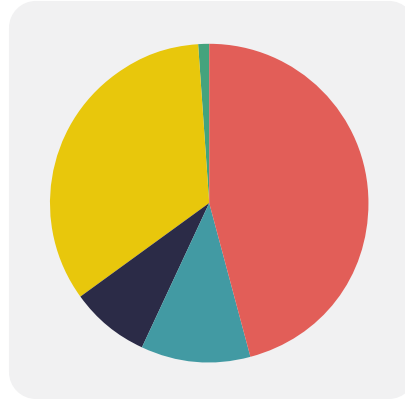
**Grades**

PK-5th

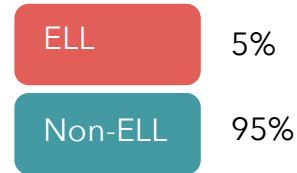
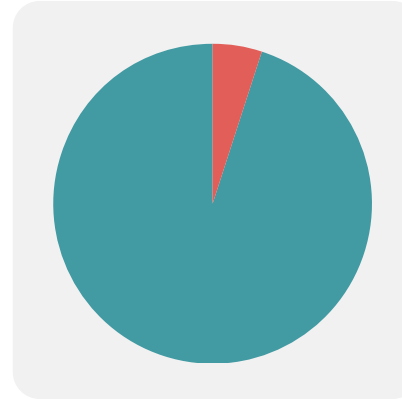
**Total Students**

375

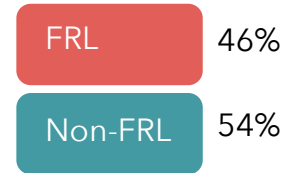
**Race/Ethnicity**



**English Language Learners**



**Free & Reduced Lunch**



**12% Receive Special Ed Services**

# Boddle Learning

## Overview



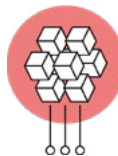
Boddle Learning is an immersive educational game that engages students (K-6th) in math education and practice through tailored learning content. Students can build and accessorize their bottle characters, which are designed to encourage students to “know the importance of filling up on knowledge, valuing each other’s strengths, and pouring back out to help others.”

## Features



In one of the program’s key features, Boddle uses Artificial Intelligence to continually identify the skill level of each student. The practice elements of Boddle are then tailored to the student’s individual needs, allowing them to build up their strengths and gain confidence in their skill set. Through games and activities, students earn points which they can use to customize their characters and build their world. Teachers are able to access live reports, making it easy for them to assess their students’ progress.

## Mission



Boddle is currently used in all 50 states and across over 100 countries, in alignment with the mission of Boddle to make math learning accessible to all students.



Levered is a teacher-designed, classroom-tested instructional system for 3rd-5th grade mathematics.

### Solution Type

Math Application

### Grade Level

K-6

### Subject

Math

### Founder

Edna Martinson & Clarence Tan

### Location

Tulsa, OK

# Research Questions

## Usability and Preliminary Implementation Questions

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- What features and/or functionalities of Boddle need to be enhanced or added to make Boddle more user-friendly?
- What aspects of Boddle add value for teachers and what features and/or functionalities should be added to provide additional utility to teachers and students?
- How do teachers use Boddle in the classroom with greatest success?



# METHODOLOGY

# Sample

All teachers across Kindergarten to 2nd grade (at CWC) and across Kindergarten to 5th grade (at Guadalupe) attended an overview and training session led by Boddle in early January, and then they were given the opportunity to opt-in to the study

or not. At CWC, five teachers opted in and, at Guadalupe, four teachers opted in. The table below summarizes teacher participant demographic data.

## *Teacher Participant Demographic Data*

Participant	Grade Level	Gender	Years Teaching
<b>Guadalupe Centers Elementary School</b>			
<b>Teacher A</b>	1st	Female	17
<b>Teacher B</b>	2nd	Female	4
<b>Teacher C</b>	2nd	Female	5
<b>Teacher D</b>	4th		
<b>Citizens of the World KC</b>			
<b>Teacher E</b>	Kindergarten	Female	7
<b>Teacher F</b>	Kindergarten	Female	8
<b>Teacher G</b>	1st	Female	10
<b>Teacher H</b>	1st	Female	3
<b>Teacher I</b>	2nd	Female	11

# Learning Environment

Teachers began using Boddle at CWC in the middle of February in a virtual format and assigned it as homework. On March 8th, students returned to the classroom for in-person learning, and teachers then used it in the classroom with students and continued to assign it as homework to be used at home as well.

Teachers at Guadalupe began using Boddle the first week of March. Guadalupe uses Clever for class rostering and Boddle

was in the process of integrating its platform with Clever in February, so teachers at Guadalupe waited for that integration to be complete before starting implementation. At that time, students had returned to the classroom for in-person learning, so teachers at Guadalupe used Boddle in their physical classroom with students and also assigned it as homework for students to use at home on the evenings and weekends.

# Data Collection & Measurement

## Implementation Design



The goal of the usability study was to identify how teachers chose to use Boddle in the classroom and to assess early barriers to full teacher and student usability and engagement. The study also aimed to identify what value teachers believed Boddle added to their classroom. To that end, teachers were asked to use Boddle with all their students over the full spring semester. Teachers were given a 30-minute training led by the Boddle team that focused on the technical aspects of using Boddle. Very little instruction was given on how to implement Boddle in the classroom; rather, the intent was to discover how teachers chose to implement and the ways of use they found most effective for them.

# Data Collection & Measurement

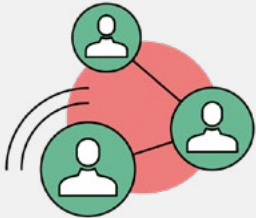
*continued*

The following tools and processes were used to collect data on usability issues, including some preliminary implementation barriers and successes.



*Implementation Survey*

Implementation Survey (1): One survey was sent to teachers in the middle of February to solicit feedback on the training and onboarding process as well as to identify the features of Boddle that teachers were using, with what frequency, and to what level of satisfaction.



*Interviews with Teachers*

Interviews with Teachers (18 total): Two interviews were conducted with each teacher over the course of the semester. A midpoint, 30-minute interview was conducted in March and the purpose was to gain initial insight into the ways teachers were using Boddle with students and to identify major barriers teachers were having with implementation. A final, 60-minute interview took place in mid-May to gain deeper insight into how and why teachers chose to use Boddle and to identify additional barriers as well as successes of implementation. The final interview was also used to learn more about the perceived value-add of Boddle and to solicit teacher feedback on product modifications.

# FINDINGS

# Implementation Findings



## Implementation Successes and Challenges

Teachers used Boddle learning from mid-March to the end of May in an in-person classroom environment. The table below summarizes the key implementation successes and challenges

and provides educators a guide to what would be needed for successful onboarding, classroom implementation, and teacher support.

# Onboarding

## Setting up Boddle Learning in the classroom

### SUCCESSSES

- Boddle is integrated with Clever, which all teachers said made rostering very easy.

**“ My class list changed and it was easy to update the class roster on Boddle. If you want to do it manually -- it’s very easy as well.”**

### CHALLENGES

- All teachers manually rostered each student, which was “easy but not efficient.”
- 3 teachers suggested that usernames should allow special characters (i.e. apostrophes) since many students’ names include apostrophes.

# Onboarding

*continued*

## Setting up Boddle Learning in the classroom (continued)

### SUCSESSES

### CHALLENGES

- Student login was challenging for younger students who couldn't remember their usernames each time nor type their name in all lowercase characters.
- Without a 'Remember Me' button, students had to log in each time which was time-consuming.

## Training teachers to use Boddle Learning

### SUCSESSES

### CHALLENGES

- All teachers reported that the training process of Boddle Learning was easy and accessible.

- All teachers wished for a couple more, short training sessions for onboarding teachers to all the features of Boddle.
- One session should focus on providing teachers with tips and guidelines on how to best teach the students on how to use Boddle so that students can learn and engage quickly.

# Onboarding

*continued*

## Training teachers to use Boddle Learning (continued)

### SUCCESSSES

- All teachers said that if they had questions, the Boddle Learning customer support staff was easy to contact and quick to respond and answered questions effectively.

### CHALLENGES

### SUCCESSSES

- Teachers received weekly emails from Boddle to support training.

### CHALLENGES

- The frequency of emails made the utility of the emails counterproductive in that teachers quit looking at them. The data would be better presented and stored in the app itself.

### SUCCESSSES

- Teachers reported that it was fairly easy to get students started on the platform in the classroom.

### CHALLENGES

- It was more difficult for teachers to explain to students how to use Boddle virtually as they couldn't directly support students.



# Classroom Implementation

## Teacher Classroom Use & Instruction

### SUCCESSES

- All teachers used Boddle as a supplementary tool, allowing students time for independent math practice.

**"I think this is a great supplementary tool for at home and in the classroom."**

**"It's something extra for them to work on. It's really helpful during small group time. It's like they need that extra practice."**

**"I would like to use it as a station. It has helped me a lot giving them something to do after finishing an assignment."**

### CHALLENGES

- Since teachers were not given many guidelines on how to use Boddle and it wasn't integrated into their routine from the beginning of the semester, most teachers found it difficult to simply find time to use Boddle in the classroom, particularly on a consistent basis.

### SUCCESSES

- Virtual Learning: 7 out of 9 teachers said Boddle was a helpful tool when students were at home because it was easy to assign and gave students an easy way to practice at home.

### CHALLENGES

# Classroom Implementation

*continued*

## Teacher Classroom Use & Instruction (continued)

### SUCSESSES

- Teachers used Boddle about 20 minutes a day, on average, which they found to be the appropriate length of time for optimal student engagement.

***"I used it for 20 mins a day in class. This would be the ideal case -- in class daily for math "***

### CHALLENGES

# Student Use and Engagement

## SUCCESSES

- All teachers reported that the vast majority of their students found Boddle interesting and engaging.

***"The [the students] really love the store in Boddle!"***

## CHALLENGES

## SUCCESSES

- All teachers reported that students who are advanced in math tend to excel further and quicker within Boddle.

***"I know that students who really like math, they love playing it...the students who like math are doing really well in Boddle."***

## CHALLENGES

- Students that are behind at math still struggle to make significant progress within Boddle and need the extra personal instruction and support from teachers to understand math concepts.

## SUCCESSES

- Boddle is adaptive, and teachers found that feature particularly valuable as it gave advanced students more challenge and gave teachers more opportunity to focus on students that needed extra support.

# Value Add for Teachers

## Curriculum Supplement

Supplement to the math curriculum that provides more practice that is fun and motivates students.

### TEACHER QUOTES

- “Boddle is really helpful during small group time. It’s like they need that extra practice.”
- “Boddle has helped us make math more engaging. It’s a fun way to practice skills. It’s more engaging than iExcel. It’s given us an extra resource and reinforces what we are teaching. It’s a really good extra practice.”
- “Boddle provides rigorous instruction that I can add to their math instruction as a supplement.”

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## Adaptive Learning

Students of all levels receive content suited to their level and they receive the right amount of challenge and support.

### TEACHER QUOTES

- “Boddle is adaptive, so students that are behind are kept on Boddle longer.”

# Value Add for Teachers

*continued*

## Identify Learning Gaps

Learning Gaps Report helps teachers identify skills that need extra instruction.

### TEACHER QUOTES

- “It has for sure helped me find missing skills. The learning gaps report is really helpful. Then it helps me differentiate between teaching and learning.”
- “It’s been helpful to curate work - to identify which kids are missing which skills...and then I know what to send home and that they know what to work on in the summer.”
- “Boddle helps me catch up with my students...and [identify] which skills need to be taught better -- because all these kids are struggling with it. So I can identify what I need to teach.”

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## More Prep Time

Gives teachers more time for lesson planning when they use Boddle as a supplement in the classroom.

### TEACHER QUOTES

- “It does give me 20 mins/25 mins time to plan for the next day. So it’s fairly efficient in that way and helpful to me.”

# Usability Findings



## Recommendations for Enhancements

Suggestions for product enhancements in order of urgency and frequency of suggestion:

1

All teachers wish to have a **Teacher Data Dashboard**. As it stands, there are too many clicks for teachers to find all the information they want. The Usage Report and weekly email is helpful, but they want to be able to see it live at any moment and to click on each student and see more detail.

Thus, it would be easier and more efficient if there was a **Classroom Dashboard as the Landing Page** that included the following features in aggregate at the classroom level :

- A “Snapshot” of how their whole class is doing in math aligned to standards and concepts
  - Trends of progress towards those standards and concepts
    - Highlight priority standards
    - List skills mastered as a class
  - Include an alert when a particular skill is being missed by 50% or more of the class
- Questions answered and missed by the whole class.
- Performance on quizzes
- List of top students and bottom students or a rank order of all students
  - Teachers want a graphic or some visual representation to show kids how they are doing as a whole class and how the individually compare. This would allow teachers to incentivize students to do better in Boddle, reward them accordingly, and keep students accountable.

2

Teachers still want to be able to see individual student data, also in a dashboard format, so in addition to the previous features, teachers would like student-level detail on the following data points:

- Time spent on each question, as this helps teachers know if students were simply guessing
- Number of questions attempted and number correct
- Performance metric on assignments and/or questions
- Time spent actively using Boddle each day
  - Differentiate time spent on Boddle at home and in the classroom

3

Improve rostering so as not to manually enter (if Clever is not used by a school)

4

Give students easier ways of logging in each time.

- "A QR code to scan for this age [younger elementary] of kids would be nice."
- Change "default" type to be lowercase.
- Add a "Remember Me" button so that students can re-log in easier

5

Limit weekly emails to urgent notifications about students.



## CONCLUSION

This study set out to identify features of Boddle that could be enhanced or added to make Boddle more user-friendly and valuable to teachers. It also aimed to collect early data on how teachers use it in the classroom with greatest success. The findings can be categorized into three main areas: product usability, onboarding, and teacher and student implementation.

From a **product usability** perspective, teachers found Boddle easy to use but wished that there was a more comprehensive data dashboard that had real-time data for student tracking on usage and progress within the platform. Teachers wanted to have a dashboard (instead of a weekly report) that would give them a snapshot of how the whole class is making progress towards goals and standards and to have a visual way of presenting to the class their progress as a way of motivating students and holding

them accountable. Additionally, teachers wanted more detailed student level data, also in a dashboard format, that included metrics like daily usage, time spent on each question, concepts mastered, and performance on quizzes. Lastly, teachers wanted the log-in process for students to be easier as it was very time consuming for younger students to log-in each day.

The **onboarding protocol** was easy and accessible for teachers and they were impressed with the quality and speed of the customer support offered from the Boddle team. Moving forward, teachers would have liked 2-3 short (approximately 30-minutes each) total training sessions with Boddle that would include detailed support on how to use Boddle, with emphasis in one session on how to use the data to make more informed instructional and implementation support for students.



Since there were not many implementation guidelines given to teachers at the onset of this study, the goal of the implementation study was to collect preliminary data on how teachers chose to use Boddle and what aspects of Boddle were particularly valuable so that the Boddle team can further develop **implementation thresholds** and features to provide more utility to teachers. The findings here revealed that teachers chose to use Boddle as a supplementary tool to their daily math instruction, using Boddle for about 20 minutes a day during center time, as homework, or immediately following whole-group instruction to give students a chance for independent practice. All students found the gamelike nature of the platform fun and engaging, and students particularly liked the store and avatars. Teachers found the adaptive nature of Boddle particularly valuable as it adapted to each student's level. Although more advanced students were able to make more progress within the platform without teacher intervention, it allowed those students to progress on their own with additional challenge while the teachers were able to support those students in need of more personal attention.

**Overall, the results of this research study provide positive evidence that Boddle can be easily integrated into elementary classroom use as a supplementary tool that supports students at all levels in an engaging and fun way.**

Teachers found the adapted learning nature of Boddle to be particularly valuable as a supplementary tool, and they found the student-level data provided by Boddle to be extremely valuable in helping them identify learning gaps and tailoring their instruction accordingly. It is recommended that Boddle next conduct a full-scale implementation study to better identify conditions of use that yield sustained teacher and student engagement across multiple contexts in preparation for an impact study.