

USER RESEARCH FOR AND DESIGN OF APPLICATION FOR STREAMLINING OF
BEHAVIOR MANAGEMENT IN ELEMENTARY CLASSROOMS: SUPPORTING
MATERIALS

Supporting materials for Alexandria Burke Trombley's Senior Honors Thesis, conducted through Tufts
University's Center for Interdisciplinary Studies

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Preliminary Research

Alexandria conducted preliminary online research, addressing the following topics:

- The role of paraprofessionals in the classroom
- The role of paraprofessionals in the education of a student
- The workload of paraprofessionals
- The benefits of one-on-one education
- The role of a one-on-one aid in the education of a student
- Disruptive behaviors in the classroom

The purpose of conducting this research was to establish a need for a system that supports teachers in managing and improving their students' problem behaviors in the absence of a paraprofessional or one-on-one aide (who would typically serve in that role).

From this research, Alexandria developed a list of user needs, as well as a series of questions which she would later ask of elementary educators by using a questionnaire.

Preliminary Research Notes

Note that throughout this document, comments in italics and surrounded by asterisks are personal notes made by PI Alexandria Trombley.

McVay, P. (1998). Paraprofessionals in the Classroom: What role do they play? *Disability Solutions*, 3(1), 1-4.

<http://www.kcdsg.org/files/content/Disability%20Solutions%20Newsletter%20on%20Para%20Professional%20Role.pdf>

- With a professional focusing on the interactions and needs of one specific child, they store a significant amount of knowledge about that child in the classroom setting. When this is combined with information gathered by the teacher and parents/guardians, a clear picture of the child is gathered.
- This helps this child have success in the classroom
- There can be paraprofessionals assigned to a classroom where they focus their help all students who have behavioral difficulties, or one can be assigned to an individual student.
- Paraprofessionals cannot implement behavior plans, take complete responsibility for any students, write programs, or create new instructions without the supervision of a certified individual (typically, the primary classroom teacher).
- The question that paraprofessionals need to be asking themselves: is this something that the student could be doing themselves without my help
- **This application would help with the recording and monitoring of student information rather than actually interacting with the student. Though it could not be a real person, it can help in some critical areas.**
- Other jobs of the paraprofessional include: Leading small-group discussions, assisting student to complete tasks given by the teacher, gathering materials, generally helping the teacher.
- The primary goal is to facilitate and encourage independence. This means using coping mechanisms or other classroom supports rather than using the support of the teacher/paraprofessional.

US Office of Special Education Programs Staff (2000). The role of paraprofessionals in special education. *Study of Personal Needs in Special Education*,

<https://education.ufl.edu/spense/files/2013/05/parasFinal.pdf>

- The average paraprofessional works in 5 different classrooms every week, serving 21 students, 15 of whom have diagnosed disabilities, and the rest of whom have behavioral difficulties.
- School administrators report that the primary roles of their paraprofessionals include:
 - Providing instructional support
 - Providing one-on-one instruction
 - Modifying materials
 - Implementing behavior management plans
 - Monitoring hallways
 - Meeting with teachers
 - Collecting Data on students
 - Providing personal care assistance
- Paraprofessionals are typically supervised by a certified special educator, or a school or district administrator.

Wasik, B. A., & Slavin, R. E. (1993). Preventing early reading failure with one-to-one tutoring: A review of five programs. *Reading research quarterly*, 179-200.

- Success in early elementary years is critical to success in later years. This is why one-on-one aides are typically assigned to students who are in their early elementary years. The goal is to give them the tools to be independent in these years, and not have aides in following years.
- Those who fail to learn basic concepts in early years have a difficult time making up ground in later years.
- The cost of one-on-one aides is prohibitive

Harrower, J. K., & Dunlap, G. (2001). Including children with autism in general education classrooms a review of effective strategies. *Behavior Modification*, 25(5), 762-784.

https://www.researchgate.net/profile/Josh_Harrower/publication/11775629_Including_Children_with_Autism_in_General_Education_Classrooms_A_Review_of_Effective_Strategies/links/02e7e527c19f834c05000000.pdf

- The primary goal of a one-on-one aide is to give the student the strategies to manage their own behavior, reducing the required intervention of adults. Not only will this self-sufficiency help the child engage in their education, but it increases opportunities for positive social interactions by decreasing the stigma around the child's situation.
- Self-management involves teaching the student to:
 - Discriminate between appropriate and inappropriate behavior
 - Evaluate their own behaviors
 - Monitor their behavior over time
 - Reinforce behavior when goals are met
- Research has found that when these skills are taught, not only is disruptive behavior reduced, but positive social interactions increase.
- Self-management skills are taught through effective reinforcement (operant conditioning) and one-on-one education.
- The person administering the self-management "package" determines what causes the difficult behaviors, and teaches the student to respond in more adaptive ways (taking a bathroom break, getting a drink of water)
 - **To effectively determine the causes of difficult behaviors, you need a one-on one professional. This is not available to all individuals who need one.*
 - *This application would assist the teacher in determining the cause of the problem behaviors, and could give suggestions for alternative behaviors to teach the child.*
 - *This application would also give suggestions for reinforcement when the child does one of the appropriate behaviors instead of their problem behavior.*
 - *This application could also give the teachers reminders. For example, if the schedule is put into the application a reminder like "Art is in 5 minutes. Give _____ a heads up that they are about to transition" could pop up.**

Bobrow, A. (2002). Problem behaviors in the classroom: what they mean and how to help. *Child Study Center NYU*, 7(2)

<https://depts.washington.edu/hcsats/FCAP/resources/Functional%20behavior%20analysis.pdf>

- Problem behaviors in the classroom make it difficult for children to learn
- Functional Behavioral Assessment: Looks at problem behaviors in terms of what they do for the child. This approach assumes that behaviors are the child's attempt to adapt the situation in the best way that they know.
- FBA aims to
 - Define behavior in objective and measureable terms

- Determine what aspects of the environment elicit the behavior
 - Identify what consequences maintain the behavior
- One these have been identified, the following can occur:
 - Change the aspects of the situation that give rise to the behavior
 - Teach more appropriate ways of meeting the same needs
 - Modify how those in the environment respond to the child's problem behavior
- Positive reinforcement for behaviors can come in the form of attention, or access to a preferred activity.
 - One-to-one instruction can also be a positive reinforcement
 - **This application could help teachers know when each student needs positive reinforcement through attention to meet their needs. This could prevent other behavior problems. The application would know this based on when the child has problem behaviors in the past. For example it could say "_____ usually has behavioral problems now. One-on-one support might reduce those behavioral problems. **
- Negative reinforcement for behaviors can be seen when the student does not have to participate in an activity. For example, if they do not like math and they act out in a way that lets them go to a calm-down corner to avoid math, it is a negative reinforcement.
- Possible trigger: boredom
- Possible trigger: no sensory activity or movement for extended period of time
- Getting a rise out of other students might be to cure boredom

User Needs Based on Preliminary Desk-Based Research

- The user must be able to record data for more than one student
- The user must be able to record data on multiple behaviors for each student
- The user must be able to share the data
- The user must be able to input a variety of possible dependent variables
 - The user must be able to compare problem behaviors to schedule
 - The user must be able to compare problem behaviors to physical activity
 - The user must be able to compare problem behaviors to time focusing on one task
- The user must receive automatic feedback on ways to improve students' behaviors when problem behaviors have been recorded
- The user must have the opportunity to record additional information on the circumstances of the poor behavior when it is happening (e.g., they must be able to record who the student is working with, if the classroom is in a disruptive state, etc.).
- The user must have easy access to information on how to improve specific behaviors.
 - The user must have access on alternative behaviors to teach students
 - The user must be able to set reminders based on dependent variables
- The user must be able to record positive behaviors of students
- The user must receive suggestions on reinforcements to provide to their student when they complete a positive behavior
- The user must be able to input specific reinforcements for children
- The user must be able to set reminders about specific interventions.
- The user must not have to look at the device for more than 10 seconds to record a behavior.

Questionnaire

Alexandria developed a questionnaire to gain a better sense of the needs of her users, to answer some of the questions she developed during preliminary research, and to confirm information she had gathered through her research.

Alexandria developed the questionnaire using Qualtrics, and distributed this questionnaire to elementary school teachers in New England via email.

Alexandria collected 26 responses from elementary school teachers in New England. She then analyzed these responses. Through this analysis, Alexandria developed a list of user needs, and also gathered support for a system that supports teachers in managing and improving their students' problem behaviors in the absence of a paraprofessional or one-on-one aide (who would typically serve in that role).

Notably, the Tufts University Investigative Review Board (IRB) granted this research the status of 'Exempt.'

Tufts IRB Approval



OFFICE OF THE VICE PROVOST FOR RESEARCH

Social, Behavioral, and Educational Research
Institutional Review Board
FWA00002063

Title: Design, Development, and Verification of Application for Streamlining of Behavior Management in Elementary Classrooms - Classroom Observations

June 8, 2016 | Notice of Action

IRB Study # 1606005 | Status: EXEMPT

PI: Alexandria Trombley
Faculty Advisor: Kristen Wendell
Review Date: 6/8/2016

The above referenced study has been granted the status of Exempt Categories 1 & 2 as defined in 45 CFR 46.101 (b). For details please visit the Office for Human Research Protections (OHRP) website at: [http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101\(b\)](http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101(b))

- The Exempt Status does not relieve the investigator of any responsibilities relating to the research participants. Research should be conducted in accordance with the ethical principles, (i) Respect for Persons, (ii) Beneficence, and (iii) Justice, as outlined in the Belmont Report.
- Any changes to the protocol or study materials that might affect the Exempt Status must be referred to the Office of the IRB for guidance. Depending on the changes, you may be required to apply for either expedited or full review.

IRB Administrative Representative Initials:

Handwritten initials in black ink, appearing to be "AB", written over a horizontal line.

Questionnaire

Q1 For her senior honors thesis, Alexandria Trombley will be creating an application called 'One-on-One,' which will help classroom teachers such as yourself record information about the behavior of students, and analyze the recorded data to have a better understanding of the students' problem behaviors, including their triggers and repercussions. Hopefully, an application such as this would help teachers who do not have access to the appropriate amount of support staff still provide one-on-one behavior management for their students in need of this service.

This questionnaire was developed to provide a better understanding of the user's (teachers) needs. With these needs in mind, Alexandria will be able to develop an application that fits into your practices as a teacher, rather than requiring you to transform your practices for it to be integrated. Please note that your participation in the following questionnaire is optional, and you are more than welcome to pause or stop participating at any time. This questionnaire should take no more than 20 minutes of your time to complete.

Projected Risks: None.

Projected Benefits: Involvement in the design of an application that could one day be an asset in your classroom.

Confidentiality statement: No identifying information will be collected in this questionnaire, ensuring your anonymity.

Compensation: None. If you have any questions regarding pertinent questions about this research, please contact the Principal Investigator Alexandria Trombley at Alexandria.Trombley@tufts.edu.

By selecting the button below, you are consenting to Alexandria Trombley using the information you provide thereafter in her application design and development.

I consent (1)

If I consent Is Not Selected, Then Skip To End of Survey

Q21 What level do you teach? (preschool, kindergarten, 1st grade, 2nd grade, etc.)

Q2 Please answer the following questions in the way that you see most fit. If you are unsure of how to answer a question, answer it in the way that makes most sense to you, or contact Alexandria Trombley at Alexandria.Trombley@tufts.edu.

Q3 What are the most common behavioral problems in your classroom?

Q5 In how many students in your classroom do you observe behavioral problems each day?

Q6 What do you perceive as common triggers of problem behavior for your students?

Q7 Please describe your current method for addressing and improving problem behaviors. This can vary from student to student. If you see it most fit, please provide an example or two that exemplify your behavior management approach.

Q8 If you use reinforcement as a part of your behavior management, please describe the reinforcers that you use most often (ex. decreasing or increasing recess time, providing the student with a toy or game that they enjoy, etc.).

Q9 Have you ever had a paraprofessional or one-on-one aide in your classroom?

- Yes (1)
- No (2)

Display This Question:

If Have you ever had a paraprofessional or one-on-one aide in your classroom? Yes Is Selected

Q10 What do you see as the primary benefits of having a paraprofessional or one-on-one aide in your classroom?

Display This Question:

If Have you ever had a paraprofessional or one-on-one aide in your classroom? Yes Is Selected

Q11 Please describe your experience having a paraprofessional or one-on-one aide in your classroom. In this question, you may consider describing the roles of the paraprofessional/one-on-one aide, the amount of time they spent in the classroom, the number of students they worked with, etc..

Q12 Do you think there are enough paraprofessionals and one-on-one aides in your school to meet all of the needs of the teachers and students?

Q13 How would you feel if this application gave you suggestions on how to improve your student's current behavioral problems? For example, if a student was bothering their peer, how would you feel about getting a suggestion to give the student attention in another way so they do not get it from bothering their peer?

Q14 How would you feel if this application gave you reminders about reinforcements in your classroom? For example, if you were to record that a student had a positive behavior, how would you feel if the application reminded you to give that student reinforcement for their behavior?

Q15 If this application could provide a summary of recorded data for each student, would it be helpful when having IEP/behavior management plan/parent and guardian meetings?

- Yes (1)
- No (2)

Q16 Is there a particular format in which you would like to download this information?

Q17 Do you currently use any applications to assist with behavior management in your classroom? If so, please list them below.

Q18 Would holding a phone throughout the school day be disruptive to you?

- Yes (1)
- No (2)

Q20 Would holding a tablet throughout the school day be disruptive to you?

- Yes (1)
- No (2)

Q19 Do you currently use a phone or tablet during the day? If so, please describe how you use this device.

Q21 Which would you prefer this application to be built for?

- Phone (1)
- Tablet (2)

Questionnaire raw data

Response ID	For her senior honors thesis, Alexandria Trombley will be creating an application called 'One-on-...	What level do you teach? (preschool, kindergarten, 1st grade, 2nd grade, etc.)	Please answer the following questions in the way that you see most fit. If you are unsure of how...	What are the most common behavioral problems in your classroom?
1	1	2nd grade	1	talking out of turn
2	1	5th	1	ADD, ADHD, Oppositional Defiant
3	1	Grade 5	1	Defiance, talking out,
4	1	4th	1	Arguing, calling out, not following routine
5	1	4th	1	hands on others, disrespect toward adults, refusing to complete written work
6	1	Grades 3-5	1	Physically acting out and screaming
7	1	2	1	interrupting learning, students who cannot work quietly, students who cannot focus and disturb others
8	1	grade 3	1	non compliance, verbal disruptions, argumentative

9	1	kindergarten	1	children with autism
10	1	1st	1	Children who are unable to attend to lessons due to an inability to focus or sit still. Also a second common concern is the inability of children to initiate tasks or complete tasks due to their own distractions.
11	1	3rd	1	attention/listening
12	1	3rd	1	impulsive behavior
13	1	kindergarten	1	talking out, mean comments, hands on friends
14	1	1st grade	1	inattention, blurting out
15	1	K	1	not following directions, sitting properly, talking out, touching other children, brought up with no social manners
16	1	4th grade	1	social scuffles between peers, inability to focus, lack of perserverence when task is difficult

17	1	3rd Grade	1	talking out of turn, screaming, throwing things, hitting things
18	1	1st grade	1	Self control, calling out, defiant behavior, lack of work completion, initiating tasks
19	1	1st grade	1	impulsivity
20	1	2nd grade	1	attention, overall conduct
21	1	first grade	1	arguing with each other about small misunderstandings; anger when something doesn't go their way that results in physical harm to items in room and/or yelling
22	1	2nd grade	1	inattentiveness
23	1	4	1	impulsiveness, refusing to work, disrupting
24	1	5th grade	1	anger
25	1	3rd grade	1	verbal outbursts, physical destruction of tools/furniture, noncompliance

26	1	4th and 5th grade special education/social/emotional disabilities	1	getting along with peers and being respectful to others as demonstrated through interactions.
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Response ID	In how many students in your classroom do you observe behavioral problems each day?	What do you perceive as common triggers of problem behavior for your students?	Please describe your current method for addressing and improving problem behaviors. This can vary...
1	5	eager to get to the answer, comfort with the school environment, impulse control being poor	"raise your hand if," before asking the question, or nonverbal cue (finger to lips, hand in air), "keep your answer in your head to give everyone some think time." In extreme cases I will give warnings for recess being taken.
2	4	Work load, peer instigation	Proactive instead reactive, positive environment, structured setting
3	5	Work that requires stamina, changes in schedule	Making connections with the students. Finding ways for them to be successful. Modifying required work.
4	5	Disruption in routine, unstructured environments	Redirection
5	7	something happens at home, parental neglect	PBIS, students write letter home, phone calls
6	2	Being asked to complete work, Hunger, issues at home	I do not argue, I lessen my language and give a directive. "Please sit....." until that is complied with. Give them time to calm then give a directive to see if they are compliant. Once I know they are calmer, they are given the original task to complete, then after we talk about behaviors, what they could have done differently, etc
7	3	insure at times, asking them to do something they don't feel like doing	I use a clip chart that allows me to acknowledge positive learning behaviors as well as those that are not. I also use a bucket filler program for identifying positive behaviors related to manners as well as behaviors that are disrespectful.

8	6-May	issues from home, difficulty with the curriculum	We have a school-wide system which keys into three expectations: Safe, respectful, responsible. If these expectations are not met, students are asked to "clip down" on an in class chart. If they meet or exceed these expectations, they are asked to "clip up". This enables immediate feedback and the opportunity to redeem ones self. If one reaches the bottom of the chart, they are written up on a form that is sent to the office and documented in a computer tracking system.
9	2 or 3	poor social skills	we use visual picture schedules in order to manage behaviours. Children with autism also do not like to do taks they are not very good at. They prefer repetitious kinds of tasks and skills
10	This year more than other years. This year 5 children with moderate to severe concerns.	Anxiety or inability to focus.	There is no "one size fits all" to behavior management. Each child is so unique that what works for one student often does not work for another. In addition, students get used to whatever system is in place so the systems need to be changed frequently in order to keep the individual students motivated to comply. I use many different behavior management systems throughout the year for individual students. I use a "positive chart" where I target 2 behaviors that I want children to work on. Every time they do the target behavior (or do not do the problem behavior) they get a check on their chart. Once they have earned a certain amount of checks they get a reward, such as 10 minutes on the computer or whatever might motivate them. A second common behavior management system I use is a check list of expected behaviors during each time of the day. For example, the student has a card of what I expect during morning meeting, math, reading, etc. As they accomplish each section of the day they check off what is expected of them. I have also used a contract with some students. I sit down with a student and we explain the contract. The contract usually consists of 3 things that they need to work on throughout the day. At the end of each day we meet and look at the goals and decide if they have met those goals. If they have met the goals, they earn something. In addition I do a whole class positive reinforcement incentive with a marble jar for whole class compliance. When the jar is filled the class earns a voted on party.

11	7	distractions, doesn't want to work or can't	verbal reminders, stand in close proximity
12	8	when independent work begins	reminder, proximity
13	5	any unstructured time	I re-direct and then practice at another time. Also a clip up chart for good behavior and down for undesired behavior.
14	9	anything	we use a responsive classroom approach, so lots of show 5 and private, individual redirections
15	4 students	transitional times, unstructured times such as free play and recess, walking in the hallway, going to another teacher for art, music, p.e.	I use a clip chart because when I moved down to K, that is what they told me to use...Here is a link to the clip chart http://www.newmanagement.com/ebooks/pdf/clip-chart.pdf ...What I try to do is clip my students up fast. For example, I start the year off by teaching about manners and respect...respect is just another word for manners so one the things I do is that when an adult is talking to them individually or to a class, they need to face their bodies to the adult and look at them. So everyday when my assistant and me say Good Morning Boys and Girls...if they face us (we don't do it together), then I reward them with a whole class clip up...then I might do individual clip ups when little Suzye is sitting in spot on the circle rug waiting for the lesson to begin or I might do a small group clip up if Johnnie's table is working pretty quietly...I would rather clip up a group or a student then clip a student down
16	5	disagreements with peers, feeling that work is challenging	With social issues, intervening and offering advice/next steps, with challenging work, providing scaffolding that allows children to complete small chunks of work successfully
17	6	not getting their way, unstructured time	losing 5 minutes of recess, calling the assistant principal or principal for assistance depending on severity
18	5 out of 15	Lack of motivation, impulsation	Clip chart, take a break, use of whole brain teaching techniques, bucket fillers, sticker charts or individual behavior sticker charts if class behavior management system doesn't work

19	5	independence or non structured activities and needing to attend and demonstrate normal peer activity	positive reinforcement with a money behavior plan- when the students are "doing the right thing" they are rewarded with pennies and can buy prizes at the end of the week
20	Usually 4-6 students	meeting social and academic expectations within the school, functioning as part of a group	implementing logical consequences, coaching/modeling expectations, working with peers, setting a goal with students to focus and evaluate on daily to show improvement. Implement sensory breaks and items as needed, problem solving strategies, write expectations on the board, frequent movement and freedom to move throughout the day.
21	3 consistently every single day	misunderstandings and jumping to conclusions. They assume the worst and instantly get upset instead of talking about the problem--and realizing it was a misunderstanding or accident	Take deep breaths; use calming strategies and then talking to the person(s) involved to figure out a solution
22	4	transition times	giving a responsibility to these students during this time. Ex. passing notebooks out, running an errand, writing message on board...
23	5	impulsiveness, negative moods from home, not wanting to work	redierct, state expectations, positive feedback...2 warnings with large yellow markers , red for note home, availability of "chill out desk for calming, giving 3 alternative choices
24	10	frustration	Responsive Classroom and Love and Logic
25	2	stress at home, perceived academic challenge, social miscues with peers	positive reinforcement such as punch card to earn reward from student created menu of rewards, class also earns minutes of extra recess weekly for positive behavior, when a child misses work during an episode he/she needs to make it up during free time, phone or email to parents, consults with colleagues for ideas to help
26	Class of 7 students, all of them are sent to	work avoidance, home issues, learning disabilities that may	Point sheet daily targeting expected behavior, daily percentage are totaled weekly to give an average percent converted to minutes to use as free time on Friday. Also a class marble jar to fill to have a party of sorts when filled.

me due to behavioral problems	not have been recognized due to behavioral issues.	Offering students a chance to take a breather in a safe place where they can regroup and or talk it out with a staff member.
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Response ID	If you use reinforcement as a part of your behavior management, please describe the reinforcers t...	Have you ever had a paraprofessional or one-on-one aide in your classroom?	What do you see as the primary benefits of having a paraprofessional or one-on-one aide in your c...
1	some recess is taken in very few instances, I did the "blurt jar" idea for a while - every time someone blurted an answer they had to put a ticket into the jar. If the whole class got below 15 blurts in one day they earned a lunch bunch or extra recess.	1	There are many benefits - good for the kids, good for me to have an extra adult. Primary focus for para is to help ERR student with behavioral management and academic support
2	Decreasing recess time, consistent communication home for reinforcement	1	Can step in to take over class or remove the child when necessary
3	Extra recess, time with a younger student	1	S/he can watch class as I deal with a behavior, or can take student for a walk/cool down. Can do small group work too which helps keep kids more focused
4	Economy system	2	
5	prize box,star chart excusing them frone class assignment	1	class management,helping low students
6	I generally use reinforcers in "Working for" situations. So the child has to earn 5 tokens of some sort toward something they are working for.	1	The paraprofessionals in my classroom are for medical help but paraprofessionals are a second person for a child to check in with and a second set of eyes to help monitor children.

7	I use class chips that the entire class can earn together that when we meet the goal they can choose a group reward like extra recess, pj day etc. I also give out chance tickets for bucket fillers as well as other random reason and the winners choose from a class prize box.	1	Extra support for the teacher in dealing with both behavioral or academics issues.
8	Some extrinsic rewards are used, but mostly logical consequences and the use of the chart.	1	another set of eyes, support for all students. A one on one is not available to support other children but may be able to do so depending on the severity of the needs of the child they are responsible for.
9	activity	1	they provide me with the chance to teach the typical students in a more effective manner
10	As described above, I tend to use incentives such as extra computer time, extra time to play a game with a friend.	1	When you are alone in the classroom it is very difficult to manage 20 students and have 5 on individual behavior plans and be consistent. And in reality if you are not consistent, no plan works. Having an extra adult in the classroom provides not only another set of eyes but the ability for someone to focus solely on behaviors that we are trying to address and be very consistent.
11	I give raffle tickets out for positive behavior and recess time or parental notes will go home for negative	1	This person can help work with students that need extra help
12	points on classdojo app.	1	someone to bounce ideas off of, an extra set of eyes for monitoring behaviors, someone to reteach, or extend teaching
13	Practice appropriate behavior at recess. Clip up to earn a teacher wearing your clip if you are off the chart.	1	Teaching can continue and re-direction and practice can happen without interruption. Also, students have the support they need behaviorally and academically to be successful.
14	we earn rewards and consequences as a team most of the time; this is usually a class vote and	1	additional adult(s) to help repeat or reinforce directions or expectations

	treat like lunch in our classroom or extra recess; I try to never use recess as a consequence		
15	The reward is to get on the highest color which is pink...the child colors his/her color onto a calendar in their school to home folder so that their parent/guardian can see their behavior for the day...If a child is on yellow (slow down), orange (teacher's choice for consequence) or red (parent contact), I write on the calendar paper what the child did to be on one of those colors.	1	My classroom assistant is wonderful. She is an extension of my eyes and ears. I introduce her as a teacher to the students in my class. A one on one is an assistant that comes in to work directly with a specific child.
16	I do not use reinforcement as part of behavior management	1	Having another adult to provide support/instruction, more one-on-one attention for kids
17	decreasing recess time, filling a jar to earn extra recess time, show and tell, etc	1	ability to work in small groups and assist students who benefit from the additional support
18	prise box, lunch with buddy or teacher, read to stuffed animal	1	Yes
19	always trying to catch the student doing the right thing. rewarding with comments and money that they accrue to buy prizes. i use a red yellow green cube system that the student hope to stay on green each day. if they are behaving inappropriately, a warning is given and a second warning, and if the undesirable behavior continues, the child loses their green cube. they are then on yellow which says "warning" you need to monidtor your behavior, then if the child continues making inappropriate choices, they lose the yellow cube and are on red. Oh no. Stop, they will lose 5 minutes of recess and or 5 minutes of Fun Friday	1	helping to support students with academics and behaviors

20	logical consequences. Planning additional activities to motivate and reward all students. NO token reward system! Students learn by working with and talking with students to mold their behavior and meet expectations. Example- to work with your best buddy these are the expectations...then check in with students. This is a very positive and strong motivator.	1	additional help and assistance with students. At times they can help with stations and provide additional support to students.
21	I do not hold them in for recess. They do miss out on free choice and group activities.	1	another adult to oversee the students; can assist a student as needed of behaviors or teach the class so I can assist the student
22	computer time	1	help students that are struggling.
23	lg. green markers , trade 10 in for puple to take home. extra recess, verbal praise	1	assist with students below grade level, redierct behavior, talk with students having difficulties
24	Taking a break	1	support academically
25	see previous response	1	tutor individuals/small groups, assist needy students in navigating social situations/transitions, observation and data collection
26	Described above but also individual rewards that work for each student as incentives	1	We can cover the students as they reintegrate back into their regular ed classrooms and support them behaviorally and academically

Response ID	Please describe your experience having a paraprofessional or one-on-one aide in your classroom. I...	Do you think there are enough paraprofessionals and one-on-one aides in your school to meet all o...	How would you feel if this application gave you suggestions on how to improve your student's curr...

1	currently have a para working with two students, but if they do not need her support she is able to help other children. Primarily they do need her.	yes	I wouyld have to make sure that the method worked for me. Management is a very personal thing.
2	Positive, unless they have no experience then it can be more time consuming to alway explain how to react to a behavior or they set the child off	No	
3	Haven't had 1/1 aide but para full time. She took small groups, dealt with 3-4 kids with issues but really with anyone with a need	No	Maybe. Sometimes suggestions are not realistic
4		No	I would like it
5	para-6 hours/day works with spec. ed. or other low students	No	Yes
6	My paraprofessionals assist with bathrooming, feeding, behavior management, getting them to specials safely, assisting with services like PT, OT and SL	No	I am always open to hearing new ideas.
7	I have had several dealing wih 1-1 paras in my class. Each child has had very different needs and each para has had various strengths and weaknesses. The most helpful are the consistent paras that really know the child and can be proactive in helping him before a situation escalates by taking him for a walk of an OT break. I have never had a para full time in my classroom. Unfortunately I often have several	no	I would definitely give it a try.

	different paras that come in for 20-30 minutes slots a few times a day. This is not as helpful as they do not know the child as well and do not know what has gone on throughout the day. They then rely heavily on me to tell them what to do when they come in the room. At times they are scheduled when the child in need isn't in the room.		
8	Over the years it has varied from one student taking all of their time, to a para who was classroom support for all students. It was like a second teacher. Some spend virtually no in class time, while others have been there all day.	Absolutely not.	Already do that as much as possible.
9	paras are absolutely critical when having a student with significant special needs, however if a para is not trained correctly or just does not have the natural gift of working with these students it affects the entire classroom. Many paras fail to follow through with requested tasks or behavior management techniques and often prefer to "wing it" . This rarely works and ends up being a huge task for me to manage the child as well as a class of up to 21 students.	yes if managed well by a supervisor. There is often no communication between supervisors or principals with the classroom teacher. They are often just plunked in my room and I meet then on the first day of school.	all suggestions are fine in order to help the student fit in with the classroom environment
10	This really varies by student. Each student's needs are different. In some cases the aide is in the classroom for a behavioral issue and other times an academic issue. It really depends what their role is with what student. Their	No and due to budgets they are decreasing. It is very difficult now to get a one on one aide in the classroom unless there is a very severe or significant behavioral/academic defect.	That would be great!

	jobs and ability to help in the classroom truly depends on their specific role.		
11	This person works with 2-3 students at a time on academic work. If there is a behavior problem the para might take that student for a break. I usually have a para for about 2 hours a day	NO!!!!	I will try anything
12	Great experience with both. Makes the day more successful for the students to have options of who they connect with.	no	I am always looking for new techniques.
13	I have a para-educator in my class 2/3 of the day. She works with specific students and groups providing direct instruction, re-teaching and practice.	NO! The number has declined every year while our special education numbers have gone up.	Great
14	role is typically to support a student or students with an IEP goal; I have assistance about 4 days a week for about 30 min, usually during writing time; para works with 1-3 students at a time	no	that could be helpful; sometimes when you're in the heat of the moment, you can't quite think straight, so a suggestion could be helpful
15	A one on one's time is determined by the Special Education Facilitator in my school. They take care of the student that requires a lot of teacher time. They are responsible for having the student take breaks, working with them to complete a paper or project...My assistant is a classroom assistant and like I said before she is like a teacher. She empties the home to school folders, take care of snack and lunch money, copies papers, and works with the children. She will sit near a child in group on the rug if that child needs help focusing or staying	Absolutely not...K is the only grade level that has a classroom assistant or para professional. I have a few students who could have used a one on one for some parts of their day, but that has to do with budget money.	I am opened to suggestions, but I will not give that child extra privileges that the other children say..."Hey, how come he gets to do that?"

	<p>in control. She spends everyday in the classroom with me and only leaves to take care of morning chores. She does recess duty with me everyday. She works with 17 students. If I am called out to a meeting, she takes over the class. If the principal comes in and needs to talk to me right away, she jumps in and continues the routine of morning circle or doing the lesson.</p>		
16	<p>My experiences with paraprofessionals has varied. When paras are knowledgeable about the subject matter, self-starters and calm and organized, they are a great deal of help. I count on the para to jump in, make judgement calls, etc.</p>	<p>I do, although it is hard to turn down extra hands and help.</p>	<p>As long as the app would provide additional strategies that aren't already used in typical classroom setting. For example, recommending preferential seating or one-on-one time with the student might have been tried already. I'm not sure that an app could successful guage the climate involved in the typical interaction with said student. Wouldn't the classroom teacher's knowledge of the student help to best inform best reactions?</p>
17	<p>the one-on-one aide is in the room as much as the student she works with is in the room, the other paraprofessional is in the room varying times of the day varying days of the week she works with 5 other students</p>	<p>no</p>	<p>I would read and consider any advice that was given.</p>
18	<p>Always positive it's an extra set of eyes to reinforce classroom rules I've had both classroom paraprofessional a that work with all students, one on ones for a student with autism and small groups with 3-4 students.</p>	<p>No</p>	<p>I think it would be a great resource</p>

19	one particular student I have has an IEP with a behavior plan. With her assistance, this student is redirected often which has minimized his outbursts. In Kindergarten, this child would be a runner and project inconsistent impulsive behavior. With the para, he has gotten much better under control	no, they are stretched so that every moment they are utilized and some students are not receiving all of the assistance their IEP's outline	sure, that would be great. The concern would be how activate this plan when you are in the middle of a lesson.
20	I have had a positive experience with all of my paraprofessionals and one-on-one aides.	No. Every classroom should have an assistant during math and reading time. There should also be a limit to the number of students a Paraprofessional is assigned to in each classroom based on student needs. The groups need to stay small 2-4 students.	I think suggestions from others can be beneficial. Sometimes having a different perspective allows for more positive solutions and great suggestions.
21	She works with all of the students and has helped me with homework folders, grading papers, assessments, leading the class as needed, and spending time with kids who need a break from the group. She brings them to their specials and back. She supervises their recess and lunch everyday. Additionally, my paraprofessional communicates with me about her observations regarding each student.	NO. THERE IS NOT.	YES PLEASE!
22	Love having another adult to brainstorm with, another set of eyes that see things differently.	yes	sounds good. In the moment, it is sometimes hard to think outside the box.
23	as above, small groups, one on one reteaching and practice, problem solving with children having problems	no	i like this idea

24	Our para educators are trained in the math/LA programs we are using. They reinforce the the strategies and work one on one or small groups with studens to reinforce skills- fill the gap	never enough	I am very open to suggestions/strategies to use.
25	some para's have been one-on-one, others part-time, others shared by two students, some for social situations, others for mostly academics	no - the district has significantly reduced the number of para's and aides	This is an interesting concept and worth at try
26	Paras in my class will take a grade level and mostly support them back into the mainstream. They cue students when times get rough, they may offer a break, monitor interactions with others to model appropriate engagement, monitor a student's triggers and be aware to diffuse them when possible before an outburst takes place that is disruptive or needs physical interventions.	NO	Sounds good

Response ID	How would you feel if this application gave you reminders about reinforcements in your classroom?...	If this application could provide a summary of recorded data for each student, would it be helpfu...	Is there a particular format in which you would like to download this information?	Do you currently use any applications to assist with behavior management in your classroom? If so...
1	sure, at my age I could use reminders for that	1		
2		1		No

3	Good idea	1	No	No
4	I would like it	1	If it could be on my laptop - I use that most	No
5	Yes	1	No	No
6	I have done that but as stated before I am open to new ideas.	1	Quick checklist or checkbox format	No
7	I would love to try it.	1	no	no
8	It would be helpful although I do give much verbal positive reinforcement.	1	no	Yes, PBIS
9	that would be fine	1	anything I can download quickly and easily would be fine	the school uses PBIS charts but they really do not meet the needs of special ed students
10	That would be great. It is very difficult to remember to take note of each student many different times throughout the day.	1	Being able to use it on an iPad would be preferable as that is so easy to have handy or on a phone.	No
11	Every day is different. Sometimes you can work on exact times. No	1	?	No
12	I would use that feature.	1	no	classdojo

13	Great	1	I would have to see it.	No, I do make my own sheets to track the behaviors of students that I feel are struggling.
14	sounds good; again, it is easy to get distracted or lose track of who needs what	1	not really	no
15	If they have positive behavior, I let them clip up. It all depends for does the reinforcement look like. Students need to know that good behavior is expected...I think we do an injustice when we tell children that because you did this so nicely, you get this...	1	?	no
16	I'm not big on reinforcements for behavior that is expected from all kids, but if a plan were in place, that might be helpful.	1	Word document	No
17	That could be helpful.	1	no	no
18	That would be great	1	Pdf, Google doc, graphs	Have explored classroom dojo but haven't used it consistently
19	that would be great	1	keeping it simple wold be best and in terms of downloading, a google doc would work	a paper that is colored in for every transition the student does as requested
20	I think we all need to be reminded to acknowledge when our students are doing the right thing, not when they are doing the wrong thing. Everyone likes to get a compliment and attention should be achieved in a positive way not negative.	1	no	no

21	That would be helpful. Although I feel that I currently do this.	1	No as long as it is easy to download and understand.	No.
22	Would love it!	1	any	
23	i like this idea	1	no, i am pretty computer illiterate	no
24	recording behavior would be difficult to do but again I am open to it	1	no	no
25	a reminder would be welcome	1	not sure	no
26	great	1	no	no

Response ID	Would holding a phone throughout the school day be disruptive to you?	Would holding a tablet throughout the school day be disruptive to you?	Do you currently use a phone or tablet during the day? If so, please describe how you use this de...	Which would you prefer this application to be built for?
1	1	1	on personal time to communicate with family	
2	1	1	iPad	2
3	2	2		2

4	1	2		2
5	1	1	Yes-both phone locked in closet iPad in a case at my desk	2
6	2	1	I have my phone with me all the time. We often do not have tablets available to adults in the classroom setting.	1
7	2	2	no	1
8	1	1	I use it to time things, for quick grading, we have apps related to our textbooks, etc. I do not carry it around all day.	2
9	1	1	the students use tablets often through out the day but teaching K I am on the go all the time	2
10	2	2	The children use iPads throughout the day but we do not have a class set or iPads in the classrooms. We have to check them out of the computer lab.	2
11	1	1	We use the tablet to work on Math and Reading skills.	2
12	1	2	tablet, clasdojo	2
13	1	1	No	2
14	1	2	We have iPads in our classroom; I don't believe we are allowed to have use of personal cell phones during school hours	2

15	1	1	I have a phone, but I don't believe I can use it during the school day.	2
16	2	1	Timers, photos, learning games	1
17	1	1	no	2
18	1	2	No, we do not have access to district iPads in school	2
19	1	1	the para uses a tablet as a reward	2
20	2	1	no	1
21	2		Yes for Class Dojo and pictures	1
22	1	1	I do use an ipad during the day to look up information we are studying, spellings, etc	2
23	2	2	phone for timer, tablet for immediate internet access	2
24	2	2	phone is available and I can have an ipad if we can get synched to wifi	2
25	2	1	no	1

26		2		2
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Questionnaire Analysis

Note that throughout this document, comments in italics and surrounded by asterisks are personal interpretations or questions made by PI Alexandria Trombley.

- Population
 - 26 participants completed questionnaire
 - Teachers Kindergarten through 5th grade
 - Public school teachers whose contact information is listed publicly online
 - Some integrated classrooms, some solely for those with behavior problems/diagnoses, some not integrated so they just have typical behavioral issues such as verbal outbursts, etc.
 - These teachers have paraprofessionals from 30 minutes/day (for specific subjects) up to full days. Some of them have one-on-ones who stay the whole day, and others who are barely in the classroom. It is representative of a wide range of experiences with paraprofessionals and one-on-ones.
- Behavioral problems in their classroom (tallies indicate the number of responses which indicated the particular answer as a behavioral problem in the classroom)
 - Non-compliance IIIII
 - Verbal disruptions IIIIII
 - Argumentativeness I
 - Those associated with autism I
 - Distractibility/attention difficulties IIIIII
 - Impulsive behaviors IIII
 - Mean comments II
 - Social difficulties between peers (including touching others) IIII
 - Lack of perseverance when tasks are difficult II
 - Lack of self-sufficiency (including not initiating tasks, completing tasks, etc.) I
 - Violent behaviors IIII
- How many students in your classroom do you observe behavioral problems each day? (tallies indicate the number of responses which indicated that number of students in the classroom with behavioral problems)
 - 2 II
 - 3 II
 - 4 III
 - 5 IIIIIIIII
 - 6 III
 - 7 III
 - 8 I
 - 9 I
 - 10 I
- What do you perceive as common triggers of problem behavior? (tallies indicate the number of responses which indicated the particular answer as a common trigger of behavioral problems in the classroom)
 - When they are more comfortable, they have more behavior control issues I

- Eager to get the answer I
- Work load being high/difficulty with work I IIIII
- Instigated by peers/difficulty with peers I IIIII
- Changes in schedule II
- Unstructured environment (including independent work) I IIIII
- Poor home life/specific event at home I IIIII
- Not getting their way I
- Hunger I
- Anxiety I
- Negative mood I
- Inability to focus I
- Distractions I
- Lack of motivation IIII
- Transitions II
- Anything I
- Current methods of behavior management in the classroom (only common answers recorded)
 - Modifying the required work for struggling students
 - Always talk with the student about their behaviors
 - Give concrete/structured directions
 - Use of visual picture schedules so students know what is going on in the class
 - “There is no one-size-fits-all behavior management because every student is different”
 - For children who are having difficulty with work, they provide scaffolding to help the student complete their work in chunks rather than having them complete the entire thing at once
 - Calling the principal depending on the severity
 - Modeling expectations
 - Having the students set a goal at the beginning of the day
 - Having expectations visible
 - Taking sensory breaks
 - Giving students a concrete activity to distract them (having them pass out notes instead, etc.)
 - It is important to have these reward systems visible to the classroom at all times so that the students know how they are doing.
 - Students work for a certain goal. They have to earn 5 tokens to get that goal.
 - Students earn coins which they can use to buy something at the end of the week
- Common reinforcements (tallies indicate the number of responses which indicated the particular answer as a reinforcement used in the classroom)
 - Recess I IIIII
 - Communication home I
 - Economy system (class-wide and individual) I IIIII
 - Extra computer time II
 - Free time III

- Conditionally: 3 (responses considered conditional are listed below)
 - “I would have to make sure that the method worked for me. Management is a very personal thing.”
 - “Maybe. Sometimes suggestions are not realistic”
 - “sure, that would be great. The concern would be how activate this plan when you are in the middle of a lesson.”
- No: 1 (they think the teacher’s knowledge of the classroom is the best way to manage the classroom)
- Applications indicated by participants as useful in the classroom
 - PBIS (indicated by one participant)
 - Classdojo (indicated by one participant)
- Responses to question: Do teachers use applications for behavior management
 - No: 18
 - No, but they use a paper system: 2
 - The school uses it, but it does not meet my needs: 2
 - Yes: 2 (Classdojo and PBIS)
 - 2 did not respond
- Responses to question: Would holding a phone throughout the day be disruptive to you?
 - Yes: 15
 - No: 10
- Responses to question: Would holding a tablet be disruptive to you?
 - Yes: 15
 - No: 10
- Technology use throughout the day indicated by participants
 - USED ON FREE TIME II
 - iPad when with students I
 - Phone when with students I
 - Periodically I
 - None III
 - *did not finish counting because the trend is that they are busy when with the kiddos, but have access to technology during free time*
- Responses to question: Which would you prefer the application be built for?
 - Tablet: 19
 - Phone: 6

Needs Gathered from Questionnaire

- → add transitions being a trigger as justification for notification of transitions
- → add “There is no one-size-fits-all behavior management because every student is different” for justification of a flexible system
- The system must have common behavioral systems built into it. These systems include a “clip chart,” red/yellow/green light chart, marble jar, super star system (these are the most common).
 - This system should always be available to students; however, this would allow consistency throughout the day, regardless of if the class is inside or outside, in gym, on a field trip, etc.
- The system must allow for modifications to the common behavioral systems which are built into it.
- The system must provide teachers with suggestions for behavior management in their classroom.
 - 22/26 teachers who completed the questionnaire responded positively to this idea.
 - The teacher must be able to decline pop-up suggestions when configuring the application.
 - The teachers must be able to turn off notifications for a certain amount of time.
 - The teachers must be able to turn off certain kinds of notifications.
- The system must be useable during free time, as well as real-time.
 - Some teachers do not use technology while they are with their students; however, they use it during their free time. Teachers have to be able to record behaviors after the fact.
- The system must be built for the computer and the iPad—most teachers have access to a computer, especially during free time. However, the iPad seems to be the most accessible transportable technology.
 - When asked which they would prefer the application be built for: tablet or phone, 19 said tablet and 6 said phone.
 - Many teachers noted that they have a classroom computer, but they might have to check out other technologies from the school. Having it on both would allow many people to access it. Maybe it could be built to be device agnostic.

Support for Alexandria’s System in Elementary School Classrooms

- “When you are alone in the classroom it is very difficult to manage 20 students and have 5 on individual behavior plans and be consistent. And in reality if you are not consistent, no plan works. Having an extra adult in the classroom provides not only another set of eyes but the ability for someone to focus solely on behaviors that we are trying to address and be very consistent.”
- [When there is assistance with behavior management] “Teaching can continue and re-direction and practice can happen without interruption.”
- One of the teachers noted that one of the primary benefits of having another adult in the room is “observation and data collection,” and throughout the questionnaire, others noted that they enjoy having a second set of eyes to observe the children, take notes, etc.
- 22/26 teachers said that they do not feel that they have enough paraprofessionals and one-on-one teachers in their classroom—there is an apparent need for this application.

Classroom Observations

Alexandria conducted classroom observations of three classroom teachers at Mast Way Elementary School, and of two teachers at Live and Learn Early Learning Center to gain a sense for the environment in which teachers would use her system. She conducted these observations in both public (Mast Way Elementary School) and private (Live and Learn Early Learning Center) to understand how her system might be used differently in these different settings. Notably, Alexandria conducted informal interviews with the classroom teachers after she conducted the observation to clarify any observations on which she had questions, and to better understand the behavior management systems the teachers used in their classrooms.

Prior to conducting these observations, Tufts University Investigative Review Board (IRB) granted this research the status of 'Exempt.' Additionally, before conducting any observations in a school, Alexandria obtained principal (Mast Way Elementary School) or director (Live and Learn Early Learning Center) approval to conduct the observation. Furthermore, Alexandria sent notifications to the parents of the students in the classroom (via the principal or director) to notify parents that she would be conducting an observation in the classroom. Finally, Alexandria gained informed consent from the teachers who she observed prior to conducting the observation.

After conducting all observations and follow-up interviews, Alexandria analyzed the observation and interview notes for trends. From her observations, Alexandria identified a series of user needs and system requirements.

Tufts IRB Approval



OFFICE OF THE VICE PROVOST FOR RESEARCH

Social, Behavioral, and Educational Research
Institutional Review Board
FWA00002063

Title: Design, Development, and Verification of Application for Streamlining of Behavior Management in Elementary Classrooms - Classroom Observations

June 8, 2016 | Notice of Action

IRB Study # 1606005 | Status: EXEMPT

PI: Alexandria Trombley
Faculty Advisor: Kristen Wendell
Review Date: 6/8/2016

The above referenced study has been granted the status of Exempt Categories 1 & 2 as defined in 45 CFR 46.101 (b). For details please visit the Office for Human Research Protections (OHRP) website at: [http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101\(b\)](http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101(b))

- The Exempt Status does not relieve the investigator of any responsibilities relating to the research participants. Research should be conducted in accordance with the ethical principles, (i) Respect for Persons, (ii) Beneficence, and (iii) Justice, as outlined in the Belmont Report.
- Any changes to the protocol or study materials that might affect the Exempt Status must be referred to the Office of the IRB for guidance. Depending on the changes, you may be required to apply for either expedited or full review.

IRB Administrative Representative Initials:

Handwritten initials in black ink, appearing to be "AB", written over a horizontal line.

Sample Parental Notification

Sample parental notification. The parents/guardians of every child in the classes I observed were sent a similar notification.

Hello Parents and Guardians.

My name is Alexandria Trombley, and I am a rising senior at Tufts University's school of engineering. I have the privilege to be working on an honors thesis this summer. For my honors thesis, I intend to design, develop, and test an application that will help classroom teachers track their students' behaviors efficiently, gain insight on the triggers of their behavioral problems, and improve these behavioral problems. I believe that this application could streamline the behavior management process for teachers, reducing the cognitive stress of behavior management in a full classroom.

To start my work, I have completed research based on empirical articles, as well as collected information from teachers through the use of an online questionnaire. To get a better understanding of how teachers interact with their classrooms currently, I will be completing an observation of [*insert teacher name*] on June 14th, 2016 from 8:30AM-9:30AM. My observation will focus on the behaviors of the teacher, including how they interact with students, as well as their teaching and behavior management practices.

Though I will not be observing your student, and will not be collecting any identifying information about them during my observation, I felt it would be important to inform you of my presence and intentions in the classroom. Furthermore, I wanted to inform you that this observation has been approved by the Tufts Institutional Review Board, which reviews research studies for safety concerns and protections of those who participate in research, as well as by the director of your student's school, Johanna Booth-Miner.

If you have any further questions about my work, please contact me at Alexandria.Trombley@tufts.edu. I am looking forward to building this application to ensure the best education for our young students in the future.

Regards,
Alexandria Trombley

Tufts University School of Engineering
Combined BS/MS program in Human Factors Engineering
Co-Founder and COO of AutismSees, LLC
Phone: 6033979085
Email: Alexandria.Trombley@tufts.edu

Informed Consent Form

For her senior honors thesis, Alexandria Trombley will be creating an application called 'One-on-One,' which will help classroom teachers such as yourself record information about the behavior of students, and analyze the recorded data to have a better understanding of the students' problem behaviors, including their triggers and repercussions. Hopefully, an application such as this would help teachers who do not have access to the appropriate amount of support staff still provide one-on-one behavior management for their students in need of this service. Alexandria is conducting a research study in order to inform her thesis and the creation of the application. You are being asked to participate in the research by allowing Alexandria to observe your classroom and collect information on your natural behaviors in the classroom, as well as on your interactions with students. Your behaviors might include talking with individual students, speaking with the whole class, doing managerial work, etc., and the process by which you complete these tasks. Please note that she will not collect any information on your students. This observation will last approximately one hour. Following this observation, Alexandria will be asking you follow-up questions about the behaviors that she observed to get a better understanding of your motivations and intentions. This interview will last up to 15 minutes. Please note that your participation in this observation and follow-up interview is optional, and you are more than welcome to pause or stop participating at any time.

Projected Risks: None.

Projected Benefits: Involvement in the design of an application that could one day be an asset in your classroom.

Confidentiality statement: Apart from the grade level that you teach, not identifying information will be collected during this observation regarding yourself, or your students.

Compensation: None.

If you have any questions regarding this research, please contact the Principal Investigator Alexandria Trombley via email at Alexandria.Trombley@tufts.edu or on her cellphone at 603.397.9085.

By signing below, you are consenting to Alexandria Trombley observing you in your classroom and asking follow-up questions after this interview, as well as using the collected information in her application design and development.

Participant Signature

Date

Participant's Printed Name

PI's Signature

Date

PI's Printed Name

Live and Learn Early Learning Center Director Approval

The screenshot shows a Gmail inbox in a Chrome browser window. The email is from Johanna Booth-Miner to Alexandria Trombley, dated June 8 (4 days ago). The subject is "Senior Honors Thesis Observations".

From: Johanna Booth-Miner
To: Alexandria Trombley
Subject: Senior Honors Thesis Observations

Given your consent, I would like to complete these observations at your school.

Each observation would involve me sitting in the teacher's classroom for one hour, recording my observations on their teaching and behavior management practices, as well as their interactions with students. Please note that no identifying information would be collected about the students, ensuring their confidentiality. However, before any observation, I would provide teachers with a parental notification form which they can provide to parents and guardians of the students in their class to inform them of my upcoming observation. After my observation, I would likely ask the teacher some follow-up questions in an informal interview to determine the intentions of the teacher's behaviors, and to gain an understanding of their thought process as they are teaching.

Finally, please note that this research has been approved by the Tufts Institutional Review Board, which ensures that all research completed by Tufts personnel is safe for the participants.

I would like to complete observations of the following classroom at your school.

1. Kindergarten
2. Older Preschool

If you approve of these observations, please respond to this email as soon as possible. Upon your response, I will contact the teachers listed above individually to set up times to come into their classroom.

I am looking forward to hearing from you.
Regards,
Alexandria Trombley

Johanna Booth-Miner
to me

Hi Alexandria
I would LOVE to have you use Live & Learn as part of your thesis! I will pass your e-mail along to the classrooms. Just let us know the next steps - thank you

Johanna Booth-Miner
Live & Learn Early Learning Center
Rising Hawk School Age programs
"Teaching that comes from the heart"
NHAEYC Spring conference Chair
Alliance for Better ChildCare

From: Alexandria Trombley [mailto:trombley.a.1994@gmail.com]
Sent: Tuesday, June 07, 2016 7:22 PM
To: Johanna Booth-Miner
Subject: Senior Honors Thesis Observations

Mast Way Elementary School Principal Approval

The screenshot shows the Outlook Web App interface in a browser window. The address bar shows the URL <https://exchange.tufts.edu/owa/>. The user is logged in as **Trombley, Alexandria B.**. The left sidebar shows the mail folders, with the **Inbox** containing 8911 items. The main pane displays a list of emails, with the selected email from **Carrie Vaich** highlighted. The email content is as follows:

Observation for Senior Honors Thesis

To: Trombley, Alexandria B.

Wednesday, June 08, 2016 11:22 AM

Hi Alexandria,
Thank you for your email and information about our engineering project. How exciting for you! I'd be more than happy to allow you to observe at Mast Way and would be glad to speak with you about other data collection tools I've used in the past. In addition, we have an intensive needs population at our school serviced by BCBA certified staff who would be a great resource for you to tap into as well. Kathleen Ameduri is the special education teacher tied to this cohort. They collect data each minute and may have some tools to share as well.

In addition, I have a lot of family members in the education field, many in the Boston area. If you need other locations to observe, in a metropolitan area, I'd be glad to reach out to them for you. Most schools have less services than we do here at Mast Way so having a broader spectrum to observe/ interview would be beneficial.

Feel free to reach out to teachers but know it's the last two weeks of school and I'm sure they are all very busy. Keep this in mind with your data collections. ☺

Let me know when you'll be here and hopefully we will be able to touch base for a few minutes.
Thank you!

Carrie Vaich
Principal
Mast Way School



Trombley, Ale... Hello, Ms. Vaich! I hope that this email finds you well. My name is Alexandria Trombley, (Whitney Burke's daughter) and I am a rising senior at Tufts University's school of engi... Tue 6:27 PM

Observation of Teacher 1 at Live and Learn Early Learning Center

- “So we are going to need to get some water”
- “once you get water you are going to have to bring it back slowly”
- (they are making playdough)
- They decided to do a vote on which color to make it
- “Don’t pour it in yet” she says as Z pours it in
- “What is your vote for a color, Z?” “How about you, E?”
- There are two teachers in the classroom—one lead and one assistant (high school student)
- “Can you put it right there, O? We are going to put some food coloring in it”
- “I am going to pour it in and you guys are going to mix it with the spoons”
- “I, can I roll up your sleeves?”
- The kiddos are super loud but Teacher 1 at Live and Learn Early Learning Center does not seem to care because their behavior otherwise is not problematic
- When they do a vote, she asks the kiddos which color got the most votes, looking at one-to-one correspondence and greater than and less than values
- She showed them how to mix it when they were just sticking the spoons all the way in
- “It’s okay if it gets on you, it will wash out later”
- She is always on the same level as the kiddos, always talking with them, always doing things with her hands
- E came in with dad, does not want their sleeves rolled up.
- E stands back and observes for a while before jumping in
- “Sometimes your Mhms and Mmmm (like no) sound the same”
- Some other teachers come in and out to help—it is a very fluid system of management
- J “This stuff is so messy” the kids have their hands all in it and all over their clothes and are having a great time
- The kids are entertaining themselves with pipecleaners and having conversations with the adults
- The teachers are putting sunscreen on the kiddos
- One of the kids is eating a snack
- Engaging the kids and giving them consistent directions seems to be the primary method of behavior management
- They all are doing different things, but all happy and not doing anything that would be considered problematic
- As they put on sunscreen they are having some free play time. Two teachers are putting on sunscreen, one is managing the playing, doing some cleaning, etc.
- To have them more comfortable putting sunscreen on, she says to count to 20 and then it will be done—also a good opportunity for them to practice counting
- “F, come give me a hug, I missed you so much last week”—behavior management with love
- They encourage exploration, which is something that is not encouraged at public school
 - Ex. One of the girls was making a lot of noise using the popsicle sticks as a drum stick, and the teachers were very supportive
- The teachers are almost constantly talking with the kids
- “I, can you go put this in the box” to have him put away his jacket—phrased as a question
- Generally, there are a lot of questions asked to engage the kiddos

- “S, when you are ready it is your turn”
- “Alright, S, does ____ (his stuffed animal) need some sunscreen?”
- S says “It’s cold” and Teacher 1 at Live and Learn Early Learning Center says “I know that it isn’t always fun but it protect your skin”
- To another kid who did not want sunscreen “It’s like a cheek massage”
- Goes to the students to put on their sunscreen
- “Teacher 1 at Live and Learn Early Learning Center, shake your booty” and she responds “No thank you,” and does not give him the other attention he was probably looking for
- When one of the kids puts the scissors away in the forks and spoons, she says “Is this a fork or a spoon” while holding up the scissors
- “Can you clean up your snack if you are all done? We are going to be heading outside in a minute here”
- “T, can you please sit at the table to eat that?”
- “Can you finish up your apple sauce?”
- When the kids are playing a game they change the schedule so they can keep playing
- When some of the kids moved out of the way of one teacher and two children working together to take out the trash, the teacher taking out the trash said “thanks teammates”
- When one of the kids asked for white paper, Teacher 1 at Live and Learn Early Learning Center said “thank you for asking first” before helping that child get the paper out
- E and I were fighting both trying to get into the paper closet at the same time, both kind of hanging on the door. Teacher 1 at Live and Learn Early Learning Center said “I can you use your words to explain to E what you are doing?” The child did this, and then they took turns getting into the closet.
- When the children put the paper up against the wall to color on it, Teacher 1 at Live and Learn Early Learning Center said “I, make sure your marker stays on the paper, okay?” Because I’s movements were slightly uncoordinated
- All of the teachers are talking with the kids about the fun that they had on St. Patrick ’s Day when the leprechaun did things like leave green tracks across the lunch table, make the toiled water green, etc.
- When the kids come into the other room and say “the game is done,” Teacher 1 at Live and Learn Early Learning Center immediately says “okay, let’s start cleaning up,” then she started talking to each child individually about what they could do to help clean up
- One of the kids asked “why do we need to clean, it’s so boring,” and Teacher 1 at Live and Learn Early Learning Center responded “I know we do not like to clean, but we have to take care of the toys so that we can keep playing with them” –good explaining why they have to do things
- There is a constant shepherding towards completing a task. Teacher 1 at Live and Learn Early Learning Center and the other teachers keep talking to the kids about cleaning, giving directions, guiding, checking on what kids are doing, etc. they are very busy
 - “The sooner we clean up, the sooner we can go outside”
 - “I can you please pick that up and put it away?”
 - “When you are ready to go outside, come join me on the ramp” (which is by the door to outside)

- Two of the students were not done with the pictures they were working on, so they were saved for later
- “Does anyone need to go to the bathroom? Because remember yesterday everyone came back to go after we got outside, so today I want to make sure everyone has gone *before* we go outside”
 - Some of the kids did go to the bathroom
- One of the kids said “We got cleaned up really fast,” and Teacher 1 at Live and Learn Early Learning Center responded, “Yeah you guys did an awesome job, I am very impressed.” –praise
- One of the kids on the ramp said to another “E, stand in line so we can go outside,” showing that they understand behavior antecedents of the classroom.
- The child who is the first in line to go outside is so excited about it

Summary

The management technique in this classroom is based on engagement with the children. The teachers are constantly interacting and engaging the students. This shows that the application needs to be hosted on a watch in some way for teachers who are always busy. The definition of problem behavior in this classroom is also different than in any of the elementary classrooms observed—problem behaviors were ones that endangered or upset children, or ones that were in defiance of a request made by a teacher, not those involving noise, calm bodies, etc.. This supports the need for the application to be very adaptable. Based on the conversations I had with the teacher, the problem behaviors (such as direct defiance of a request, etc.) occur at different times of day, including drop-off, nap time, and pick-up. In this case, they may want to monitor these times to try to come up with better solutions—maybe they could track behaviors as they try different interventions to see what works the best. This is how it would be applicable for a younger population.

Other extraneous thoughts about how this would differ by population: maybe young classrooms could use it to determine best classroom practices for themselves, middle classrooms could work on behavior management in the traditional operational way, and older classrooms could have the students monitor their own behavior in some way.

Observation of Teacher 2 at Live and Learn Early Learning Center

- The kiddos are practicing their graduation
- "What are some things we should think about tomorrow when we are graduating?" And the kids raised their hands saying things like "don't be silly" "be respectful"
- "Chica chica" then "boom boom" to get their attention
- One teacher is guiding the conversation and the other is going around one on one and doing behavior management "I need you to be quiet and listen" etc.
- "Clap your hands if you can hear me" to get their attention
- Saying their individual names to get them to pay attention
- "E and L we need to keep our hands to ourselves"
- Other teacher goes to one of the students "I need you to look up at Teacher 2 at Live and Learn Early Learning Center"
- "Anyone at live and learn can come to the graduation, so we want to make sure we have our listening ears on and respectful bodies so everyone stays safe and happy" explaining why they have to have better behavior
- "If you can hear me touch your toes" "if you can't touch your toes you are too close together"
- "How do we stand in line?" Asking them to identify the behavior they need
- Giving direction on how to walk to the stage
- She is almost constantly giving directions or behavior directions
- "I can't start until voices are off"
- "Good job m and h," making an example of the students
- "G, no no no" and had them walk to the stage again
- "B and G you are walking together" in a very staccato voice
- When trying to get their attention to tell them to walk up to the stage, they have to say their names lots of times
- "L, I will not give you a chair if that is how you are going to sit in it"
- " I don't have chairs for you guys right now, so I need you to sit on the front of the stage"
- Preschool came in to sit down on the front of the stage
- "Kindergarten, right now preschool is setting a better example than you are" and the kids quieted right down
- "Scoot Dolby doo" "where are you" to get attention
- "Kindergarten, I am competing with too many voices right now"
- Teacher 2 at Live and Learn Early Learning Center is doing everything
- "Before our song should we be acting crazy and yelling and everything" and the kids say no but they keep doing it
- Some of the kids are singing the song, others are sitting in the back--maybe these ones aren't graduating?
- "Everyone show me how nicely we can sit down and listen"
- "G and E you are showing me that you do not need a chair tomorrow in the way you are sitting right now"
- "I am waiting for voices to be off so that we can go and play"
- Saying names to get their attention
- "What is the next thing?" And have them answer to get engaged

- The reason the preschoolers are there is because they are graduating up to kindergarten
- "B, I need you to walk nicely" "B, no thank you"
- "Thank you E," "thank you E," when they come up nicely and quietly and calmly
- "L you need to wait until your name is called"
- "Everyone else was respectful when you came up, I need you to be respectful of them"
- "L and g, you are showing me that you do not want your chair tomorrow"
- The other teacher comes up to practice reading the names of the kiddos for graduation
- "I would hope that kindergarten A will give kindergarten B the same respect they gave you when you were practicing"
- Teacher 2 at Live and Learn Early Learning Center goes to talk to the kiddos one on one who ate having some behavioral issues
- "Younger preschool has never done this before, so can we show them some respect?" "Yes, can we please have our voices of off?"
- "Kindergarten, this is not a good example for preschool"
- "E and H, you are setting a great example, M you are setting a good example"
- "Good job A"
- Teacher 2 at Live and Learn Early Learning Center looks overwhelmed
- "We have lost our attention span for this"
- "I am going to open up the field so they can run it off"
- "You guys did such a fantastic job practicing for graduation, I am going. To open the field"
- Yelling "B, you do not touch that" when he was touching something that could hurt him
- "Climbing the tree is not a choice
- The kids are literally just running back and forth across the field
- "G and L, do you think that is a choice?" When they are climbing on something they definitely should not be climbing on
- Now the kids are playing a huge game of fishy fishy with Teacher 2 at Live and Learn Early Learning Center on the field, and some. Of the other kids are entertaining themselves playing with a ball. And others are playing in the woods--very self-sufficient when they are doing something that entertains them
- This is the age when they are trying to teach the kids how to do structured activities, which is definitely a difficult time
- "E, that is not open"
- "A, if you do not want. To be tagged, don't play"
- Essentially the whole time there were two teachers responsible for the classroom, and one coming in and out who belonged to preschool but who was helping take kids to the bathroom
- "Okay we are going to play a different game now" "this one is a have-to, I need to have everyone over here with me "
- "V, I don't mind if you sit off, but please do not sit on that"
- Then a bunch of kiddos stopped playing or listening and started entertaining themselves
- The other teacher is giving the kiddos directions on how to play the next game
- Teacher 2 at Live and Learn Early Learning Center decided to take some of the kids over to work on the garden
- "E, the branches are not open" but the kids kept playing on them

- "B and T please don't climb on that"
- They kept trying to get in the water while they were watering the plants, so Teacher 2 at Live and Learn Early Learning Center made it easier and made a shower for them
- "E, this is our garden, do we put toys in the garden?"
- Teacher 2 at Live and Learn Early Learning Center got on the spider web with all of the kids and just hung out
- One of the other kids wanted to jump up off of a rock and after another teacher caught them they said "in the future, make sure a teacher is ready because that could be really dangerous"
- When the kiddos are crawling on the spider web Teacher 2 at Live and Learn Early Learning Center repeated their kids names over and over because they are crowding a student who is at the edge of the net and who could have been pushed off
- The other teacher gave their kids a 2 minute warning before leaving
- One of the kids dragged Teacher 2 at Live and Learn Early Learning Center over to the ball game to play
- The kids are still climbing the trees after Teacher 2 at Live and Learn Early Learning Center told them a bazillion times not to
- Teacher 2 at Live and Learn Early Learning Center does not
- Teacher 2 at Live and Learn Early Learning Center says they have descended into complete anarchy in the last week with the craziness of graduation
- The kids just are not listening
- Has them answer math questions to be sent off to get their lunch
- When they get the math question right she says good job
- One of the kids says "these three kids want to sit next to me for lunch but I only have two sides so I do not know how to fix this" and Teacher 2 at Live and Learn Early Learning Center says "well, we have 3 days left of kindergarten, so how do you think we could use that to our advantage to solve the problem?"
- One of the kids is frustrated because another two kids do not want him to climb the tree with them, even though he was up there first, and he had taken a stick and started swinging at them, and Teacher 2 at Live and Learn Early Learning Center explained why it was. Dangerous, had one of the other kids get out because he had flip flops on anyways and they cannot climb trees with flip flops on, and then everything was okay

Observation of Teacher 1 at Mast Way Elementary School

- “We are going to do ticket to snack, and if you have not finished your math we are going to have a working snack. This means we need to have a quiet snack, everyone else.”
- “Walking, Q”
- She has them answering math questions to get up for snack
- When one of the kids just blurts out, she just says their name to remind them that they need to not talk
- She keeps asking different kids to answer the same question when one kid does not get it
- Says “good job,” when they get it right
- The kids sit down to have their snack
- They talk among themselves while the teacher still asks math questions to allow kids to go to snack
- To get their attention she says “class,” and the students response, “yes”
- When students are speaking out, she stops talking and looks at them
- She tells them how long they have for snack
- She sits down at her desk and goes on her phone
- At first she was the only adult in the class, and then one other professional came in (reading specialist), but she did not work with any of the students
- She is very much less communicative with her students, but the app needs to work for her as well.
- Quietly says “we need to keep our voices low” to a student who is talking louder
- She sits at her desk and students come up to her to ask questions
- So far, it seems that there is much less behavior management required in this class
- What do you find are the biggest behavioral issues in your class?
 - Probably noise, talking out of turn, being out of their seats, bigger issues are rare
- How do you approach behavior management?
 - In the fall when they come in they learn about the clip system. They all start in the middle. They can move up or down. If they get to the top, they get a prize. If they get moved down, it is first a warning, then teacher’s choice, then parent contact (they fill out a think form). She thinks this works better because it allows them to move up as well.
- She is handing back work to the students by calling them up to her desk and giving them their work. There are no comments on how she did when she hands the work back.
- When a student asks her a question, she asks them a question back
- Though she is doing very little behavior management, the kids seem to be pretty self-sufficient.
- How do you get them to this point of being self-sufficient behaviorally?
 - I think that is just second grade, first grade really teaches them this
- “O, you are being too loud, I need you to quiet down.”
- When she calls E up, “You wrote these 3 things wrong, you need to write them correctly”
- “C, come over here please. Fix number 7.”
- “Q, you are getting too loud, you need to keep your voice down” (all from her desk)
- “J, come over here please. There are a couple of things that are spelled incorrectly”

- “Classidy-class” and then they respond “yessity yes” Then “What were the directions we got before snack?” Then reminds them that they have to talk quietly. “If we cannot be quiet, we are going to have a silent snack for the rest of class”
- “C, wow, did you forget our directions?”
- Notes that snack time is over when the alarm goes off
- “Snack time is over, now you need to be quiet as you clean up and go to the rug”
- “Let’s see who is following directions right now” then lists names “J, thank you for following directions,” etc.
- “Those of you who are at the rug already, please look back at your table and make sure it is clean, if it is not please go back and clean it, then rejoin us at the rug. “
- “S, and G, you may move your clips up, thank you for sitting on the rug and doing what you were asked.”
- “Thank you J for picking up your table”
- It seems like from Teacher 3 at Mast Way Elementary School to Teacher 1 at Mast Way Elementary School, the focus of the class has changed. In Teacher 3 at Mast Way Elementary School they focus more on behavior and learning how to learn, and here they are actually learning.
- Giving directions for spelling assignment
- “Who can remind us what opposites are?” “Wow, nice hands”
- “Nice job not using the word opposite while describing opposites”
- “I am looking for boys and girls who are ready to be called. Nice job, M, you can go to your seat. Remember, you are not allowed to talk during spelling. Also, make sure you protect your work when you are doing your work so that your peers do not see it. “
- When the kids say thank you, she says you’re welcome
- When she called Q because he was sitting quietly, she said “why did I call on you, Q,” and smiled. Then he said “Because I was quiet and still” and she said “Okay, let’s continue that” (or something along those lines) (did this with another kid, too)
- “Wow boys and girls, I called on each of you because you were focusing so well. What happened when you went back to your seats?”
- “S, this is your one warning and I am not giving you another one” she says this close to the student, very quietly (says this to another student as well.
- Walks around looking over the shoulders of the kids to see how they are doing
- “Boys and girls, please remember to use your helping hand to cover your work. Your helping hand should not be holding your head up”
- The students are doing work quietly, and she is sitting at her desk doing work
- Other than her phone, I have not seen her use any sort of device
- The students come up to her to ask her questions
- The students are focusing on their work, generally
- She goes over to talk to one student one-on-one. Cannot hear what she is saying
- Students seem to be talking a little, but not enough that it warrants a comment from the teacher.
- How does she decide when to comment on the talking, and when to let it go?

- Talking is minor, so she starts by reminding them, then reminding them about the directions. When she says that it is their last warning.
- The students turn their work into a folder on her desk
- She puts stickers on the students' work
- They know to go and get their book boxes when they are done their spelling
- The students read quietly or they read out loud to themselves
- One of the students is falling asleep on the table, and staring into the distance. She does not comment on it. Is this teaching independence?
- How do you teach independence to the students?
 - She definitely had to teach it. The fall was very different. There was a lot of her teaching them the procedures and routines. Now at the end of the year they are pretty solid as long as they have the schedule.
- "G, please make sure you are reading to yourself"
- "Boys and girls, when you are done you should be getting your book bins and getting to your spots. You should not be talking. We will be doing a readers share at about 12:05, so you will be reading independently for about 15 minutes."
- "S and E, what is going on?" when they are talking
- "C, this is your one warning. Get your books."
 - How do you keep track of how many warnings you give?
 - When they require another warning, they have to move their clip down (this student had to move their clip down almost immediately.
 - *I wonder if she even knows why she was demoted. She does not seem like she has the time to talk to the students (though she does if she did her grading during personal time). How could this application help her explain to her students why she is not happy with their behavior?*
- She starts walking around the tables, then goes back to her desk
- "M, you need to be in your seat reading, you cannot get up."
- "R, you should be reading right now, not looking at books. Please also go to your spot."
- One of the kids has a strong verbal tic. Does she do any behavior management regarding this, or is this the work of the OT?
 - He has a teaching team and an IEP. They discuss needs every week, and he follows his own behavior plan apart from the clips. With him, she lets a lot of things slide as long as it is not disrupting the rest of the class. If he is disrupting the rest of the class, she treats him like any other student. He gets special jobs if he completes his goals, like putting sheets into the mailboxes. They always ask him how he thinks he did.
 - This student is not reading like the others, he is putting mail in mailboxes
 - What dictates exemptions such as this in your classroom?
- Generally, kids are sitting and reading
- Teacher 1 at Mast Way Elementary School is sitting at her desk grading work
- "Boys and girls, just so you know you have 5 more minutes to read, 5 more minutes."
 - Does giving your students a heads up about transitions help their behavior during those transitions?
 - Helps them be ready for the transition

- If transitioning locations, she staggers it so they are not all plowing into each other at once
- Directions on moving to their spots, and taking, if they want, something to the circle to share
- The students start talking, but not very loudly
- Make their way over to the carpet
- “S, great job sitting criss cross quietly”
- “Thank you, E”
- “I am waiting for everyone to get into their circle spots”
- “B, you need to move a little bit faster, we are waiting on you.”
- One of the students is still sitting at the desks while the rest of the class is sitting on the rug
- “Remember, we all need to be quiet and listen respectfully while our classmates read”
- Students read, and all of the other students focus on the student who is reading
- When the student who is still at the desk finishes her work, she goes back over to the rug
- Asks a follow-up question about what the student just read.
- “Thank you for sharing, G”
- “Hold on, S, there are still some noises I am hearing”
 - Having students read out loud (voluntarily) probably increases their confidence
 - This is true of appraisal comments as well

Summary

The students are very self-sufficient, and Teacher 1 at Mast Way Elementary School does not have to/do much behavior management. Compared to first grade, the focus has switched from teaching kids to learn more to actually teaching kids. Teacher 1 at Mast Way Elementary School also has very little tolerance for poor behavior, which might have looked quite different at the beginning of the year. There is also little obvious confidence building, but it is still there. Finally, she does not really have any children with behavioral issues, so this may impact behavioral management practices in the classroom. Also, the behavior management is responsive, rather than proactive.

Observation of Teacher 2 at Mast Way Elementary School

- “Thanks B for being ready,” thanks “M for being ready”
- Kids come into the class and sit at the circle
- “Like I mentioned this morning, we are going to be working on a self-assessment, or self-evaluation...”
- We are going to go through it together
- One kid was distracted by one student walking in, she stopped talking and said “J, are you ready to focus”
- “J, remember about your chair? You can use it correctly, or you can get out of it”
- She is very clear when giving responses
- “You’re making a face, O, why are you making a face?”
- Talks in an engaging way
- Asks students what some genres of books are, then probes for their favorite examples of these kinds of books
- “J, you can tuck your chair in and stand or sit”
- Can anyone answer that question right now as an example
- “That is my favorite kind of book”
- “J,” just says their name to get their attention and encourage focus
- “Let’s have some new hands,” to get some new students engaged
- The kiddos have spots marked on the ground of where they should sit when they are sitting in circle
- Some of the kids are fidgety, but they are doing really well for just coming back from recess
- I like how when she is going through the worksheet with the kids, she is asking them questions to engage them, to make sure they understand, probing them to make them think about their responses, etc.
- She also never tells the kids that they are wrong, she rephrases their answers to guide them towards something correct.
- “G, E, M, do you have anything you guys want to get better at when you are reading?” trying to engage the students that have not spoken yet
- “J, I need you to show us how you are paying attention” (J was laying on the ground with their hat over their face, not engaging in the conversation
- Even when the kiddos said that the days was “6/13/16,” she said “that is how you would write the date, let’s say the date”
- She specifies their goal saying “finishing this paper is our goal for the day”
- “While you are working you can talk quietly with the students at your table”
- Had the students get up by table group, probably to avoid craziness in the transition
- One of the kids “Ms. D, can I sit at a different table?” she responds “I don’t know, can you? And then asks the student where they think they can sit and be successful, and not distract other students. She asks “Do you think you would be successful there?”
- One of the kiddos walks in late having come from another location
- Some of the kids become distracted, but calmed down
- “Boys and girls, I like the idea that L just had”

- When students ask her questions, she usually asks a question back, or encourages them to think for themselves
- The students are following her directions of working quietly
- When she talks with the students she is on the same level as them
- “Alright, let’s get going on this, this has to get done”
- So far, her hands have been occupied a little by one piece of paper, and she has not used any sort of device
- There are not any other professionals in the room
- She goes around table to table checking in with the kids individually, asking probing questions she did in the circle, etc.
- The noise level goes up and down, but generally the students are doing their work
- The self-sufficiency observed in second grade has expanded to third grade. It seems as though apart from one or two students with behavioral problems, the students follow directions and complete their work. Though the app would probably still be helpful in some third grade classrooms, others such as this would probably not be the focus population
- Uses clapping and “peanut butter/jelly” to get their attention
- “I feel like the round table over there is not listening to me,” “J, eyes on me”
- Tells the students that in 10 minutes they are going to get directions for the next part of the assessment, giving warning about the deadline for the worksheet as well as giving a warning about the impending transition
- She also gave the students the option to read their book *quietly* if they finish the worksheet early
- “J, remember that we are going to be moving on in 10 minutes? We need to be ready to move on then, so let’s focus on this worksheet.” Then she sits down with them and reallyyyyyy guides them through each question
- Gave the students another warning that they would be moving onto the next worksheet in 5 minutes
- Looking at one of the students’ responses: “I think I understand what you are saying. Maybe we could clarify it to say...”
- “JA, can you please stand up and look around the room at what other kids who are done are doing.” (this student was sitting, drawing on his shoes”
- Overall, she has a very positive interactions with the students, never telling them that they are wrong instead guiding them to a different answer, having them ‘do’ something instead of ‘don’t’ something, etc.
- She said “J escaped” but did not seem worried. Where did he go?
- “This next part is going to take a long time, so if you do not finish in this next chunk of time, that is okay, you will have time to finish it later.”
- J came back into the room and looked like he was signing himself in
- The students transitioned nearly silently back to the circle—holy moley
- Go through the same process of going through the next worksheet for their writing folder, asking questions, probing, making sure the students understand
- “Eyes on your paper,” to remind students (class as a whole) to pay attention

- “Last person,” to let kids know that they were going to transition to going over the next question
- “I am moving on because of time, so I am just going to take 2 examples for this one, and then 2 for the next one,” again warning about a transition
- Tells a list of things that she thinks kids might want to write for “things I need to improve on”
- “What do you need to have out to do this?”
- Has students get up based on how their shoes close (Velcro, laces, no closure, etc.)
- “So, JA, what are you getting,” to remind them what to get to start working
- Most of the students go directly to get their folders
- “I see some tables where all of the students have their writing folders, and I see some tables where they do not have their writing folders”
- She hands out old writing, too
- Lets the students get to their work at their own time rather than always scolding little things like talking, not starting right away etc.—kids cannot always be on point
- “Zip zip zap” to get their attention
- “Boys and girls, the noise volume is just a little too loud because I am saying the student’s names who need to come get their old writing, and they cannot hear me” – I like how she gives a reason for needing the volume to decrease
- “Also, just a heads up, we really have very little time to work on this before PE”
- The talking that the students are doing is generally focused on their work
- “Class, class” to get their attention. “It is time for us to line up for PE.”
- Pretty much all of the students got right up and in line (pretty excited)
- “Thank you for lining up and getting ready”
- “Alright, so, M is ready, O is ready, thank you for being ready G,” does not wait for them to be silent, just goes anyways.
- Do you have any behavior management systems in place in your classroom currently?
 - She does logical, in the moment behavior management. In March all hell broke loose, and the class told her that they wanted a system. They set up the stoplight system
 - There is a green, yellow, red light in the classroom with clips—is this used?

Summary

The students are generally able to manage their own behavior to the point where learning and work can get done successfully, apart from a couple of instances that were still benign. Teacher 2 at Mast Way Elementary School has a really positive and trusting interaction style with her students that allows them to take on responsibility, and probably feel more comfortable in the classroom, which enhances learning.

Observation of Teacher 3 at Mast Way Elementary School

- Who are the assistants in the room, and what are their roles?
 - 3 who are in here the most are one-on-ones
 - One of the students is fully integrated, the other two are in and out
- H “Wow, nice job boys and girls. Are you settling in for morning work?”
- Assistant 1 sitting in the corner of the room by some of the table groups
- Assistant 2 follows child 1 around—one on one assistant?
- The kids are coming in as they get here and sitting down at their seats
- Child 1 asks a question, and H responds that she can do it later
 - Maybe the app could have something to keep track of reminders
- H gives instructions on how to start their morning work, which is a math sheet
 - They have to do a math worksheet
 - When they are done, they have to check their “finish up” folder
 - Then they can read a book when they are done with all of that
- Some of the kids are having side conversations, but very quietly
- The kids do not blurt out when she is talking—how did she get this behavior?
 - Set the expectations right from day one
 - Make a contract with the class
 - The bottom line is respect
 - Sparkle star system
 - Class chart--when one person is doing their best and she notices (this is different for each child because they have different goals) the students who have the most stars at the end of the week get some prizes
 - Marble Jar-- if as a team they are doing well, they get a marble
 - They fill it ~5 times a year
 - Consequences
 - Fair warning first
 - Taking away choice or recess a minute at a time
 - At the beginning of the year she used the red yellow green system more
 - She did not want to carry over to the day for punishments--it has to be close in time
 - She keeps a chart for tallies of how many minutes they have off of recess
 - All 3 kiddos who have their one-on-ones have their own behavioral plans. They work for specific goals, like OT time or gym time.
 - With one of the kids he has to be able to ear things back because if not, he would spiral out of control
 - He used to earn a walk, but then he started abusing the privilege, so she took away the walk as a privilege
 - Some of the other kids know to ask for a break when they need one
- H speaks very quietly, which makes the kids respond quietly, I think
- Says “hello” to the kids as they walk in

- One kid asks to go to the bathroom, H has them meet a goal and then they can take a bathroom break
- Assistant 2 is guiding child 1 through their morning work
- Assistant 2 and child 1 switch activities very quickly
- Does she do a lot of the behavior management of child 1, or does the one on one handle that mostly?
- Assistant 1 is helping child 3 focus on their work
- “Can I have you stop, look, and listen, with me at the promethean board,” and though you can hear movement, the kids are quiet and paying attention
- Does the student’s behavior change throughout the day?
 - Every day is different
 - Today the busses trickled in
- Is there a method you use for choosing students to call on?
- The students she called on really knew how to do the math problem
- She tells them multiple ways to do a math problem
- “Now we are going to complete this worksheet quietly, front and back”
- Student 4 is the first to blurt out, saying “Teacher 3 at Mast Way Elementary School,” and when she calls on that student, he says that his birthday is the next week.
- Some of the students are having conversations, but they all appear to be focusing on their work.
- Student 5 keeps getting up and down.
- How does she teach focus?
- “While everyone is focusing so quietly, we are going to do the lunch count.” Then she talks about the lunch options
- Blurt 2: “I need to check my backpack to see if I have lunch”
- After the pledge of allegiance, Teacher 3 at Mast Way Elementary School says “let’s sit and be quiet”
- She seems to keep reminding the kids to be quiet throughout the activities.
- Another student came in with a one-on-one, then immediately left
- Another student came in, and she said “you can come in, put away whatever is in your pocket, then you can start your morning work.”
- She is very proactive about behavior, reminding them about the correct way to behave
 - Ex. Right away when more than one kid started to talk when they were saying who wanted milk with their snack, she said “remember, only one voice at a time”
- The student who came in late, she reminds them how to do the math problems that the other students have been working on
- One of the students just has a running monologue going. How do you decide what is acceptable behavior and what to comment on? –it is individual for each student, she knows what they are capable of. This translates into the system needing to be adaptable for each student.
- More students are talking now, fewer are focusing on their work. Maybe they are done?
- H is filling out paperwork for lunch, attendance, snack, and other forms, the students are generally self-sufficient.
 - At the beginning of the year, how do you teach them this routine?

- She has two of the students (“messengers”) bring the attendance, forms, etc. to the front office. What schedule does she use?
- Assistant 2 takes student 1 out of the classroom with the morning work
- H sits down with 2 students to explain how to do work again. These students are visiting from third grade, and are going to help some of the students with their math.
- H almost always has markers, or a clipboard, in one of her hands.
 - Have not yet seen her use a device other than the smart board
- H turns on music
- H “I hope we can stay and work in our spot, if not we are going to have to work somewhere else.”
 - Then she puts on what looks like to be a weighted vest?
- H starts going around and checking in with individual students
 - She probably knows with whom to check in to make sure they are focusing and doing work correctly
- Students just get up to go to the bathroom. (making their own choice)
 - Does this ever get out of hand—does she notice that some students get up to get away from work?
- One of the students is hitting their head—maybe a sensory tactic to help focus. What is her procedure for these kinds of behaviors? Does she help the student decrease them, or leave that to other assistants?
 - They consult with the OT, and the OT give them the ideas the tools
 - She gives them different strategies
- As she is sitting with one student, she is looking around the classroom
 - How could we help teachers know what is going on with their students more easily?
 - It might be best just to observe the students—you would not want to dehumanize the experience.
- H goes to the computer to submit some sort of information. Stays there for approximately 1 minute.
- H “First graders, as I am looking around I am noticing that student A and student B are focusing and doing their work quietly.”
- When students turn their work in she is overly enthusiastic
- Another professional walks in and starts talking to H. She takes one of the students out of the room.
- H “Wow, you guys are really doing a great job this morning”
- H is putting forms into their mailboxes
- Another professional is in the room, just standing in the corner right now.
- H keeps going back to one student to help them focus. This student just stares into space when she is not helping them focus.
- H is filling out another form at her desk—there is a lot of paperwork in the mornings it seems.
- The other assistant helps the student who is having difficulty focusing, as well.

- One of the students with the weighted vest asks if he can take a walk, and H says yes. Is this something that is offered to all students? Would it help to vary the options, or does taking a walk work for this student?
 - What are some of the other methods they use for this student?
- H managed to build in the transition to morning meeting. When the students are done their work they go and read where morning meeting will be, and that means they are already there when it is time.
- “Child 6 and child 7, please find a quiet place to be working.” – Very aware of the noise level in the classroom. Would you say this is the most common behavioral disruption in your class? What are your primary methods for managing this?
 - Talking and distractibility are some of the biggest ones
- H stands out in the hall looking for the student who got permission to go for a walk
- When H is out of the classroom, assistant 1 guides students to pay attention. What would you do without this assistant? Would another teacher come in to take their place? Is it helpful to be able to pass over the management to someone else?
 - Maybe the teacher should be able to send off the management to someone else in their classroom, and then that person would have all of the information and functionality as the teacher.
 - But there should only be one person counting behaviors, etc. because you would not want to double count behaviors.
- There is a green light yellow light red light system in the classroom. Do the students pay attention to where they are at? How do you decide when someone gets demoted?
- H “1 2 3, eyes on me,” then the students respond, “1 2 eyes on you.”
 - Then she gives them directions of what to do next. “7 I need you watching and paying attention.”
- H “Some of you may have only done a couple, some of you may have done the whole sheet—it is okay, everyone works at a different pace.”
 - Do you find that self-confidence is a predictor of behavior?
- H turns off the music
- H “X has told showed me that they are ready by calming their body, Y has also showed me that they are ready by calming their body”
- H has one student (the one that was staring at a wall most of the time) keep working.
- “I need someone to volunteer to read the first sentence of the morning note”
- “Z I am going to give you the choice. You can sit in a chair or the floor—wherever you think you are going to have the calmest body”
- H “We are showing that we are listening to M by having calm bodies”
- Assistant 1 helps the student who is still working on their math
- H “What is missing from the first part of the morning message?”
- Assistant 1 and the last professional that came in are sitting around the edge of the carpet where all of the students are sitting
- How do you know that some students are not called on more than others? (like when they are passing the pointer along from one student to another)

- Another professional came in and sat by the side of the carpet, too.
- The assistants and the professionals (3 total) seem to be fielding the questions from the students.
- H talks about the schedule with them, letting them know what is coming throughout the day.
- H has the students clap or do the sign language sign for clapping when they are excited
- H “I love when student N is still sitting and paying attention, then had them come up and do some work in front of the class”
 - Confidence, again
- One of the students is raising their hand, and H is not calling on them
- “Student N, I liked when you were sitting on your bottom before, can we do that again?”
- One of the professionals is reminding students to raise their hands, etc.
- H “I would like everyone to sit in a circle, and H is going to do the weather.”
- I “I would like it if you could keep your hands to yourself.”
- What was the reason for having them move into a circle?
- “X, I am hoping you can stay at the circle with us”
- *There is significant use of positive language. Do you feel that students respond better to this? Does it help increase their confidence?*
- “Okay, let us greet each other kindly with calm bodies”
- I notice that the students look at her when they make a mistake, looking that it is okay that they have made a mistake. They really seek her approval. How do you show students that you approve of the work that they are doing/their behavior/etc.
 - Behavior: commending it. Do you feel like you always commend students when they need it? This probably increases their confidence.
 - Work: feedback on work, commenting on it to the class, commenting on how hard they are trying.

How do you build the students’ confidence?

- A lot of verbal praise
- The sparkle star system
- Super enthusiastic about good work
- Sharing with others to make them feel proud
- Sometimes it is quiet, and sometimes she makes a big

What do you see as your primary methods for behavior management?

Summary

There is overwhelmingly a proactive focus on behavior management, with specific attention to noise management, as well as practices which build the confidence of the students (which is also a behavior management technique. It will be important to build in something which builds the student’s confidence into the system because this seems to be critical to behavior management and other success.

Analysis of Observations

1. Population

a. Preschool

- i. Ages 4-5
- ii. Number of teachers: 2-3
 1. Roles: Teachers and assistant teachers. The lead teacher has been selected for that position based on experience. They all have the same roles when it comes to behavior management; however, the lead teacher is point on communication with teachers as well as classroom decisions.
- iii. Kind of school: private school. Accepts children with all diagnoses as well as those with no diagnoses (most do not have diagnoses at this age unless it is severe or congenital)

b. Kindergarten

- i. Ages 5-6
- ii. Number of teachers: 2-3
 1. Roles: Teachers and assistant teachers. The lead teacher has been selected for that position based on experience. They all have the same roles when it comes to behavior management; however, the lead teacher is point on communication with teachers as well as classroom decisions.
- iii. Kind of school: private school. Accepts children with all diagnoses as well as those with no diagnoses (most do not have diagnoses at this age unless it is severe or congenital)

c. First Grade

- i. Ages 6-7
- ii. Number of teachers: up to 4
 1. Roles: one primary teachers, and three one-on-one teachers. One of the one-on-one teachers is in the classroom most of the time because her student is nearly fully integrated. The other two one-on-ones are out of the classroom with their students (who have Down's syndrome and autism diagnoses) most of the time apart from group meetings, etc.
- iii. Kind of school: Public elementary school, integrated with pull-outs. This means that children with diagnoses or other behavioral issues might be removed from the classroom for different parts of the day, while others stay in the classroom with one-on-ones, and still others stay in the classrooms with no assigned professional. The decision of which service to provide is based on the individual needs of the students and the availability of professionals (who go to the students most in need of assistance).

d. Second grade

- i. Ages 7-8
- ii. Number of teachers: 1
 1. Roles: one primary teacher.

- iii. Kind of school: Public elementary school, integrated with pull-outs. In this class, there is one student with an IEP; however, they were not assigned a one-on-one due to available resources. Instead Teacher 1 at Mast Way Elementary School manages his IEP, and they meet with his education team (the school OT and a special educator) once each week.
 - e. Third grade
 - i. Ages 8-9
 - ii. Number of teachers: 1
 - 1. Roles: one primary teacher.
 - iii. Kind of school: Public elementary school, integrated with pull-outs. In this class, there are no IEPs, etc., so no professionals have been assigned. Some students are pulled out for specified help with subjects in which they struggle.
- 2. Primary methods of behavior management observed
 - a. Preschool
 - i. The behavior management in this classroom is primarily telling the students what to do moment-to-moment. Something is not considered a behavioral problem unless the student or one of their peers becomes upset. In this instance, the teacher mediates this dispute/problem individually. There are enough teachers in and out that they can do this. However, with the chaos, it is difficult to remember what happens on a day-to-day basis. This is an argument for having the tracking system in the classroom.
 - ii. Teacher 1 at Live and Learn Early Learning Center deals with other behavioral issues on an individual basis.
 - 1. When two of the students were having an argument, she mediated
 - 2. When one of the students said “Teacher 1 at Live and Learn Early Learning Center, shake your booty,” she said “no thank you,” and walked away. She probably knew that this student was looking for attention, and did not give it to them.
 - iii. In this particular classroom there are no students with consistent behavioral issues. However, Teacher 1 at Live and Learn Early Learning Center notes that in the past she has used threats of punishments and promises of reinforcements to alter behavior. This was not observed in my observation, so it is not clear whether this was effective or not.
 - iv. Overall impressions: Overall impressions: The management technique in this classroom is based on engagement with the children. The teachers are constantly interacting and engaging the students. The definition of problem behavior in this classroom is also different than in any of the elementary classrooms observed—problem behavior were ones that endangered or upset children, or ones that were in defiance of a request made by a teacher, not those involving noise, calm bodies, etc..
 - b. Kindergarten
 - i. During the observation, the primary behavioral issue was getting the students’ attention. This resulted in the primary behavior management technique being getting the student’s attention in ways such as the following:

1. "Chica chica" then "boom boom" to get their
 2. "Clap your hands if you can hear me" to get their attention
 3. Saying their individual names to get them to pay attention
 4. "If you can hear me touch your toes"
 5. When trying to get their attention to tell them to walk up to the stage, they have to say their names lots of times
 6. "Scoot Dolby doo" "where are you" to get attention
 7. When the kiddos are crawling on the spider web Teacher 2 at Live and Learn Early Learning Center repeated their kids names over and over because they are crowding a student who is at the edge of the net and who could have been pushed off
- ii. Some of the more specific behavioral issues were dealt with on an individual basis
1. One of the kids says "these three kids want to sit next to me for lunch but I only have two sides so I do not know how to fix this" and Teacher 2 at Live and Learn Early Learning Center says "well, we have 3 days left of kindergarten, so how do you think we could use that to our advantage to solve the problem?"
 2. One of the kids is frustrated because another two kids do not want him to climb the tree with them, even though he was up there first, and he had taken a stick and started swinging at them, and Teacher 2 at Live and Learn Early Learning Center explained why it was. Dangerous, had one of the other kids get out because he had flip flops on anyways and they cannot climb trees with flip flops on, and then everything was okay
- iii. Commendation
1. "E and H, you are setting a great example, M you are setting a good example"
 2. "Good job A"
 3. "Thank you E," "thank you E," when they come up nicely and quietly and calmly
 4. "Kindergarten, right now preschool is setting a better example than you are"
 5. "Good job m and h," making an example of the students
- iv. In the moment behavior management
1. One teacher is guiding the conversation and the other is going around one on one and doing behavior management "I need you to be quiet and listen" etc.
 2. "E and L we need to keep our hands to ourselves"
 3. Other teacher goes to one of the students "I need you to look up at Teacher 2 at Live and Learn Early Learning Center"
 4. "I can't start until voices are off"
 5. "G, no no no" and had them walk to the stage again
 6. "L, I will not give you a chair if that is how you are going to sit in it"
 7. "Kindergarten, I am competing with too many voices right now"

8. "Before our song should we be acting crazy and yelling and everything" and the kids say no but they keep doing it
 9. "G and E you are showing me that you do not need a chair tomorrow in the way you are sitting right now"
 10. "I am waiting for voices to be off so that we can go and play"
 11. "B, I need you to walk nicely" "B, no thank you"
 12. "L you need to wait until your name is called"
 13. "Everyone else was respectful when you came up, I need you to be respectful of them"
 14. "L and g, you are showing me that you do not want your chair tomorrow"
 15. "I would hope that kindergarten A will give kindergarten B the same respect they gave you when you were practicing"
 16. Teacher 2 at Live and Learn Early Learning Center goes to talk to the kiddos one on one who are having some behavioral issues
 17. "Kindergarten, this is not a good example for preschool"
 18. Yelling "B, you do not touch that" when he was touching something that could hurt him
 19. "G and L, do you think that is a choice?" When they are climbing on something they definitely should not be climbing on
 20. "E, that is not open"
 21. "A, if you do not want. To be tagged, don't play"
 22. "E, the branches are not open" but the kids kept playing on them
 23. "B and T please don't climb on that"
 24. "E, this is our garden, do we put toys in the garden?"
 25. The kids are still climbing the trees after Teacher 2 at Live and Learn Early Learning Center told them a bazillion times not to
- v. Classroom systems: None. The plan is just to do behavior management in a moment-to-moment basis.
 - vi. Overall impressions: Well-put by Teacher 2 at Live and Learn Early Learning Center, these students had descended into complete anarchy. What did not help was an inconsistent behavior management plan, a lack of follow-through, and poor teacher engagement on the part of the second and third teacher who were with the class. This class needed some actual punishments, which they did not receive.

c. First grade

- i. Public commendation—saying things like “Good job, John Doe” in front of the entire classroom as to set an example for other students, and build the confidence of John. Samples:
 1. H “First graders, as I am looking around I am noticing that student A and student B are focusing and doing their work quietly.”
 2. H “Wow, you guys are really doing a great job this morning”
 3. H “Wow, nice job boys and girls. Are you settling in for morning work?”

4. "X has told showed me that they are ready by calming their body, Y has also showed me that they are ready by calming their body"
 5. H "I love when student N is still sitting and paying attention, then had them come up and do some work in front of the class"
- ii. Directly commenting on, noting, behavior. Samples:
1. "Can I have you stop, look, and listen, with me at the promethean board?"
 2. "Now we are going to complete this worksheet quietly, front and back"
 3. "While everyone is focusing so quietly, we are going to do the lunch count"
 4. After the pledge of allegiance, Teacher 3 at Mast Way Elementary School says "let's sit and be quiet"
 5. Right away when more than one kid started to talk when they were saying who wanted milk with their snack, she said "remember, only one voice at a time"
 6. H "I hope we can stay and work in our spot, if not we are going to have to work somewhere else."
 7. "Child 6 and child 7, please find a quiet place to be working."
 8. "7 I need you watching and paying attention."
 9. H "We are showing that we are listening to M by having calm bodies"
 10. "Student N, I liked when you were sitting on your bottom before, can we do that again?"
 11. "Okay, let us greet each other kindly with calm bodies"
- iii. Systems in place in the classroom
1. At the beginning of the year they together created a class contract about behavior and respect, and they refer back to it throughout the year.
 2. Sparkle star: When children are doing their best (this is different for every child—for one it might be sitting still at the circle, for another it could be doing one math problem, etc.), they get a star. At the end of the week, whoever has the most stars gets a prize.
 3. Marble jar: if as a team they are doing well, they get a marble. When they fill the marble jar, they get some sort of prize or party as a class. This happens approximately 5 times each year.
 4. Kids with one-on-ones have their own behavioral plans, which the one-on-ones and herself keep track of.
- iv. Overall impression
1. There is overwhelmingly a proactive focus on behavior management, with specific attention to noise management, as well as practices which build the confidence of the students (which is also a behavior management technique. It will be important to build in something which builds the student's confidence into the system because this seems to be critical to behavior management and other success.
- d. Second grade

- i. Quickly reminding the students of expected behaviors
 - 1. Ex. Just saying the student's name, expecting that they will know what they are doing wrong
 - 2. Ex. "Walking, Q"
 - 3. When students are speaking out, she stops talking and looks at them
 - 4. Quietly says "we need to keep our voices low" to a student who is talking louder
 - 5. "O, you are being too loud, I need you to quiet down."
 - 6. "Q, you are getting too loud, you need to keep your voice down
 - 7. "Classidy-class" and then they respond "yessity yes" Then "What were the directions we got before snack?" Then reminds them that they have to talk quietly. "If we cannot be quiet, we are going to have a silent snack for the rest of class"
 - 8. "C, wow, did you forget our directions?"
 - 9. Remember, you are not allowed to talk during spelling. Also, make sure you protect your work when you are doing your work so that your peers do not see it. "
 - 10. "Wow boys and girls, I called on each of you because you were focusing so well. What happened when you went back to your seats?"
 - 11. "G, please make sure you are reading to yourself"
 - 12. "S and E, what is going on?" when they are talking
 - 13. "M, you need to be in your seat reading, you cannot get up."
 - 14. "R, you should be reading right now, not looking at books. Please also go to your spot."
 - 15. "B, you need to move a little bit faster, we are waiting on you."
 - 16. "Remember, we all need to be quiet and listen respectfully while our classmates read"
- ii. Public commendation
 - 1. "S, great job sitting criss cross quietly"
 - 2. "Thank you, E"
 - 3. "S, and G, you may move your clips up, thank you for sitting on the rug and doing what you were asked."
 - 4. "Thank you J for picking up your table"
 - 5. "Let's see who is following directions right now" then lists names "J, thank you for following directions," etc.
- iii. Classroom systems
 - 1. Clips: Every day, they start in the middle of the chart. They will be able to move their clip up if they have good behavior. They will have to move their clip down if they have poor behavior. Even if they move their clip down, they can move it back up if they change their behavior. If they reach the top of the chart, they get a small prize at the end of the day.
 - 2. Individual IEP: One of the students has an individual IEP for behavioral problems. With this student, she lets a lot of things go as long as his behaviors are not disrupting other students. If he completes the goals

that are a part of his IEP, he gets a reward such as filling the mailboxes, etc.

iv. Overall impression

1. The students are very self-sufficient, and Teacher 1 at Mast Way Elementary School does not have to/do much behavior management. Compared to first grade, the focus has switched from teaching kids to learn more to actually teaching kids. Teacher 1 at Mast Way Elementary School also has very little tolerance for poor behavior, which might have looked quite different at the beginning of the year. There is also little obvious confidence building, but it is still there. Finally, she does not really have any children with behavioral issues, so this may impact behavioral management practices in the classroom. Also, the behavior management is responsive, rather than proactive.

e. Third grade

i. Commendation

1. "Thanks B for being ready," thanks "M for being ready"
2. "Boys and girls, I like the idea that L just had"
3. "I see some tables where all of the students have their writing folders, and I see some tables where they do not have their writing folders"
4. "Alright, so, M is ready, O is ready, thank you for being ready G,"

ii. In-the-moment reminders of expected behavior

1. "J, are you ready to focus?"
2. "J, remember about your chair? You can use it correctly, or you can get out of it"
3. "J, you can tuck your chair in and stand or sit"
4. "J," just says their name to get their attention and encourage focus
5. "J, I need you to show us how you are paying attention
6. "I feel like the round table over there is not listening to me," "J, eyes on me"
7. "JA, can you please stand up and look around the room at what other kids who are done are doing."
8. "Eyes on your paper," to remind students (class as a whole) to pay attention
9. "So, JA, what are you getting," to remind them what to get to start working
10. "Boys and girls, the noise volume is just a little too loud because I am saying the student's names who need to come get their old writing, and they cannot hear me"

iii. Classroom systems

1. Green/red/yellow light system: The students start with a clip with their name on it on the green circle. When they have a behavioral issue they are moved to the yellow one, and so on.
 - a. Teacher 2 at Mast Way Elementary School does not normally have this kind of class system; however, she was out for one

week in the spring and during that week the kids were crazy with the substitute teacher. After that, the kids asked for a classroom system to know where they stood.

iv. Overall impressions

1. The students are generally able to manage their own behavior to the point where learning and work can get done successfully, apart from a couple of instances that were still benign. Teacher 2 at Mast Way Elementary School has a really positive and trusting interaction style with her students that allows them to take on responsibility, and probably feel more comfortable in the classroom, which enhances learning.

Resulting System Requirements

- Must be adaptable such that each student has different behaviors that are monitored, and different rewards that they receive for each behavior.
 - Teacher 3 at Mast Way Elementary School sets bars differently for each student to receive a sparkle star because students have different strengths and weaknesses.
 - Teacher 1 at Mast Way Elementary School has different expectations for her one student who has an IEP (this student's behaviors are only reprimanded if they disrupt the other students in her class), and this needs to be accommodated for.
 - Behaviors that need to be monitored are very different across grade levels. For example, Teacher 1 at Live and Learn Early Learning Center did not mind when her preschoolers made a lot of noise because it wasn't otherwise harmful. However, this was one of the main concerns of Teacher 2 at Live and Learn Early Learning Center, Teacher 3 at Mast Way Elementary School, and Teacher 1 at Mast Way Elementary School. The third grade students did not have much of a problem managing their noise level themselves.
- Must be adaptable such that the teacher or administrator of the system can change the behaviors being monitored or the rewards for those behaviors throughout the year.
 - One of the students in Teacher 3 at Mast Way Elementary School's class originally had the privilege of going on a walk when he was well behaved. However, they started abusing this privilege by going into the bathroom and doing things like peeing on the walls. This privilege was taken off of the list of things that the student could earn.
- Must be able to have many teachers give input on the same student in the system.
 - In Teacher 3 at Mast Way Elementary School's class, she as well as a one-on-one and any other paraprofessional keeps track of the behavior plans of students with IEPs. All of these individuals would need to be able to give input on any application or system.
 - At Live and Learn early learning center, there are few classroom behavioral systems because the classrooms move around in the center so much (gym, classroom, outdoor classroom, communal playground). This would allow a consistent behavior management plan across all of these spaces.
- The system must give the option for teachers to set rewards/punishments so that students can earn back things they have lost.
 - One of the students in Teacher 3 at Mast Way Elementary School's class used to spiral out of control when he lost part of recess and knew that he could not earn it back. She

says without the ability to earn privileges back, students have little motivation to improve their behavior.

- In Teacher 1 at Mast Way Elementary School' classroom, the students can earn back points they have lost with the clip system. She has found this system to be quite effective.
- Must allow teachers to arrange students such that the ones who will have the most behavioral issues and whose behavior will be tracked the most are most accessible. However, all of the students should be available to track.
 - Teacher 3 at Mast Way Elementary School says that every day is different with her students. Though some of the students regularly have behavioral issues, other may have them periodically, and tracking when these behavioral issues crop up may help the teacher figure out why they are appearing.
- Should remind the teachers to be proactive about behavior management.
 - In classes such as Teacher 2 at Mast Way Elementary School and Teacher 3 at Mast Way Elementary School where they mentioned the behavioral requirements ahead of time, the students seemed to have fewer behavioral problems than in classes such as Teacher 1 at Mast Way Elementary School and Teacher 1 at Live and Learn Early Learning Center.
 - *(Back this up by research)*
- Should remind teachers to follow through on rewards and punishments. (this could be in the form of a reminder, and having to check off when they do something)
 - With Teacher 2 at Live and Learn Early Learning Center, she had no follow-through for the punishments she mentioned to the students in an effort to get them to focus. According to operational conditioning, this does not teach the students anything.
 - When the students were misbehaving while practicing their graduation, she said that they would not get chairs at graduation if they kept misbehaving. This did not happen though the students kept on misbehaving.
 - Though the students were horribly behaved, she said to them, "you all did such a good job practicing right then, we are going to have some free time outside." This was reinforcing their poor behavior.
 - She said that one of the games that they were playing was a "have-to;" however, when one student said that they did not want to play, Teacher 2 at Live and Learn Early Learning Center let them stop playing. After this happened, many of the other students also stopped playing.
- Should remind the teachers to commend their students when they are exhibiting positive behaviors.
 - Teacher 1 at Mast Way Elementary School also commends her students when they do what she asks, though not as frequently as Teacher 3 at Mast Way Elementary School.
 - Teacher 3 at Mast Way Elementary School says that by commending her students publicly, it increases their confidence as well as encouraging them to keep trying as hard.
 - *Find research on confidence, how it impacts learning in the classroom, and how to instill it*
- Must remind the teachers to remind their students about transitions

- In Teacher 3 at Mast Way Elementary School's, Teacher 1 at Mast Way Elementary School', and Teacher 2 at Mast Way Elementary School's classes, they gave their students warnings about when they would be transitioning from one activity to another. Teacher 3 at Mast Way Elementary School mentioned that this gives the kiddos time to prepare themselves, and that it seems to make the transitions go smoother because the kiddos have less comments along the lines of "wait, I am not done."
- In Teacher 2 at Mast Way Elementary School's class, after she gave them many warnings about transitioning back to the rug for more directions, they did so calmly and without saying a word.
- The schedule which the teachers have set in the application must be easily adaptable.
 - Teacher 2 at Mast Way Elementary School and Teacher 3 at Mast Way Elementary School changed their schedules as I was sitting observing. This is something that seems to happen a lot based on how the kids are doing with particular activities. Because an accurate schedule is important for warnings about transitions, it is important to have it be accurate all of the time.
- The system should provide teachers with ideas of how to handle different behaviors of their students.
 - When one of the students in Teacher 1 at Live and Learn Early Learning Center's class did not want to put on sunscreen, she said "I bet we can do this in under 20 seconds, what do you think?" by making it a game and having the student do some counting, the student was distracted by having the sunscreen put on. This is something that inexperienced teachers may not know to do, and suggesting it is important.
 - To another child, she told them that it was a cheek massage
 - When one of the students in Teacher 1 at Live and Learn Early Learning Center's class said "Teacher 1 at Live and Learn Early Learning Center, shake your booty," she said, "no thank you," not giving them the attention they were seeking. Helping teachers recognize these kinds of behaviors and respond to them effectively would be helpful.
- The system should remind teachers to tell students why they should or should not do a certain behavior.
 - Teacher 1 at Mast Way Elementary School did not tell the students why they were being demoted on their clip board, while Teacher 3 at Mast Way Elementary School, Teacher 2 at Mast Way Elementary School, Teacher 1 at Live and Learn Early Learning Center, and Teacher 2 at Live and Learn Early Learning Center did so.
 - Teacher 1 at Live and Learn Early Learning Center: One of the kids asked "why do we need to clean, it's so boring," and Teacher 1 at Live and Learn Early Learning Center responded "I know we do not like to clean, but we have to take care of the toys so that we can keep playing with them"
 - Teacher 1 at Live and Learn Early Learning Center: "The sooner we clean up, the sooner we can go outside"
 - Teacher 2 at Live and Learn Early Learning Center: "Anyone at live and learn can come to the graduation, so we want to make sure we have our listening ears on and respectful bodies so everyone stays safe and happy" explaining why they have to have better behavior

- *Research on how telling students why they are being punished/rewarded impacts their learning*
- The system must be accessible for teachers who are always busy and moving around, as well as for teachers who have more of a sedentary day managing their students.
 - The primary method of behavior management in Teacher 1 at Live and Learn Early Learning Center's class is engaging the students so they do not have time for problem behaviors. She would need to be able to use the system while still moving around and engaging with the students as she does currently.
- The system must be able to compare the effectiveness of different interventions (based on the time that they are implemented and the resulting behaviors of the students).
 - This is how Teacher 1 at Live and Learn Early Learning Center said that it would be helpful for her. Because behavioral issues happen in specific situations for her, it would be most helpful if it could compare which interventions they have tried/what they're currently trying/what is working best.
- The system should allow for the teacher to take a recording of their teaching, and then play it back and self-score their teaching on a number of different dimensions (follow-through, consistency, accuracy, engagement, effectiveness, etc.) so they could reflect on their performance, especially in situations that are so crazy that they do not know what they are saying. For example, I believe that if Teacher 2 at Live and Learn Early Learning Center were to reflect on the following situations, she would see how ineffective they were:
 - Though the students were horribly behaved, she said to them, "you all did such a good job practicing right then, we are going to have some free time outside." This was reinforcing their poor behavior.
 - She said that one of the games that they were playing was a "have-to;" however, when one student said that they did not want to play, Teacher 2 at Live and Learn Early Learning Center let them stop playing. After this happened, many of the other students also stopped playing.
- Furthermore, I believe Teacher 1 at Mast Way Elementary School would realize how un-engaging her teaching style is.
- *Research on how reflection can improve performance.*

Secondary Online Research

After conducting preliminary research, distributing her questionnaire and then analyzing the results of that questionnaire, and conducting observations and then analyzing the results of those observations, Alexandria conducted secondary online research to answer some remaining questions. Alexandria's secondary research addressed the following topics:

- Reviews of competitor applications (Class Dojo, PBIS)
- The effectiveness of removing recess as a punishment
- The effectiveness of proactive behavior management versus retroactive behavior management
- The impact of confidence on student learning
- The effect of self-reflection

Based on this research, Alexandria identified functions that she would include in the system, including:

- Reminders to use proactive behavior management strategies
- Access to a database on behavior management strategies (including confidence building)
- The ability for teachers to self-reflect on their teaching practices

Online Research: Post-Questionnaire and Post-Observations

Note that throughout this document, comments in italics and surrounded by asterisks are notes or interpretations made by PI Alexandria Trombley.

- Review of Clasdojo application
 - How One-on-One is different from ClassDojo
 - You can only compare behaviors based on time
 - You cannot add different behaviors to monitor
 - Reviews note that this would be very helpful
 - It does not keep track of classroom management systems
 - It does not allow you to set notifications—the only kinds of notifications are when parents/other teachers interact with you
 - You cannot add your own comments when logging behaviors
 - You cannot monitor different behaviors for different students
 - Does not provide tips on behavior management
 - Cannot record/self-score themselves for improvement
 - Users are not provided with in-the-moment behavior management suggestions
 - *The goal is for parents to communicate efficiently and effectively*
 - Pros of ClassDojo
 - Easy to use interface
 - Engaging for those in education because it is fun—has animations, etc.
 - Reviews of ClassDojo
 - <https://edshelf.com/tool/classdojo/>
 - <https://www.edsurge.com/product-reviews/classdojo>
 - It is too much of a hassle for what high school teachers are looking for—they feel as though they get tired of it by the end of the day.
 - Maybe there could be some kind of incentive for teachers to use it more?
 - Maybe it could have different settings so they could give overall scores at the end of a class.
 - The negative comments are primarily from middle and high school teachers who feel that the design of the app is too young for their students.
 - Another comment is that making 7 different classes with 25 students each is too much when you are creating a profile for every kid in your class. The system needs to be arranged such that schools make profiles of all of the kids, and then teachers add these kids to their classrooms.
 - Another comment said that the biggest problem they had with ClassDojo is the consistency with which they use it. They said if there was a reminder to use it that it would be very helpful. The user needs to be reminded to record data about their students in class.
 - One comment said that uploading the student's pictures for their button would be helpful

- Review of PBIS application
 - Differences between PBIS system and One-on-one
 - PBIS is a whole suite of applications which is recommended to be implemented under the supervision of a PBIS Facilitator hired by each school district.
 - This application can monitor the behaviors of individual children, classes, and the entire school; however, the design makes it difficult and rather daunting (which is why the facilitator is required).
 - One-on-one would combine more of the functionality of PBIS with the design and simplicity of ClassDojo.
 - Reviews of PBIS
 - <http://ablogaboutschoo.blogspot.com/2011/11/pbis-inherently-bad-or-just-badly.html>
 - People do not like it because it measures success of the teacher and the school by “out of classroom referrals” which are the times a child goes to the principal/guidance counselor/etc.. Teachers stop sending kids to the office because they know that is how it is measuring their success—this does not help the kiddos.
 - They believe that the success should be measured by academic time lost to behavioral intervention. This would be a good measure to potentially have teachers record.
 - Parents are upset because in the reward system, kiddos who are poorly behaved get more reward bracelets than those who are always well-behaved—in one-on-one setting the rewards would still be up to the teacher.
 - http://www.edweek.org/ew/articles/2013/08/28/2pbis_ep.h33.html
 - The focus is on school-wide disciplinary practices—The focus of one-on-one will be on the individual student.
 - <http://www.city-data.com/forum/education/1753263-pbis-why-program-should-cut.html>
 - Criticisms include the people who develop these programs not actually knowing how school works, and how additional work such as this is overwhelming and not helpful
 - Teachers are frustrated with the forms, trainings, and meetings required to implement this system
-
- Research question: Is taking away recess effective?
 - Barros, R. M., Silver, E. J., & Stein, R. E. (2009). School recess and group classroom behavior. *Pediatrics*, 123(2), 431-436.
 - Kids need at least 15 minutes of recess every day for classroom performance to not suffer
 - Jarrett, O. S., Maxwell, D. M., Dickerson, C., Hoge, P., Davies, G., & Yetley, A. (1998). Impact of recess on classroom behavior: group effects and individual differences. *The Journal of educational research*, 92(2), 121-126.

- Kids fidgeted less and focused better when they were given recess versus when they were not given recess
 - *Dakota County Public Health Department. (2014). Smart Choices: Healthy Recess. Retrieved from: http://www.actionforhealthykids.org/storage/documents/teams/minnesota/Recess_Moves_A_Toolkit_for_Quality_Recess.pdf*
 - To reduce a problem behavior, a new behavior should be used as a replacement—punishment should not be used except for in extreme circumstances
 - Removing recess is a punishment
 - Punishments can be effective when they are “effective consequences”—when they are logical, and relate to the problem behavior. For example, if someone is not paying attention because they are talking to a friend, moving them away from that friend would be an effective punishment.
 - It is better to add in a free time during the day which can be taken away to complete work if the child does not complete work due to poor behavior/lack of focus/etc.
 - It is most often the kids who need recess whose recess time is reduced or taken away altogether
- Research question: Is proactive behavior management more effective than retroactive behavior management?
 - Clunies-Ross, P., Little, E., & Kienhuis, M. (2008). Self-reported and actual use of proactive and reactive classroom management strategies and their relationship with teacher stress and student behaviour. *Educational Psychology, 28*(6), 693-710.
 - Excellently prepared study reports that teachers who use reactive forms of behavior management experience significantly more stress than those who use proactive strategies, and their students exhibit significantly fewer on-task behaviors.
 - Poor behavior by one student can decrease the learning time for many students in a classroom setting
 - A proactive intervention is one where the environment is changed to mitigate a behavioral problem before the behavioral problem presents itself
 - This usually results in the teacher positively commenting on student behavior to encourage it in the future
 - A reactive intervention is when the behavior intervention occurs after the poor behavior
 - This usually results in the teacher negatively commenting on student behavior to discourage it in the future
 - Significant research suggests that proactive behavior management techniques enhances the classroom environment, increases student learning, increases on-task behavior, and reduces teacher stress.

- Wheldall, K, & Merrett, F. (1988). Which classroom behaviors do primary school teachers say they find most troublesome? *Educational Review*, 40(1).
 - They found that teachers find talking out of turn and disrupting other students the most troublesome.
- Research question: How does the confidence of student impact their learning?
 - Dweck, C. S. (2007). The perils and promises of praise. *Kaleidoscope, Contemporary and Classic Readings in Education*, 12.
 - Providing praise on successfully completing a task may make kids strive to do work that they know that they can do well, rather than actually learning. For example, If Sam always does well on his math worksheets, he is going to seek out being successful at math rather than learning.
 - They may reject opportunities to learn if they think they are going to make a mistake
 - The skills of persistence and dedication in the face of obstacles are more important for successful learning, and may result in better learning in the future.
 - When kids do fail, they try to cover it up rather than taking responsibility and learning from it.
 - The moral of the story is that teachers should make sure they are praising effort as well as successes.
 - When children believe that they are capable or incapable in a black-and-white way, they have a difficult time recovering from setbacks.
 - When students who are praised for their intelligence develop a fixed mindset and then fail, they think that they concretely are not smart, and have reduced confidence from that point on when approaching difficult tasks.
 - With the method outlined below, students have been found to have increased academic performance, increased motivation for schoolwork, and increased focus for their work.
 - **Ways to build confidence: tell the child that you know they can do something (to counteract a black and white perspective of being able to do something or not being able to do something), give them the opportunity to take responsibility and make up for their mistakes, and recognize effort instead of their success (when you praise effort, the children will seek out opportunities to put in effort, not rejecting opportunities where they could fail).**
- Research question: how does telling students why they are being punished/rewarded impact their learning of positive behaviors?
 - Maag, J. W. (2001). Rewarded by punishment: Reflections on the disuse of positive reinforcement in schools. *Exceptional children*, 67(2), 173-186.
 - Should always start behavioral interventions at positive reinforcement
 - Behavior management has always been mentioned by teachers as an area in which they feel they need more training

- Positive reinforcements include praise, classroom behavior management systems such as marble jars and sparkle stars, etc.
 - For any behavior management technique to be effective, it needs to be consistent, even if the students are changing classrooms
 - Punishment of students is often in itself a negative reinforcement for teachers because the student’s problem behavior usually immediately goes away, even for a brief amount of time.
 - Often when a teacher is giving punishment they do not explain why they are doing it, so even if the child were to learn from the punishment, they would not know what to improve upon—on a cognitive level, they do not know where to store that information. It is important to be very clear with children who are putting information into their little schemas.
 - If a student is doing something you don’t like, give them something else that meets the same need. If the student is doing something good, reinforce the effort they are putting in.
 - Students may be acting up because they do not like an activity. Instead the teacher should give them options to choose their own activity which would accomplish the same learning goal.
 - *Students need to be able to trust their teacher to tell them that they do not like something.* because when they make this known, the teacher can help the student.

- Research question: If someone reflects on their own performance of a particular task, will it improve their performance on that task?
 - Langley, G. J., Moen, R., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. (2009). *The improvement guide: a practical approach to enhancing organizational performance*. John Wiley & Sons.
 - Page 8: Changes can start on a small scale by reflecting, changing behavior, then observing how that change impacts people and situations in the workplace, or keeping track of work performance in some other measureable way.
 - Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of educational research*, 79(2), 702-739.
 - People must be an active participant in their professional development—if they do not want to change their practices, their practices will not change.
 - The process of learning by doing is important, especially since a lot of professionals cannot stop doing to start learning.
 - Reflection is critical to learning as a professional

- Research on how teachers can gain the trust of their students.
 - Watson, M., & Ecken, L. (2003). *Learning to Trust: Transforming Difficult Elementary Classrooms Through Developmental Discipline*. Jossey-Bass, A Wiley Company, Customer Care Center-Consumer Accounts, 10475 Crosspoint Blvd., Indianapolis, IN 46256.

Special Educator Interviews

Alexandria chose to interview special educators to gain a better sense of their needs and perspectives as users of Alexandria's system.

Prior to conducting these interviews, Tufts University Investigative Review Board (IRB) granted this research the status of 'Exempt.' Additionally, Alexandria gained informed consent from the teachers who she observed prior to conducting the observation.

Prior to conducting interviews, Alexandria also developed a series of questions to ask the special educators. However, the interviews followed more of an un-structured, conversational format. The initial questions primarily addressed:

- Impressions of the proposed system
- Similar applications currently in use (benefits, drawbacks)
- Behavior management procedures they find effective
- Data storage and analysis

Alexandria conducted four interviews with special educators. From these interviews, Alexandria gathered support for other user needs and system requirements that she identified previously, and identified functions that special educators would appreciate having in the application.

Tufts IRB Approval



OFFICE OF THE VICE PROVOST FOR RESEARCH

Social, Behavioral, and Educational Research
Institutional Review Board
FWA00002063

Title: Design, Development, and Verification of Application for Streamlining of Behavior Management in Elementary Classrooms

June 28, 2016 | Notice of Action

IRB Study # 1606003 | Status: EXEMPT

PI: Alexandria Trombley
Faculty Advisor: Kristen Wendell
Review Date: 6/28/2016

The addition of interviews to the above referenced study does not affect the status of Exempt Category 2 as defined in 45 CFR 46.101 (b). For details please visit the Office for Human Research Protections (OHRP) website at: [http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101\(b\)](http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101(b))

- The Exempt Status does not relieve the investigator of any responsibilities relating to the research participants. Research should be conducted in accordance with the ethical principles, (i) Respect for Persons, (ii) Beneficence, and (iii) Justice, as outlined in the Belmont Report.
- Any additional changes to the protocol or study materials that might affect the Exempt Status must be referred to the Office of the IRB for guidance. Depending on the changes, you may be required to apply for either expedited or full review.

IRB Administrative Representative Initials: 

Informed Consent Form

For her senior honors thesis, Alexandria Trombley will be creating an application called 'One-on-One,' which will help classroom teachers such as yourself record information about the behavior of students, and analyze the recorded data to have a better understanding of the students' problem behaviors, including their triggers and repercussions. Hopefully, an application such as this would help teachers who do not have access to the appropriate amount of support staff still provide one-on-one behavior management for their students in need of this service. Alexandria is conducting a research study in order to inform her thesis and the creation of the application. You are being asked to participate in the research by allowing Alexandria to interview you on your current behavior management practices, protocols specific to special education such as current methods of data collection, analysis, and presentation, and your use of technology to complete your daily tasks. This interview will take approximately 30 minutes. During this time, Alexandria will be recording the information you provide for future reference. Please note that your participation in this interview is optional, and you are more than welcome to pause or stop participating at any time.

Projected Risks: None.

Projected Benefits: Involvement in the design of an application that could one day be an asset in your classroom.

Confidentiality statement: Apart from the grade levels that you work with, no identifying information will be collected during this interview regarding yourself, or your students.

Compensation: None.

If you have any questions regarding this research, please contact the Principal Investigator Alexandria Trombley via email at Alexandria.Trombley@tufts.edu or on her cellphone at 603.397.9085.

By signing below, you are consenting to Alexandria Trombley conducting the described interview, as well as to using the collected information in her application design and development.

Participant Signature

Date

Participant's Printed Name

PI's Signature

Date

PI's Printed Name

Interview of Special Educator 1

- General Impressions
 - She thinks that having it be portable would be important because it is important to know what motivates the student
 - Sometimes the consequence is the motivator
 - Every time the student hits they get all of the attention
 - She sees this being good because it will validate things what the teachers are saying
 - Have to be able to change the schedule for the day
 - Having the consult meetings would be really helpful
 - Preference assessment would be really helpful--make it clear what the students incentives are
 - You have to be able to individualize the system--one behavior management system for one student will not work for another
- Do you currently use any applications for behavior management?
 - One system -- part of constellations
 - Loved the concept
 - Was not fast enough for her
 - Looking at it more for the academics
 - They wanted to put both academics and behavior in one
 - It was not flexible because it had to have an administrator approve everything, and it was difficult for the system to be flexible in what data is recorded, etc.
 - Could the data be sent to the special educators in real-time? Maybe have a 'need-support' button
- Behavior management that they do now
 - What can we use to motivate the student?
 - They start behavior change with an external motivator
- Data collection thoughts
 - Inner agreement
 - The data does not need to be perfect, it just needs to be a trend
 - Loves the idea of being able to download a graph and being able to go to special educators and being more specific
 - They want to determine why the behavior is occurring
 - Usually behavior is reinforced by something -- this is what she normally looks for
 - One student where every time the light goes on they scream
 - However, sometimes the antecedent is further ahead of the moment that the behavior occurs
 - One of the students goes "scrubby scrubby" when they wash their hands and ...
 - Behavior is not bad or good
 - WHAT IS THE PURPOSE OF THE BEHAVIOR?????????????
 - Behavior is learned, and we are somehow reinforcing it
 - It would be powerful to see how you are reinforcing the negatives

- She would like to compare behaviors to...
 - Time of day
 - Response of the teacher
- *From my research, I have found that it would be helpful for teachers to be able to download data collected through this system. I know that in the world of special education there is specific information which is needed for specific meetings, documents, etc.. What kind of information would be helpful for you to have in this kind of downloaded document?*
- In this app, I want to give teachers some suggestions on how to improve their interactions with their students. I have a couple of questions:
 - Is there any particular language you use when addressing students who are having behavioral difficulties?
 - How do you gain the trust of your students?

Interview of Special Educator 2

- From my research, I have found that it would be helpful for teachers to be able to download data collected through this system. I know that in the world of special education there is specific information which is needed for specific meetings, documents, etc.. What kind of information would be helpful for you to have in this kind of downloaded document?
 - Typically this is fly by the seat of your pants, and a lot of tallying
 - They have a period of time and every few seconds they record whether the student is doing a particular kind of behavior
 - The less obtrusive the system, the more likely the teacher is to use it
 - Teachers do not like to analyze behaviors because it takes some time
 - Most teachers are not trained in BA
- Do you currently use any applications for behavior management?
 - No
 - They have several levels of interventions
 - She does not have the students who have one-on-ones
 - She does not do a lot of digital behavior analysis tools
- Is there any particular language you use when addressing students who are having behavioral difficulties?
- How do you gain the trust of your students?
 - Works really hard at developing a relationship with them
 - Can get a lot further on behavior management than classroom teachers
 - Able to break down the behavior better and understand it on a deeper level
 - Comes at it from a different perspective
 - Used to small bits of successes over a period of time instead of a one-and-done solution
 - Teachers have a different agenda because they are working with so many students
 - Students like structure and expectations

Interview of Special Educator 3

- From my research, I have found that it would be helpful for teachers to be able to download data collected through this system. I know that in the world of special education there is specific information which is needed for specific meetings, documents, etc.. What kind of information would be helpful for you to have in this kind of downloaded document?
 - Constellations behavioral
 - They contract a behavioral analyst
 - Look at behaviors over preferred activity/non-preferred
 - Look at things they want to increase and decrease
 - Their data forms look different based on the kid and their goals
 - ABC
 - They had used an app but it was cumbersome
 - They have a summary that goes out at the end of the semester
- Do you currently use any applications for behavior management?
 - If so, what do you find to be the positive aspects of this application?
 - What do you find to be the negative aspects of this application?
 - No
 - They do use a motivator, which reminds you to record data every so often
 - They compare data to a randomly selected student in the classroom
 - Random selection for this peer
- Is there any particular language you use when addressing students who are having behavioral difficulties?
 - For example, do you explain what they are doing that is inappropriate? Do you provide better solutions for their needs? Etc.
 - They use a strength based approach (positive language)
 - They use a lot of social thinking (zones of regulation language)
 - There are characters who match the different problems, and they refer to them
 - Book “power of our words” everything we say has importance--talks about improving the report with students
 - Always go with good intent--instead of yelling at them to walk, ask “where is the fire, are you okay?”
 - Use humor
- How do you gain the trust of your students?
 - Figure out where kids are at and where their interests are, make them feel comfortable and respected
 - You have to earn their respect, too
 - A lot of adults think they are automatically due respect
 - The more you spend time with them and the more you understand them, the better report you are going to have
 - Don't force them to live in an adult world--an incentive plan should not be for the adult, it should be for the student.

In special Ed world, it has always been data driven, but it has become more intense. They have to show growth in a variety of areas.

Interview of Special Educator 4

- From my research, I have found that it would be helpful for teachers to be able to download data collected through this system. I know that in the world of special education there is specific information which is needed for specific meetings, documents, etc.. What kind of information would be helpful for you to have in this kind of downloaded document?
 - If you want to discuss a length of time, a graph would be helpful because it would show across a period of time
 - This would be easy to understand.
 - A narrative could be made from the graph once it has been downloaded.
- Do you currently use any applications for behavior management?
 - They have used a variety of things
 - Most recently they had a student who had a lot of troubles with behaviors
 - They implemented a reward system with technology
 - This helped remind him that he was working towards something
 - At different times during the day he was given a list of things he was working on
 - If he could earn so many points, he would get the reward
 - It was helpful if the student could look at his paper to see how many checks he had at the time
 - His rewards were not during times that were important to learning
 - She thinks a lot of times it is earning a privilege, or having a realistic consequence
 - Occasionally she would work with a special needs child
 - Sometimes regrouping and having the student start over again helped them be in control of their actions
 - The systems are discrete; however, the students are able to view them to gauge where they are
 - No technological solutions
 - In general, consistency is important
 - She thinks that this is a really important topic because teachers have so many responsibilities, and this would help take some of the burden off of them

User Profile

To gain a better sense for her users, their strengths, and their impairments that could impact how they interact with her system, Alexandria developed a user profile. This user profile outlines the following:

- Occupational description
- Demographic characteristics
- Education and Certification
- Skills
- Potential impairments
- Performance-shaping factors

Notably, because classroom teachers and special educators will likely interact with Alexandria's system in a similar way, she combined the user profiles for individuals with these two different occupations into one cohesive document.

By developing this user profile, Alexandria identified the following performance-shaping factors that could impact how users interact with her system:

- Stress
- High cognitive load
- Negative affect
- Lack of available time
- Administrative limits
- Computer anxiety
- Low skill level

Alexandria also identified and documented methods for mitigating these performance-shaping factors.

User Profile of Elementary School Classroom Teachers and Special Educators

Note: Though the daily tasks of these individuals are different, they fall into the same user group because they have similar skills, and because they will not work with 'One-on-One' in critically different ways.

Occupational Description: Classroom Teacher

Elementary school teachers are primarily responsible for instructing their students on topics such as science, math, language arts, and social studies. Other responsibilities of elementary school classroom teachers include:

Developing lesson plans ¹
Managing behaviors of students in the classroom ²
Communicating with parents to update them on the progress or regress of their student ²
Identifying strengths and weaknesses of students ²
Advocating for students who need additional resources ²
Creating a positive educational climate for students ¹
Meeting school-wide performance goals ¹
Grading and giving feedback on the work of students ¹
Integrating competencies, goals, and objectives into lesson plans ¹
Preparing and distributing required reports ¹
Observing and evaluating the performance of students ¹

Occupational Description: Special Educator

The primary goal of special education teachers is to teach elementary school subjects to educationally and physically handicapped students. Other responsibilities of special education teachers include³:

Teaching students through different educational techniques, such as multisensory learning, and repetition ³
Developing individual education plans (IEPs) designed to promote students' physical or social development ³
Communicating with parents, administrators, testing specialists, social workers, and other professionals to evaluate and update the IEP based on the student's performance ³

¹ American Job Exchange. (n.d.). Elementary School Teacher Job Description. Retrieved from: <http://www.americasjobexchange.com/elementary-school-teacher-job-description>

² Gill, E. (2016). How to Become an Elementary School Teacher – Salary, Job Description and Educational Requirements. *Concordia University*.

³ Special education teachers. Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook, 2016-2017 Edition*.

Maintaining accurate and complete student records (completeness as defined by school and state regulations) ³
Advocating for students who need additional resources ²
Creating a positive educational climate for students ¹
Meeting school-wide performance goals ¹
Preparing and distributing required reports ¹
Observing and evaluating the performance of students ¹

Demographic Characteristics

<p>Age⁴:</p> <p>Average = 42.4</p> <p>Under 30: 14.9%</p> <p>30 to 49: 54.3%</p> <p>50 to 54: 12.3%</p> <p>55 and over: 18.5%</p>
<p>Race⁴:</p> <p>White: 81.2%</p> <p>Hispanic: 8.7%</p> <p>Black: 7.1%</p> <p>Asian: 1.7%</p> <p>American Indian/Alaska Native: 0.4%</p> <p>Two or more races: 0.8%</p>
<p>Sex⁴:</p> <p>Male: 10.7%</p> <p>Female: 89.3%</p>

⁴ U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2011–12.

Education/Certification

Highest degree held⁴:

Bachelors: 41.7%

Master's: 46.1%

Educational Specialist: 8.7%

Learning Style⁵

Teachers may have a variety of different learning styles. Potential learning styles are outlined below:

Visual: Preference for seen and observed things, such as pictures and diagrams. Visual learners can be accommodated in the following ways:

- Visually highlighting important information
- Present information in diagrams or charts
- Use flashcards to teach facts
- Write information out for the individual to read
- Allow changes in font style and background color to enhance readability

Auditory: Prefer to receive information through listening. Auditory learners can be accommodated in the following ways:

- Engaging in conversation about the subject matter
- Record information to listen to again later
- Read material aloud to these learners
- Have them put material to a rhythm or song

Kinesthetic/Tactile: Prefer to learn through physical experiences, such as touching, feeling, and doing. Kinesthetic/tactile learners can be accommodated in the following ways:

- Utilize checklists
- Experiment with sizes of writing utensils to find most appealing
- Use role-play to exemplify concepts
- Take notes while reading or listening
- Use some sort of body movement while learning information

⁵ University of Dartmouth Staff. (2016). Tips for Educators on Accommodating Different Learning Styles. *UMASS Dartmouth*.

Skills: Classroom Teacher

Because of the variety in teachers' ages, educations, and backgrounds, they may have different skills. However, some skills common to Elementary school teachers include:

Patience. Teachers must be patient with their students, who may take a long time to learn skills. This patience may carry over to other parts of their lives ⁶ .
Adaptability. Teachers have to adapt lesson plans for students who learn differently, and for those of different skill levels ⁶ .
Teamwork. Teachers not only must work in teams with other teachers, but they have to teach their students how to successfully work together in teams ⁶ .
Communication. Teachers must find the best way to communicate with their students, the parents of their students, and other teachers and professionals in their school. Therefore, teachers are versed in a wide variety of communication techniques ⁶ .
Multitasking. Among other activities, Elementary school teachers and special educators balance teaching many different topics, classroom behaviors, student's work, documentation, and professional development. This balance requires multitasking ⁶ .
Memory. To successfully multitask, one needs to have a strong memory. Teachers are able to remember all of the required activities during the day ⁷ .
Time Management. Teachers must fit much required content into their curriculum. To do this successfully, they must have strong time management skills ⁷ .
Guiding Discussions. In schools where the focus is on student-centered learning, teachers must guide the conversation so that students learn the important content while also staying focused ⁷ .
Use of computers. Notably, with trainings and personal experiences, some teachers may be quite skilled at using computers and computer programs ⁸ .

Skills: Special Educator

Because of the variety in the ages, educations, and backgrounds of special educators, they may have different skills. However, some skills common to special educators include:

Social Perceptiveness. Because of their training, as well as experiences in schools, special educators must be able to perceive their social situation, and respond to it appropriately ³ .
Instruction. Special educators are skilled at teaching skills and information. Special educators must be familiar with a variety of different educational techniques to successfully educate the variety of students they work with, so they are well-versed in different instructional methods ³ .

⁶ QuinStreet Staff. (2016). 9 Useful Skills for Teachers. *Teacher Certification*.

⁷ Lerome Freiberg, H. (2002). Essential skills for new teachers. *Educational leadership*.

⁸ Wood, E., Mueller, J., Willoughby, T., Specht, J., & Deyoung, T. (2005). Teachers' perceptions: Barriers and supports to using technology in the classroom. *Education, Communication & Information*, 5(2), 183-206.

Creativity. Special educators must be creative in their teaching methods to engage varying students³.

Patience. Special educators must be patient with their students, who may take a long time to learn skills. This patience may carry over to other parts of their lives⁶.

Problem Sensitivity. Special educators are aware of when students are having problems, and even when they are about to have a problem. A problem could include an emotional meltdown, negative interaction with peer, physical outburst, among other problems³.

Adaptability. Special educators have to adapt lesson plans for students who learn differently, and for those of different skill levels⁶.

Communication. Special educators must find the best way to communicate with their students, the parents of their students, and other teachers and professionals in their school. Therefore, special educators are versed in a wide variety of communication techniques⁶.

Use of computers. Notably, with trainings and personal experiences, some special educators may be quite skilled at using computers and computer programs⁸.

Potential Impairments

Elementary school teachers and special educators may live with common impairments, listed below. Please note that Elementary school teachers and special educators may live with additional individual impairments. However, I could not address so many potential impairments in this report.

Reduced ability to focus on near objects (far sightedness due to one form of presbyopia)⁹

Progressive degree of high frequency hearing loss (i.e., presbycusis), limiting sound perception to frequencies ≤ 3000 Hz¹⁰ (especially caregivers 50 years of age and older)

Dexterity- and strength-limiting conditions, such as arthritis¹¹ (especially caregivers 50 years of age and older)

Minor short-term memory problems¹² (especially elderly caregivers)

Performance Shaping Factors

The following performance-shaping factors may influence the task performance of Elementary school teachers and special educators:

Stress. Teachers and special educators can experience stress due to a number of factors. For example, they may experience stress due to their school experiencing budget cuts, managing many students,

⁹ Page 46, Figure 6.2, Adapted from ANSI/AAMI HF75:2009

¹⁰ Page 57, Adapted from ANSI/AAMI HF75:2009, 6.2.3.4 Effects of aging on hearing sensitivity

¹¹ Skelton DA, Greig CA., Davies JM, and Young A. Strength, power and related functional ability of healthy people aged 65-89 years. *Age and Aging*, 23:371-377, 1994.

¹² Page 63, Table 6.12, Adapted from ANSI/AAMI HF75:2009, 6.2.3.4

handling challenging parents, and disagreeing with their team of teachers or education professionals. Stress may impact task performance¹³.

High cognitive load. Because teachers and special educators multitask regularly, they may have a high cognitive load. Having a high cognitive load may prevent teachers from attributing sufficient attentional resources to tasks, reducing task performance¹³.

Negative affect. When students, parents, or co-workers are challenging or disrespectful, the teacher or special educator may feel a negative affect. This negative affect will consume attentional resources, reducing task performance¹³.

Lack of available time. Because the job of teachers and special educators is so time consuming both during the day and in the evening, they may feel and be rushed to finish tasks. Feeling and being rushed would impact task performance¹³.

Administrative Limits. There may be administrative limits on tasks teachers and special educators can perform. This can reduce or even altogether prevent task performance⁷.

Computer anxiety. Teachers and special educators may experience anxiety when thinking about the prospect of using a computer for educational purposes. This anxiety, as well as the resulting reservations, may impact task performance¹³.

Low skill level. Some teachers and special educators may not be skilled at using computers, or learning new computer programs. This lack of skill could impact task performance¹³.

¹³ Robertson, T. (n.d.). Advantages & Disadvantages of being a Teacher. *Houston Chronicle*.

Mitigating Performance-Shaping Factors

Performance-Shaping Factor	Mitigation
<p>Stress. Teachers and special educators can experience stress due to a number of factors. For example, they may experience stress due to their school experiencing budget cuts, managing many students, handling challenging parents, and disagreeing with their team of teachers or education professionals. Stress may impact task performance¹⁴.</p>	<ul style="list-style-type: none"> • Those who are under stress may require more salient signals to get their attention. To accommodate this need, important information should be communicated to the user through multiple sensory paths. (AAMI HE75 4.3.3). • Those who are stressed may experience mental lapses. This can be accommodated with the following mitigations (AAMI HE75 23.3.8): <ul style="list-style-type: none"> ○ Provide information to the user rather than making them search for it, ○ Generate alarm conditions that are “relevant,” not a “nuisance,” ○ And build in safeguards against use errors (such as the ability to change an input, and confirmations). • The device should accommodate those speaking many languages so that those individuals do not spend additional attentional resources on translating English into their preferred language (AAMI HE75 24.3.4.6). • In stressful situations, people may not remember how a device functions. Therefore, the function of each actionable item should be clear to the user. Additionally, the basics of automation should be made clear to the user (AAMI HE75 20.2.3). • In conditions of stress, older users are likely to experience transfer from past experiences interacting with similar devices. Therefore, the whole interface should match the user’s cognitive model of mobile interfaces, and specific actionable features should match the user’s cognitive model of other, similar actionable items (AAMI HE75 25.3.3.3).
<p>High cognitive load. Because teachers and special educators multitask regularly, they may have a high cognitive load. Having a high cognitive load may prevent teachers from attributing sufficient attentional</p>	<ul style="list-style-type: none"> • Using the system shall not require high cognitive load. Ways to ensure that the system does not require high cognitive load include: <ul style="list-style-type: none"> ○ Minimize extraneous visual stimuli in displays (AAMI 25.3.3.2) ○ Use visual and auditory cuing to draw attention to an important task (AAMI 25.3.3.2)

¹⁴ Robertson, T. (n.d.). Advantages & Disadvantages of being a Teacher. *Houston Chronicle*.

<p>resources to tasks, reducing task performance¹³.</p>	<ul style="list-style-type: none"> ○ Minimize the need for users to divide their attention by only requiring the user to complete one task at a time (AAMI 25.3.3.2) ○ Visually enhance important task-related information (AAMI 25.3.3.2) ○ Organize content into small chunks (AAMI 25.3.3.3) ○ Minimize the need to learn new skills to operate a device (AAMI 25.3.3.3) ○ Do not impose time limits for task completion (AAMI 25.3.3.3) ○ Limit short-term memory requirements to four items or less (AAMI 25.3.3.4) ○ Help users recognize where they are in operational sequences. (AAMI 25.3.3.4) ○ Display all task-relevant procedural information. Users shall have access to all steps in a procedure as they execute it (through back buttons and the ability to edit information) (AAMI 25.3.3.4) ○ Provide users with event-related directions (AAMI 25.3.3.4)
<p>Negative affect. When students, parents, or co-workers are challenging or disrespectful, the teacher or special educator may feel a negative affect. This negative affect will consume attentional resources, reducing task performance¹³.</p>	<p>Negative affect can cause difficulty concentrating, indecisiveness, and hazy thinking (AAMI 16.2.1).</p> <p>We can address difficulty concentrating and hazy thinking by reducing attention required to complete the task. This can be done by reducing the cognitive load produced by the task. Possible design solutions to address this performance shaping factor are described above.</p> <p>We can address indecisiveness by reducing the number of decisions required by the user (D. Hannon, Personal Communication, September 19th, 2016).</p>
<p>Lack of available time. Because the job of teachers and special educators is so time consuming both during the day and in the evening,</p>	<p>The user shall be able to record behavior in less than 1 minute.</p> <p>Additionally, to use the system in a busy schedule, users may require motivation. Applying the following design principles may increase the users' motivation to use the system:¹⁵</p>

¹⁵ <https://corp.gametize.com/2014/06/06/increase-motivation-design-principles/>

<p>they may feel and be rushed to finish tasks. Feeling and being rushed would impact task performance¹³.</p>	<ul style="list-style-type: none"> • Visibility and Mapping: users need to understand where they are in the interface at all times. • Feedback: The system shall provide users with feedback on their actions. For example, the system shall tell users when they have successfully or unsuccessfully completed a task. • Consistency: Design features and functions shall be consistent throughout the interface. For example, the next button shall always be in the same location on the screen. <p>Goal-setting theory states that if users set goals, then they will be more likely to complete actions. Therefore, users shall have the ability to set goals for their task completion within the system.¹⁶</p> <p>Additionally, a lack of time may result in high cognitive load or stress. Therefore, mitigations for these performance shaping factors will also mitigate errors due to lack of available time.</p>
<p>Administrative Limits. There may be administrative limits on tasks teachers and special educators can perform. This can reduce or even altogether prevent task performance⁷.</p>	<ul style="list-style-type: none"> • Typically, the root cause of administrative limits are: <ul style="list-style-type: none"> ○ Funding ○ Proof that a system works • Neither of these fall into the scope of this honors thesis, but are important to note for later work on this project.
<p>Computer anxiety. Teachers and special educators may experience anxiety when thinking about the prospect of using a computer for educational purposes. This anxiety, as well as the resulting reservations, may impact task performance¹³.</p>	<ul style="list-style-type: none"> • Viewing many conceptual items at one time can increase anxiety. Therefore, users should be required to view the fewest conceptual items at one time as functionally possible (AAMI HE75 23.4.9.5). • The color of the interface can reduce a user's anxiety, as well as increase legibility. Therefore, the color of the interface shall be considered carefully (AAMI HE75 23.4.10.10). • Providing training on the computer system reduces computer anxiety, and increases individual's interest in seeking positive computer experiences (increases motivation)¹⁷
<p>Low skill level. Some teachers and special educators may not be skilled at using computers, or learning new computer programs. This lack of skill</p>	<ul style="list-style-type: none"> • Utilize the following methods to accommodate users with low skill level, or those who may have difficulty acquiring the appropriate information to interact with the system (AAMI HE75 25.3.3.3): <ul style="list-style-type: none"> ○ Organize training material into small chunks with only the absolutely necessary information

¹⁶ <https://wikispaces.psu.edu/display/PSYCH484/6.+Goal+Setting+Theory>

¹⁷ Reznich, C. B. (1996). Applying minimalist design principles to the problem of computer anxiety. *Computers in Human Behavior*, 12(2), 245-261.

could impact task performance¹³.

- Utilize explicit language in the interface and in training, and use directions phrased as actions
- Minimize the need to learn a new skill
- Minimize instances where users must respond
- As much as possible, simplify physical input requirements. This could be in the form of maximizing target size (AAMI HE75 25.3.4).

User Needs and Requirements

Based on the research tasks described previously (i.e., preliminary and secondary online research, questionnaire, classroom teacher observations and interviews, special educator interviews, and user profile development), Alexandria developed a comprehensive list of user needs and system requirements. This section documents those user needs and system requirements, as well as the reasoning behind the need and requirement. The system requirements contributed to the conceptual modeling of the system.

User Needs, Requirements, and Reasoning

Need	Requirement	Reasoning
<p>Users need to be able to monitor different behaviors for different students.</p>	<p>Users shall be able to input different behaviors to monitor for each student.</p>	<ul style="list-style-type: none"> • Teacher 3 at Mast Way Elementary School sets bars differently for each student to receive a sparkle star because students have different strengths and weaknesses. • Teacher 1 at Mast Way Elementary School has different expectations for her one student who has an IEP (this student’s behaviors are only reprimanded if they disrupt the other students in her class), and this needs to be accommodated for. • Behaviors that need to be monitored are very different across grade levels. For example, Teacher 1 at Live and Learn Early Learning Center did not mind when her preschoolers made a lot of noise because it wasn’t otherwise harmful. However, this was one of the main concerns of Teacher 2 at Live and Learn Early Learning Center, Teacher 3 at Mast Way Elementary School, and Teacher 1 at Mast Way Elementary School. The third grade students did not have much of a problem managing their noise level themselves. • In the questionnaire, one of the teachers noted that, “There is no one-size-fits-all behavior management because every student is different,” indicating that any behavior management plan or tool needs to be flexible
<p>Users need to be able to change which behaviors are being monitored for each student throughout the year.</p>	<p>Users shall be able to remove certain behaviors from the list of behaviors that they are monitoring for a particular student.</p> <p>Users shall be able to add behaviors to the list of behaviors that they</p>	<ul style="list-style-type: none"> • One of the students in Teacher 3 at Mast Way Elementary School’s class originally had the privilege of going on a walk when he was well behaved. However, they started abusing this privilege by going into the bathroom and doing things like peeing on the walls. This privilege was taken off of the list of things that the student could earn. • In the questionnaire, one of the teachers noted that, “There is no one-size-fits-all behavior management because every student is different,”

	are monitoring for a particular student.	indicating that any behavior management plan or tool needs to be flexible
Users need to be able to store a comment along with the record of behavior.	Users shall be given the option to record a comment when they are recording other information about the students' behaviors.	<ul style="list-style-type: none"> • In the questionnaire, one of the teachers noted that, "There is no one-size-fits-all behavior management because every student is different," indicating that any behavior management plan or tool needs to be flexible • It was noted during observations that the circumstances of different behavioral issues are typically slightly different. For example, in the observation of Teacher 2 at Live and Learn Early Learning Center, the students were completing an exciting activity, which might have been why they were not paying attention. This situation was very different than what was observed in Teacher 2 at Mast Way Elementary School's classroom where one student in particular was not paying attention for no particular reason. • Reviewers of ClassDojo wish that there was a way to add a comment while logging a behavior
Many users need to be able to monitor behaviors for one student.	<p>Users shall be able to add existing student profiles to their account.</p> <p>Users shall be able to provide information on that student's behaviors that will then be accessible to other users who have access to that student's profile.</p>	<ul style="list-style-type: none"> • In Teacher 3 at Mast Way Elementary School's class, she as well as a one-on-one and any other paraprofessional keeps track of the behavior plans of students with IEPs. All of these individuals would need to be able to give input on any application or system. • At Live and Learn early learning center, there are few classroom behavioral systems because the classrooms move around in the center so much (gym, classroom, outdoor classroom, communal playground). This would allow a consistent behavior management plan across all of these spaces. • For any behavior management technique to be effective, it needs to be consistent, even if the students are changing classrooms <ul style="list-style-type: none"> ○ Maag, J. W. (2001). Rewarded by punishment: Reflections on the disuse of positive reinforcement in

		schools. <i>Exceptional children</i> , 67(2), 173-186.
Users need to be able to provide information on behavior for all of their students.	Users shall be able to add the existing student profiles of all of their students to their account.	<ul style="list-style-type: none"> Teacher 3 at Mast Way Elementary School says that every day is different with her students. Though some of the students regularly have behavioral issues, other may have them periodically, and tracking when these behavioral issues crop up may help the teacher figure out why they are appearing.
Users need to be able to arrange their students such that those who have behavioral issues most frequently are the most easily accessible.	Users shall be able to arrange the order in which their students appear in the system.	<ul style="list-style-type: none"> Teacher 3 at Mast Way Elementary School says that every day is different with her students. Though some of the students regularly have behavioral issues, other may have them periodically, and tracking when these behavioral issues crop up may help the teacher figure out why they are appearing.
Users need to be able to access general information and tips on behavior management.	<p>Users shall have access to information on behavior management, including the following information:</p> <ul style="list-style-type: none"> The importance of proactive interventions Importance of engagement in the classroom. How to handle different behavioral situations. Successful reinforcements/punishments (while noting that this varies 	<ul style="list-style-type: none"> Special educator 2 states that why she can make so much progress with her students is that she comes at the problem behaviors from a different direction. Because of this, she is able to understand the behavior better. If teachers had access to information on behavior interventions, they might be able to look at it from this deeper level. Proactivity: In classes such as Teacher 2 at Mast Way Elementary School and Teacher 3 at Mast Way Elementary School where they mentioned the behavioral requirements ahead of time, the students seemed to have fewer behavioral problems than in classes such as Teacher 1 at Mast Way Elementary School and Teacher 1 at Live and Learn Early Learning Center. <ul style="list-style-type: none"> Significant research suggests that proactive behavior management techniques enhances the classroom environment, increases student learning, increases on-task behavior, and reduces teacher stress.

	<p>from child to child)</p> <ul style="list-style-type: none"> • What responses they can teach the child to replace maladaptive behaviors. 	<ul style="list-style-type: none"> ▪ Clunies-Ross, P., Little, E., & Kienhuis, M. (2008). Self-reported and actual use of proactive and reactive classroom management strategies and their relationship with teacher stress and student behavior. <i>Educational Psychology, 28</i>(6), 693-710. • Handling behavioral situations: <ul style="list-style-type: none"> ○ When one of the students in Teacher 1 at Live and Learn Early Learning Center’s class did not want to put on sunscreen, she said “I bet we can do this in under 20 seconds, what do you think?” by making it a game and having the student do some counting, the student was distracted by having the sunscreen put on. This is something that inexperienced teachers may not know to do, and suggesting it is important. <ul style="list-style-type: none"> ▪ To another child, she told them that it was a cheek massage ○ When one of the students in Teacher 1 at Live and Learn Early Learning Center’s class said “Teacher 1 at Live and Learn Early Learning Center, shake your booty,” she said, “no thank you,” not giving them the attention they were seeking. Helping teachers recognize these kinds of behaviors and respond to them effectively would be helpful. • When children exhibit problem behaviors, they are typically serving a purpose. Providing the student with a more acceptable behavior that completes the same function as the problem behavior will help decrease the problem behavior, and help increase self-monitoring. <ul style="list-style-type: none"> ○ Bobrow, A. (2002). Problem behaviors in the classroom: what they mean and how to help. <i>Child study center, NYU, 7</i>(2)
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<p>Users need to be reminded of rewards and punishments warranted by the students' behaviors.</p>	<p>When users log a positive behavior, they shall be given the option to navigate to their classroom behavior management systems (if it exists) to provide a reward.</p> <p>When users log a negative behavior, they shall be given the option to navigate to their classroom behavior management systems (if it exists) to provide a reward.</p> <p>Users shall have the ability to set reminders about rewards and/or punishments.</p>	<ul style="list-style-type: none"> • With Teacher 2 at Live and Learn Early Learning Center, she had no follow-through for the punishments she mentioned to the students in an effort to get them to focus. According to operational conditioning, this does not teach the students anything. <ul style="list-style-type: none"> ○ When the students were misbehaving while practicing their graduation, she said that they would not get chairs at graduation if they kept misbehaving. This did not happen though the students kept on misbehaving. ○ Though the students were horribly behaved, she said to them, "you all did such a good job practicing right then, we are going to have some free time outside." This was reinforcing their poor behavior. ○ She said that one of the games that they were playing was a "have-to;" however, when one student said that they did not want to play, Teacher 2 at Live and Learn Early Learning Center let them stop playing. After this happened, many of the other students also stopped playing. • The goal of one-on-one professionals is to give the student the skills for self-management. Self-management is taught through effective reinforcement and punishment. When reinforcements and punishments are not followed through with, students will not learn the targeted behavior. <ul style="list-style-type: none"> ○ Harrower, J. K., & Dunlap, G. (2001). Including children with autism in general education classrooms a review of effective strategies. <i>Behavior Modification</i>, 25(5), 762-784.
<p>Users need to be reminded to commend their students on their effort.</p>	<p>Users shall be provided with a reminder to commend their student when they log a positive</p>	<ul style="list-style-type: none"> • Teacher 1 at Mast Way Elementary School also commends her students when they do what she asks, though not as frequently as Teacher 3 at Mast Way Elementary School.

	<p>behavior for that student.</p>	<ul style="list-style-type: none"> • Teacher 3 at Mast Way Elementary School says that by commending her students publicly, it increases their confidence as well as encouraging them to keep trying as hard. • All teachers were observed publically commending their students during observations. • The goal of one-on-one professionals is to give the student the skills for self-management. These skills are taught through effective reinforcement. It is important to commend students as reinforcement, while also telling them why their behavior has been favorable. <ul style="list-style-type: none"> ○ Harrower, J. K., & Dunlap, G. (2001). Including children with autism in general education classrooms a review of effective strategies. <i>Behavior Modification</i>, 25(5), 762-784. • Ways to build confidence: tell the child that you know they can do something (to counteract a black and white perspective of being able to do something or not being able to do something), give them the opportunity to take responsibility and make up for their mistakes, and recognize effort instead of their success (when you praise effort, the children will seek out opportunities to put in effort, not rejecting opportunities where they could fail). <ul style="list-style-type: none"> ○ Dweck, C. S. (2007). The perils and promises of praise. <i>Kaleidoscope, Contemporary and Classic Readings in Education</i>, 12.
<p>Users need to be reminded to warn their students of upcoming transitions.</p>	<p>Users shall be provided with a reminder to warn their students of transitions 10 and 5 minutes prior to the transition, which is logged in the classroom schedule.</p>	<ul style="list-style-type: none"> • In Teacher 3 at Mast Way Elementary School's, Teacher 1 at Mast Way Elementary School', and Teacher 2 at Mast Way Elementary School's classes, they gave their students warnings about when they would be transitioning from one activity to another. Teacher 3 at Mast Way Elementary School mentioned that this gives the kiddos time to prepare themselves, and that it seems to make the transitions go smoother

		<p>because the kiddos have less comments along the lines of “wait, I am not done.”</p> <ul style="list-style-type: none"> • In Teacher 2 at Mast Way Elementary School’s class, after she gave them many warnings about transitioning back to the rug for more directions, they did so calmly and without saying a word. • In the questionnaire, 2 of the teachers noted that transitions are when a lot of the behavioral issues of their students appear.
Users need to be able to change the schedule they have uploaded for their classroom.	Users shall be able to change the start and end times of activities listed in the uploaded schedule.	<ul style="list-style-type: none"> • Teacher 2 at Mast Way Elementary School and Teacher 3 at Mast Way Elementary School changed their schedules as I was sitting observing. This is something that seems to happen a lot based on how the kids are doing with particular activities. Because an accurate schedule is important for warnings about transitions, it is important to have it be accurate all of the time. • Special educator 1 states that the schedule needs to be able to be changed
Users need to be reminded to tell their students why a behavior is negative.	<p>Users shall be reminded to tell their student why their behavior is negative when the user logs a negative behavior for a student.</p> <p>Users shall be reminded to tell their student why their behavior is negative when the user logs a punishment for a student or for the class.</p>	<ul style="list-style-type: none"> • Teacher 1 at Mast Way Elementary School did not tell the students why they were being demoted on their clip board, while Teacher 2 at Mast Way Elementary School, Teacher 2 at Mast Way Elementary School, Teacher 1 at Live and Learn Early Learning Center, and Teacher 2 at Live and Learn Early Learning Center did so. <ul style="list-style-type: none"> ○ Teacher 1 at Live and Learn Early Learning Center: One of the kids asked “why do we need to clean, it’s so boring,” and Teacher 1 at Live and Learn Early Learning Center responded “I know we do not like to clean, but we have to take care of the toys so that we can keep playing with them” ○ Teacher 1 at Live and Learn Early Learning Center: “The sooner we clean up, the sooner we can go outside” ○ Teacher 2 at Live and Learn Early Learning Center: "Anyone at live and learn can come

		<p>to the graduation, so we want to make sure we have our listening ears on and respectful bodies so everyone stays safe and happy" explaining why they have to have better behavior</p> <ul style="list-style-type: none"> • The goal of one-on-one professionals is to give the student the skills for self-management. These skills include discrimination between appropriate and inappropriate behaviors, evaluation of their own behaviors, monitoring of their own behaviors, and reinforcing their goals when they are met. To complete the first step of this, discriminating between appropriate and inappropriate behaviors, students need to be told why they are being punished, and why they are being reinforced. <ul style="list-style-type: none"> ○ Harrower, J. K., & Dunlap, G. (2001). Including children with autism in general education classrooms a review of effective strategies. <i>Behavior Modification</i>, 25(5), 762-784.
<p>Users need to be able to log behaviors for the entire class as well as for individual students.</p>	<p>Users shall be able to complete all of the same functions for the entire class as they can for one individual student.</p>	<ul style="list-style-type: none"> • Both teachers who were observed as well as some of those who completed the questionnaire noted that they focused on classroom management as a whole, as well as individual behavior management. • Individual and group behavior plans were observed while in use • The students value the classroom behavior, as exhibited by the following observations: <ul style="list-style-type: none"> ○ When observing Teacher 1 at Live and Learn Early Learning Center, one of the students asked a peer to be quiet so they could go outside more quickly ○ When talking with Teacher 2 at Mast Way Elementary School after the observation of her class, she mentioned that in March, the students asked for a classroom management

		plan because they felt that the classroom behavior had gotten out of hand.
Users need to be able to record information about their students' behaviors quickly.	Users shall be able to record information about their students' behaviors in 2 or fewer button clicks.	<ul style="list-style-type: none"> • Special educator 2 said that the less obtrusive the system, the more likely the teachers are to apply it consistently. She also said that most teachers do not like spending time on analyzing behaviors, so it would be good if the system did much of the analyzing for them. • Special educator 3 said that they used to use an application, but it took so much to record information about behavior, and it was so user unfriendly that they stopped using it. These are attributes that can be avoided by quick-access functions.
Users need to be able to use the system whether they are sedentary or active throughout the school day.	<p>Users shall be able to record the behaviors of their students in the moment.</p> <p>Users shall be able to record behaviors of their students retroactively.</p> <p>Users shall be able to access the system on different hardware.</p> <p>Users shall be able to lead the application on an iPad.</p>	<ul style="list-style-type: none"> • The primary method of behavior management in Teacher 1 at Live and Learn Early Learning Center's class is engaging the students so they do not have time for problem behaviors. She would need be able to use the system while still moving around and engaging with the students as she does currently. • If the school is not using the application across the board, teachers need to be able to pass a device on which they have the application loaded to different teachers in the school (according to Special educator 1).
Users need to be able to compare the effectiveness of different behavioral interventions.	Users shall be able to set up a comparison of the behavior of their students where the independent variable is time passed.	<ul style="list-style-type: none"> • This is how Teacher 1 at Live and Learn Early Learning Center said that it would be helpful for her. Because behavioral issues happen in specific situations for her, it would be most helpful if it could compare which interventions they have tried/what they're currently trying/what is working best.

		<ul style="list-style-type: none"> • Special educator 4 said that it would be helpful to be able to compare the students’ behaviors to time passed to determine if the behaviors are improving.
Users need to be able to record themselves teaching in the application.	Users shall be able to record audio information, which will then be stored on their device as an .mp4 file.	<ul style="list-style-type: none"> • For example, I believe that if Teacher 2 at Live and Learn Early Learning Center were to reflect on the following situations, she would see how ineffective they were: <ul style="list-style-type: none"> ○ Though the students were horribly behaved, she said to them, “you all did such a good job practicing right then, we are going to have some free time outside.” This was reinforcing their poor behavior. ○ She said that one of the games that they were playing was a “have-to;” however, when one student said that they did not want to play, Teacher 2 at Live and Learn Early Learning Center let them stop playing. After this happened, many of the other students also stopped playing.
Users need to be able to self-score the recording of their teaching on many dimensions, including follow-through, consistency, accuracy, engagement, and effectiveness.	<p>Users shall be able to playback their recordings.</p> <p>Users shall be able to score themselves on their teaching while listening to their recording.</p>	<ul style="list-style-type: none"> • Furthermore, I believe Teacher 1 at Mast Way Elementary School would realize how un-engaging her teaching style is. • People must be an active participant in their professional development—if they do not want to change their practices, their practices will not change. • The process of learning by doing is important, especially since a lot of professionals cannot stop doing to start learning. • Reflection is critical to learning as a professional <ul style="list-style-type: none"> ○ Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. <i>Review of educational research, 79(2), 702-739.</i>

<p>Users need to be reminded to ask themselves: what is the purpose of the behavior?</p>	<p>When a teacher logs a negative behavior, the system should encourage the user to briefly type in the answer to the question: “for the student, what was the purpose of this behavior?”</p>	<ul style="list-style-type: none"> • Special educator 1 says that asking this question can help teachers think from the point of view of their students, and answer the question of how to address their problem behaviors.
<p>Users need to be able to compare the behaviors of their students to different possible triggers.</p>	<p>Users shall be able to view a graph representing their students’ behaviors as compared to classroom activity.</p> <p>Users shall be able to view a graph representing their students’ behaviors as compared to peer interactions.</p> <p>Users shall be able to view a graph representing their students’ behaviors compared to customized antecedents.</p>	<ul style="list-style-type: none"> • According to the questionnaire, classroom activities (specifically their difficulty) and social interactions are the most common triggers for problem behaviors in the classroom. • Special educator 1 stated that the antecedent to a certain behavior can be different for every student. Therefore, it is important that teachers can put in different possible antecedents for their students.
<p>Users need to be able to compare the behaviors of their students to different given repercussions.</p>	<p>Users shall be able to record the punishments that they give to their students</p> <p>Users shall be able to view a graph representing their students’ behavior as</p>	<ul style="list-style-type: none"> • Special educator 1 stated that sometimes the consequence (e.g., getting a lot of attention from the teacher) can be the motivator of the behavior.

	<p>compared to given consequences.</p> <p>Users should be able to record the reaction of the room in response to behaviors of their students.</p>	
<p>Users need to be able to add their own possible triggers to the system for their classroom.</p>	<p>Users shall be able to add a possible trigger for their classroom, which shall then be an option for the teacher to use to compare to problem behaviors.</p>	<ul style="list-style-type: none"> Behaviors that need to be monitored are very different across grade levels. For example, Teacher 1 at Live and Learn Early Learning Center did not mind when her preschoolers made a lot of noise because it wasn't otherwise harmful. However, this was one of the main concerns of Teacher 2 at Live and Learn Early Learning Center, Teacher 3 at Mast Way Elementary School, and Teacher 1 at Mast Way Elementary School. The third grade students did not have much of a problem managing their noise level themselves. Different grades/populations may have different probable triggers for their classroom.
<p>Users need to be able to use their classroom management systems in varying environments.</p>	<p>Users shall be able to use built-in classroom management systems on any of the devices on which this system is hosted. The behavior management systems will include the following: "clip chart," red/yellow/green light chart, marble jar, super star system.</p>	<ul style="list-style-type: none"> This system should always be available to students; however, this would allow consistency throughout the day, regardless of if the class is inside or outside, in gym, on a field trip, etc. Special educator 4 stated that it is helpful when the students can see their behavior management system and know where they are at. This also helps students remember towards what they are working. The "clip chart," red/yellow/green light chart, marble jar, and super star system are the most common classroom management systems, as found through observation and questionnaire.
<p>Users need to have the option to use the</p>	<p>Users shall be able to download the application</p>	<ul style="list-style-type: none"> Special educator 1, talking about a previous system, said that teachers did not like using the system because it required approval from

<p>application independently.</p>	<p>independently, or download it while belonging to part of a school system that has a subscription.</p>	<p>administrators. This indicates that some teachers may want to use the application independently of their school system. Therefore, they need to be able to download it without having a subscription through their school system.</p>
<p>Users need to be able to modify the preset classroom management systems to match the system they most prefer.</p>	<p>Users shall be able to customize the in-system classroom management systems on the following dimensions:</p> <ul style="list-style-type: none"> • Which students take part in the system • Where students start at the beginning of the day • What rewards will be if they are successful • The amount of time before the system resets (one subject, one day, one week, etc.) • Whether students have the ability to earn back what they have lost • What the student must do to earn the specified reward/punishment 	<ul style="list-style-type: none"> • See previous arguments for flexibility • In Teacher 2 at Mast Way Elementary School’s class as well as the classes of some of the teachers who participated in the questionnaire, the students started their clips on the green circle/box. In Teacher 1 at Mast Way Elementary School’ class as well as the classes of some of the teachers who participated in the questionnaire, the students started their clips in the middle of the chart, and could move up or down. • In Teacher 3 at Mast Way Elementary School’s class, some of the students had their own behavior management systems, while the class also had its own systems. These are all very important. • The super-star system typically lasts one week. The red/yellow/green light systems typically last one day, Marble jar systems typically last until the jar is full. Some of the individual students have systems that only last for one subject. • In Teacher 1 at Mast Way Elementary School’ class as well as the classes of some of the classes of those who completed the questionnaire, the students can earn back what they have lost. In others, and in some IEPs, the student cannot earn back what they have lost. • Special educator 1 says that it is important that users have the ability to individualize the system. Previous systems that they used were not flexible enough for their students. Additionally, with this system teachers had to have every change that they made approved by an administrator of the system, which encouraged people not to use the system.

<p>Users need to be provided with in-the-moment behavior management suggestions.</p>	<p>Users shall receive pop-up notifications containing information that may be of assistance based on the problem behavior recently recorded.</p>	<ul style="list-style-type: none"> • 22/26 teachers who completed the questionnaire responded positively to this idea. • Many of the teachers in the questionnaire noted that their favorite thing about having a paraprofessional or other adult in the room is having another person with whom they can share and discuss ideas, including those for behavior management.
<p>Users need to be able to complete inner agreement checks so that they can compare one student's behaviors to another student's behaviors.</p>	<p>Teachers shall be able to set up reminders to record data for more than one student.</p> <p>Teachers shall be able to create graphs comparing more than one student.</p>	<ul style="list-style-type: none"> • Special educator 1 said that it is important to know how one student is doing compared to their peers. This would allow that function.
<p>Users need the inner agreement check to randomly select the student to which the student of interest will be compared.</p>	<p>The inner agreement function shall have the ability to randomly select one student from the class to compare to the student of interest.</p>	<ul style="list-style-type: none"> • Special educator 3 stated that they use an excel-based list of their students to randomly select to which student the student of interest will be compared.
<p>Users need to be able to stop notifications containing suggestions on behavior management practices.</p>	<p>Users shall be able to decline notifications containing suggestions on behavior management practices by changing the configuration of the system in 'Settings.'</p>	<ul style="list-style-type: none"> • Though 25 of the questionnaire participants said that they would be interested in this feature, 3 of those brought up the following concerns • "I would have to make sure that the method worked for me. Management is a very personal thing." • "Maybe. Sometimes suggestions are not realistic"

		<ul style="list-style-type: none"> • “Sure, that would be great. The concern would be how activate this plan when you are in the middle of a lesson.”
Users need to be able to download data collected in this system in an accessible file format.	<p>Users shall be able to download data from the application in a PDF file.</p> <p>Users shall be able to select what information is downloaded before the download occurs.</p> <p>Users shall be able to email the downloaded document, regardless of the device they are using.</p>	<ul style="list-style-type: none"> • Though teachers may not want parents viewing the application, they may need to share information from the application with parents, as parent communication is a primary job of teachers of young students. • Teachers who participated in the questionnaire said that a PDF format would be the best file format.
Users need to be able to separate their students into more than one class.	Users shall be able to create more than one class under their account.	<ul style="list-style-type: none"> • This is something that ClassDojo does and it makes it applicable for teachers who teach more than one class.
Users need to be able to easily add students to their virtual classroom.	<p>Users shall be able to select their students from a query-enabled list of students registered at the same school as the teacher.</p> <p>Users shall be able to add one student in less than 5 seconds, after a period of learning.</p>	<ul style="list-style-type: none"> • In the reviews of ClassDojo, some of the teachers mentioned that creating a profile of each student in their class for each class was overwhelming. Plus, they wanted the information for one student to be collected under one profile for each student. This would be accomplished in this way.
Users need to be reminded to record data	Users shall be given the option of setting up a reminder system for	<ul style="list-style-type: none"> • In reviews of ClassDojo, many teachers mentioned that the biggest difficulty with the system was the consistency with which they used it. One teacher mentioned that if she were

<p>about their students.</p>	<p>recording data about students.</p>	<p>given a reminder to use the system, she would have used it much more frequently.</p> <ul style="list-style-type: none"> • Special educator 2 stated that when they are trying to gauge whether a behavior management system has been successful, or when they are trying to determine the scope of a student’s behavior problems, that they record the student’s behaviors at specified time intervals. It would be helpful for teachers to be able to set up reminders to record information about their students. <ul style="list-style-type: none"> ○ Special educator 3 mentioned the “motivator” (clicker that goes off at a specified time interval) that they use to remember to record information as well. This is likely something that special educators would be familiar with, and would therefore be good to incorporate into the application.
<p>Users need to receive feedback on whether their behavioral interventions are improving the behaviors of their students.</p>	<p>Users should be able to record the amount of time they have spent on behavioral interventions at different intervals throughout the day.</p> <p>Users should be able to see a graph of and download this recorded data.</p>	<ul style="list-style-type: none"> • Reviewers of PBIS said that their current method of determining the success of the system (the number of times students were sent to the principal’s office) was not effective because teachers stopped sending their students down, creating worse classroom environments and skewing all results. One reviewer suggested that they record the time spent on behavioral intervention as a measure for success of the program. • Special educator 2 stated that teachers often do not notice the small improvements their students are making in terms of behavior. If teachers can look at a graph of their behaviors over time, they would be able to see whether what interventions they are using are working.

Conceptual Modeling Procedure

Based on the research tasks described previously (i.e., preliminary and secondary online research, questionnaire, classroom teacher observations and interviews, special educator interviews, and user profile development), and the resulting system requirements, Alexandria conceptually modeled an iPad application that would meet the needs of her users. During this process, Alexandria used the following conceptual modeling methods:

- Object analysis
- Sticky note conceptual modeling
- Developing a UI structure diagram

The products of these modeling methods converged into a paper prototype of Alexandria's application. From the paper prototype, Alexandria developed an online, medium-fidelity prototype.

Object Analysis

Object	Object Attributes	Object Relationships	Actions on object	Actions on object attributes	Actions on object relations
Teacher profile	*Name *School *Email	The teacher profile contains a list of classes		*edit name *edit email	
Behavior Management Digest	General information on behavior management organized based on topic	When teachers record negative behaviors on the list of behaviors, they may be given information from the behavior management digest			The teacher can stop receiving information from the behavior management digest when they record behaviors if they select that option on the popup window.
School	*students *teachers/ professionals	Teachers enroll in a school with a school code. When they enroll, they can create classes with the students already enrolled at the school.	(This would be dealt with in an administrative or application, which is not being dealt with in this Thesis).	*add student profile *add teacher profile	*Teachers un-enroll from the school *Students can be added to or removed from the school through the administrative account

List of classes	Many class objects	The list of classes is comprised of individual classes, and belongs to a certain teacher profile	*Remove class *add class *select class for which to view information	See the individual class object	By removing a class from the list of classes, the information will no longer exist on the application
Class	*Class name *Class time *class schedule *Class list *history of behaviors of class as a whole *behavior management systems *interventions	The class is composed of the class list as well as behaviors of the class as a whole, which can be monitored individually or with behavior management systems. These are all objects in and of themselves. See these objects for more information	*Delete class	*edit class name *edit class time *edit class schedule *add transition reminders based on class schedule *add student *remove student *Add class behavior management system	*Changing the name or the time of the class will change this information in the list of classes *changing the class schedule will change the comparison object of schedule *Adding a student will add that student to the class list *Removing a student will remove that student from the class list

Class schedule	<ul style="list-style-type: none"> *days of the week *subject names *subject times (must be able to add many different times based on variations in elementary classrooms) *notifications 	Includes notification about transition objects	<ul style="list-style-type: none"> *edit attributes 	<ul style="list-style-type: none"> *add notifications about transitions *edit subject names *edit subject times *edit subject name 	
Notification about transition	<ul style="list-style-type: none"> *time *repetition *text 	*this is associated with the class schedule object	<ul style="list-style-type: none"> *set *edit attributes *delete 	<ul style="list-style-type: none"> *edit time *edit repetition *edit text 	
List of behavior management systems	Comprised of many behavior management system objects		<ul style="list-style-type: none"> *remove behavior management system *add behavior management system from list of pre-set ones *create own behavior management system 	See behavior management system object	When a behavior management system is deleted from the list, teachers will no longer be able to record information through it. However, information from it will still be accessible in history.

Behavior management system	<ul style="list-style-type: none"> *students involved *kind of behavior management system (built in: economy, check marks, red/yellow/green systems, or option to create own) 	When a teacher records a positive or negative behavior, they have the option to be redirected to the list of behavior management systems	<ul style="list-style-type: none"> *edit students involved *edit existing systems 		
Economy system	<ul style="list-style-type: none"> *Marbles *Jar (goal number of tokens) *Prize 	This is one possible class behavior management system	Redeem tokens for prize	<ul style="list-style-type: none"> *Add token *edit goal prize 	
Own behavior management system	<ul style="list-style-type: none"> *reward *punishment *based on time doing something *based on success at activity 	This is one possible class behavior management system	<ul style="list-style-type: none"> *Create *edit 	<ul style="list-style-type: none"> *add reward *add punishment *add what is required to get reward or punishment: success of activity, or time doing something *add check-in time when the app will ask about success <p>(these will all be done when the own behavior management system is created)</p>	

Red/Yellow/Green chart system	<ul style="list-style-type: none"> *Chart *individual students 	Information about how individual students fall on the chart everyday will be stored in their history	<ul style="list-style-type: none"> *edit 	<ul style="list-style-type: none"> *move student up (towards green) *move student down (towards red) *reset 	
Check system	<ul style="list-style-type: none"> *individual students 	Information about how many checks students earn will be stored in their history	<ul style="list-style-type: none"> *edit *reset 	<ul style="list-style-type: none"> *add check to student 	
Class list	<ul style="list-style-type: none"> Many student objects 	Class list is comprised of student objects	<ul style="list-style-type: none"> *put students in an individualized order 	<ul style="list-style-type: none"> *add student (search for student profile within teacher's school) *remove student 	<ul style="list-style-type: none"> *removing a student will remove their profile from the class, but not from the school
Student	<ul style="list-style-type: none"> *Name *List of behaviors of student *Access to comparison *History of student behavior *list of interventions in which they were involved *comments from the teacher 	The student is comprised of a list of behaviors of the student and a history of their behaviors as recorded by their teachers		<ul style="list-style-type: none"> *Add a comparison *add a comment 	<ul style="list-style-type: none"> *Adding a comparison will also add the comparison to the list of comparisons under student history

Comparison	<ul style="list-style-type: none"> *Name *students involved *poss dependent: times of day *poss dependent: 2 different date ranges *poss dependent: schedule *poss dependent: the previously input classroom situation information * independent: behaviors for that individual student 	<ul style="list-style-type: none"> *send comparison in an email stored in teacher profile *comparisons will be accessible from student behavior history, as well as by themselves in a menu 	<ul style="list-style-type: none"> *create *update with different comparison points 	<ul style="list-style-type: none"> *select appropriate attributes 	
Intervention	<ul style="list-style-type: none"> *system of intervention *date range of intervention (independent variable) *students involved in intervention *notes on intervention 	<ul style="list-style-type: none"> *The list of interventions can be accessed through history of the student's behavior 	<ul style="list-style-type: none"> *create *view progress so far *view previous *stop *edit attributes 	<ul style="list-style-type: none"> *edit system of intervention *edit date range *edit students involved 	
Record of intervention time each day	<ul style="list-style-type: none"> *date *time spend intervening with 	<ul style="list-style-type: none"> This will automatically be set up to be sent 	<ul style="list-style-type: none"> *record time spent on 		

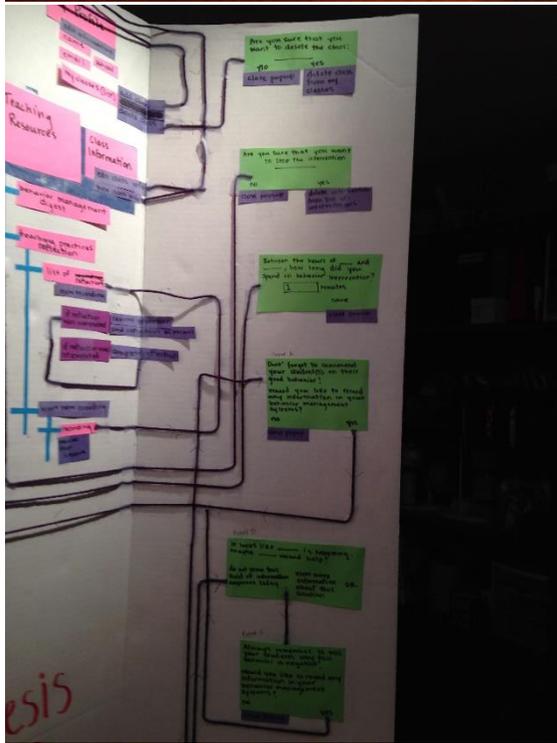
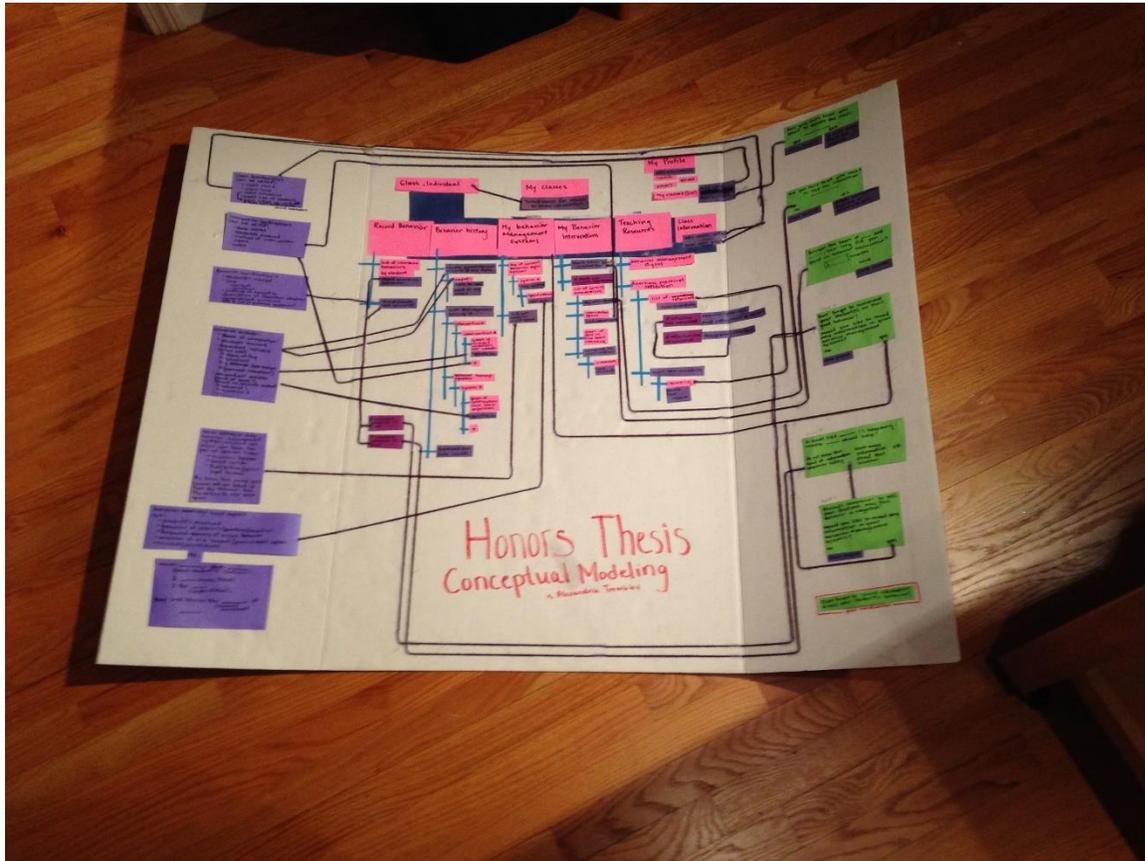
	behavior each day *optional: comments about intervention	to the teacher when they create an intervention	intervention each day		
Progress of intervention	*Graph comparing dates and record of intervention time each day *comments about intervention	This takes into consideration the dates listed in the intervention , as well as the record of time spent on intervention each day	*send in email	*add additional comments about the intervention	
Description of situation/classroom	*pre-set options *input field for personalized option	*The description of situation/classroom is an attribute of a comparison *This is also an input option when recording a behavior	*add a description of situation/classroom	*remove a description of situation/classroom	When the description of a situation is removed, it will be removed as an option from the comparison function, and will be removed as an input option when recording a behavior
List of behaviors	Many individual behaviors of the class objects	The list of behaviors of the class is comprised of individual	*put the behaviors in an individualized order		

		behaviors of the class	*Add behavior *Remove behavior		
Reminder set by teacher	*time *text		*set *delete	*edit	
Reminder sent by system	*text (there are many possibilities of what this text will be based on the situation or actions of the teacher)	If the teacher selects to view more information , they will be directed to the appropriate part of behavior management digest	*select to not have it show again for a certain amount of time *view more information in resources *clear		
History of behaviors of class	*students to consider (can choose all students, a group, or an individual student) *access to comparisons *list of recorded instances *data from whole-class, class-wide, and individual behavior management system *access to interventions	*access to comparisons *access to interventions that involved that particular student *list of recorded instances *data from class-wide, and individual student behavior management systems	*send all information in email (before doing this, the teacher can select which history information they want sent)	*select any number of behaviors *select a comparison	

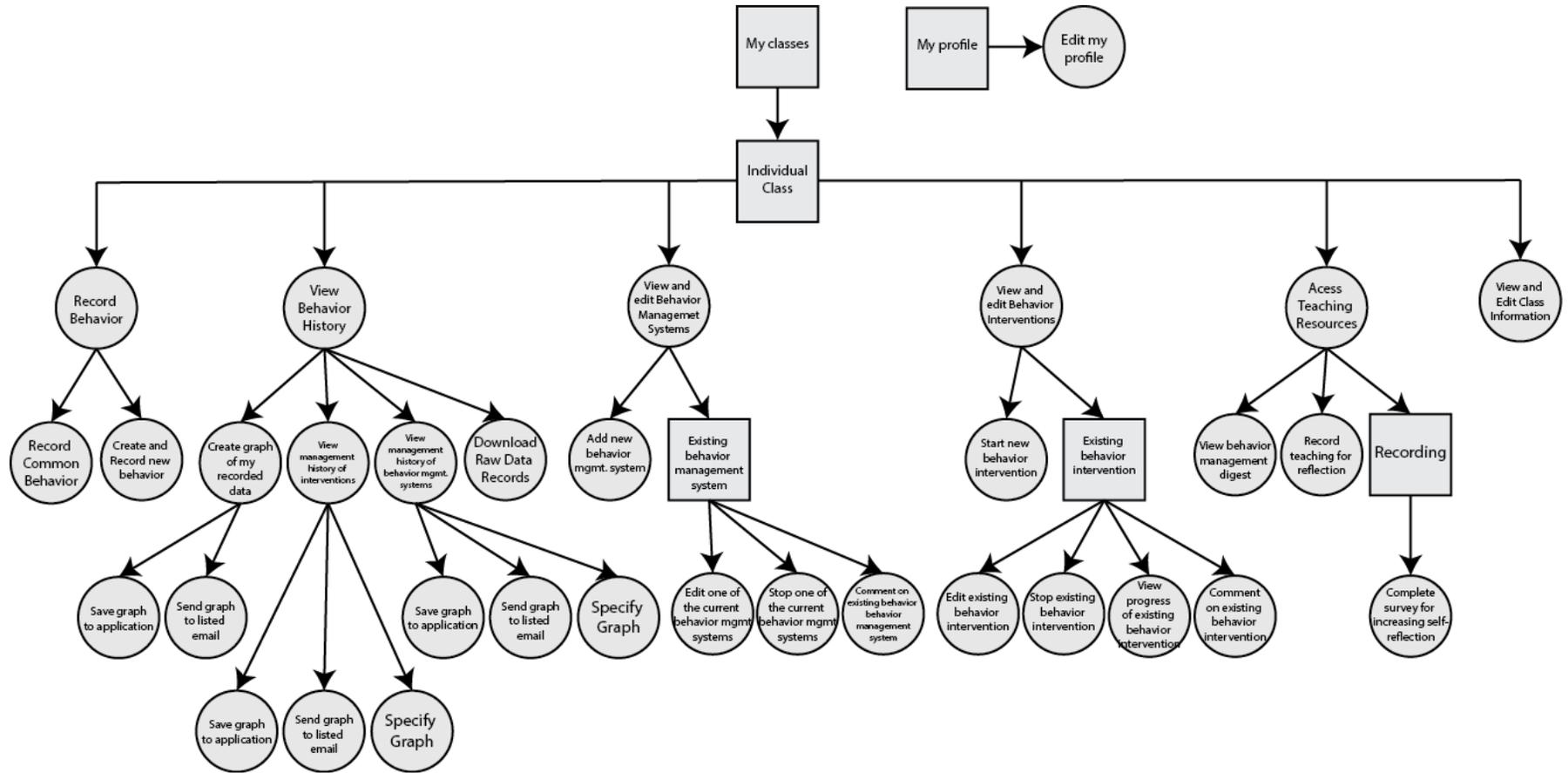
<p>Individual behaviors</p>	<p>*student involved</p> <p>*time (either current or another time)</p> <p>*positive or negative</p> <p>*description of situation/classroom environment</p> <p>*Personalized comment</p>	<p>This will be accessible in the history of behavior, and will be used in comparisons.</p> <p>When a negative behavior is recorded the teacher will be asked if they would like to be directed to behavior management system information .</p> <p>When this information is recorded, the teacher will get a system reminder to either commend or explain to their students why they are being</p>	<p>*Record behavior</p>	<p>*select</p> <p>*add description of situation/classroom</p>	<p>*Adding classroom situation information will update comparison options</p> <p>*information recorded will be available under history of behaviors of class</p>
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		reprimanded. When this information is recorded, the teacher can get a system reminder with a suggestion of how to handle the situation.			
Recording	*recording	*the teacher can complete a reflection on their recording	*Record *Pause *Stop *save		
Reflection	*selected recording *items of reflection	Teachers can complete a reflection based on a recording	*save to app *send in an email	*the teacher can record how well they think they have done on various items of reflection	

Sticky Note Conceptual Modeling



UI Structure Diagram



Prototype Version 1

Based on the paper prototype that Alexandria developed using conceptual modeling methods, Alexandria developed an online, medium-fidelity prototype of the iPad application she developed to support teachers in managing and improving their students' problem behaviors in the absence of a paraprofessional or one-on-one aide (who would typically serve in that role). Alexandria developed this application using Axure, and used it to test how users would interact with the application during formative usability testing.

1. Pages

1.1. Page Tree

Landing Page

- Record behavior popup
- Advanced Record Popup
- Recorded positive behavior
- Preset this behavior?
- Recorded positive behavior advanced
- Recorded negative behavior 2
- Recorded negative behavior 1

History of Behaviors

- Confirmation of data sent to email
- Create Personalized Graph of my Data
- Specify raw data included in email
- Create Personalized Graph of my Data 2
- Confirmation of graph sent to email
- Confirmation of graph sent to email 2
- Confirmation of graph saved to app
- Saved personalized graphs
- Saved personalized graphs 2
- More information saved graphs
- More information saved graphs 2
- History of management systems
- History of management systems 2
- Specifics of behavior management systems

Current Behavior Management Systems

- Current Behavior Management Systems 2
- Current Behavior Management System 3
- Current Behavior Management Systems 4
- Add new behavior management system
- Add new behavior management system 2
- Confirmation of new behavior management system

Teaching Resources

- Reflect on teaching practices
- Reflect on teaching practices after practice
- New Reflection 1
- New Reflection 2
- New Recording 3
- Reflection after recording
- Review of reflection
- Comparison of reflections

Comparison of reflections 2

Email confirmation

Class Information

Class information edit

Activity Information

Add new student popup

Add New student with droplist

Confirmation of added student

Add new activity information

Confirmation of added activity

Class Information 2

1.2. Landing Page

1.2.1. User Interface

The screenshot shows a user interface for 'Ms. Trombley's first grade class'. At the top right is a 'My Profile' button. Below the header is a navigation bar with five items: 'Record Behavior' (callout 1), 'Current Behavior Management Systems' (callout 2), 'History of Behaviors and Behavior Management Systems' (callout 3), 'Teaching Resources' (callout 4), and 'Class Information' (callout 5). The 'Record Behavior' section is active, showing a title and instructions: 'Record both the positive and negative behaviors of your students by clicking on their name and then a behavior, or by completing an advanced recording.' Below this are three student profile cards: 'Lewis, Samuel' (callout 6), 'Trombley, Gabriella' (callout 7), and 'Vaughn, Angela' (callout 8). At the bottom center is an 'Advanced Record' button (callout 9).

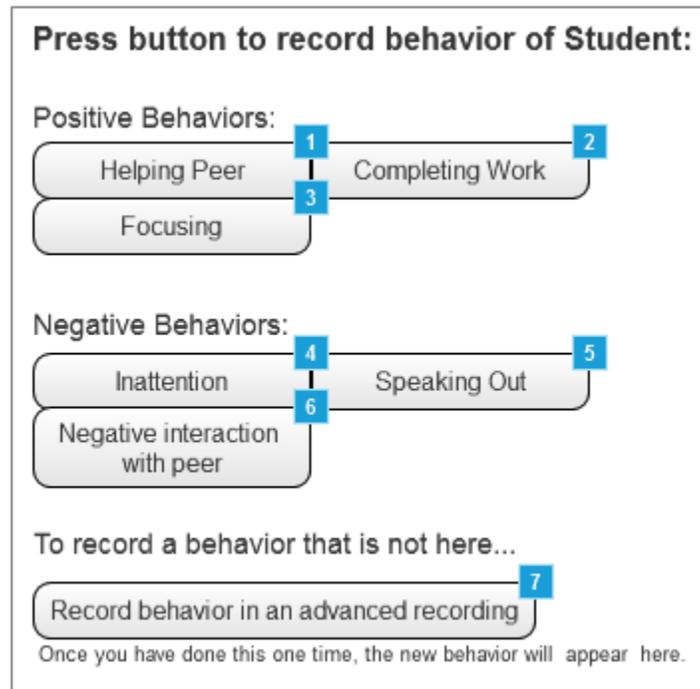
1.2.2. Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information gray, teaching resources gray, Current behavior management systems gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box, Current behavior management systems box Open Link in Parent Frame
2	behavior management systems hot spot	OnClick: Case 1: Hide Current behavior management systems box, Current behavior management systems gray Show Class information gray, teaching resources gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
3	history of behaviors hot spot	OnClick: Case 1: Hide history of behaviors gray, History of behaviors box Show Class information gray, teaching resources gray, Current behavior management systems gray, teaching resources box, Class information box, Current behavior management systems box Open History of Behaviors in Current Window
4	teaching resources hot spot	OnClick: Case 1: Hide teaching resources gray, teaching resources box Show Class information gray, Current behavior management systems gray, history of behaviors gray, Class information box, History of behaviors box, Current behavior management systems box Open Teaching Resources in Current Window
5	class information hot spot	OnClick: Case 1: Hide Class information gray, Class information box Show teaching resources gray, Current behavior management systems gray, history of behaviors gray, teaching resources box, History of behaviors box, Current behavior management systems box Open Class Information in Current Window
6	My Profile	OnClick: Case 1: Open Record behavior popup in Popup Window Set value of student equal to "Samuel"

Footnote	Name	Interactions
7	My Profile	OnClick: Case 1: Open Record behavior popup in Popup Window Set value of student equal to "Gabriella Trombley"
8	My Profile	OnClick: Case 1: Open Record behavior popup in Popup Window Set value of student equal to "Angela Vaughn"
9	My Profile	OnClick: Case 1: Open Advanced Record Popup in Popup Window

1.3. Record behavior popup

1.3.1. User Interface



1.3.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior in Popup Window Set value of behavior equal to "helping peer"
2	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior in Popup Window Set value of behavior equal to "completing work"
3	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior in Popup Window Set value of behavior equal to "focusing"
4	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 1 in Popup Window Set value of behavior equal to "inattention"
5	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 1 in Popup Window Set value of behavior equal to "speaking out"

Footnote	Name	Interactions
6	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 1 in Popup Window Set value of behavior equal to "negative interaction with peer"
7	My Profile	OnClick: Case 1: Close Current Window Open Advanced Record Popup in Popup Window

1.4. Advanced Record Popup

1.4.1. User Interface

Advanced Record

Behavior: 7

This behavior is: Positive4 Negative5

Students Involved:

Lewis, Samuel8

Trombley, Gabriella9
10

Vaughn, Angela

Whole Class1

Time Behavior Occurred:

Right Now2

Previous Time:3

Month: Day: Year: **2017**

Time:

Describe what is/was going on in the classroom at the time of this behavior:

Transition Change of schedule

Negative peer interaction Other:

When you add a new classroom situation, it will appear here any time you do an advanced record of a classroom behavior.

Add a personalized comment:

6

1.4.2. Widget Table

Footnote	Name	Interactions
1	Whole Class	<p>OnSelected:</p> <p>Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" Set value of student equal to "whole class"</p> <p>OnUnselected:</p> <p>Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"</p>
2	right now radio	<p>OnSelected:</p> <p>Case 1: Set is selected of Previous time radio equal to "false"</p>
3	Previous time radio	<p>OnSelected:</p> <p>Case 1: Set is selected of right now radio equal to "false"</p>
4	positive radio	<p>OnSelected:</p> <p>Case 1: Set is selected of negative radio equal to "false"</p>
5	negative radio	<p>OnSelected:</p> <p>Case 1: Set is selected of positive radio equal to "false"</p>
6	My Profile	<p>OnClick:</p> <p>Case 2 (If is selected of positive radio equals true): Open Preset this behavior? in Popup Window Close Current Window</p> <p>Case 3 (Else If is selected of negative radio equals true): Open Recorded negative behavior 1 in Popup Window Close Current Window</p>
7		<p>OnTextChanged:</p> <p>Case 1: Set value of behavior equal to text on focused widget</p>
8	Sam Lewis	<p>OnSelected:</p> <p>Case 1: Set value of student equal to "Samuel Lewis"</p>
9	Gabriella Trombley	<p>OnSelected:</p> <p>Case 1: Set value of student equal to "Gabriella Trombley"</p>
10	Angela Vaughn	<p>OnSelected:</p> <p>Case 1: Set value of student equal to "Angela Vaughn"</p>

1.5. Recorded positive behavior

1.5.1. User Interface

Your recorded that Samuel Lewis is doing the behavior: helping a peer. 3

Don't forget to commend your students on their positive behaviors!

Would you like to record any information in your behavior management systems?

1.5.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in New Window/Tab
3	student placeholder	OnLoad: Case 1: Set text on This equal to value of behavior

1.6. Preset this behavior?

1.6.1. User Interface

Would you like to make this behavior a default behavior? A default behavior will appear when you complete a quick-record.

1.6.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior advanced in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior advanced in Popup Window

1.7. Recorded positive behavior advanced

1.7.1. User Interface

Your recorded that your whole class is doing the behavior: being kind to new student.

Don't forget to commend your students on their positive behaviors!

Would you like to record any information in your behavior management systems?

1.7.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in New Window/Tab

1.8. Recorded negative behavior 2

1.8.1. User Interface

Your recorded that Angela Vaughn is doing the behavior: speaking out.

If you comment on their behavior, always remember to tell your students why this behavior is negative.

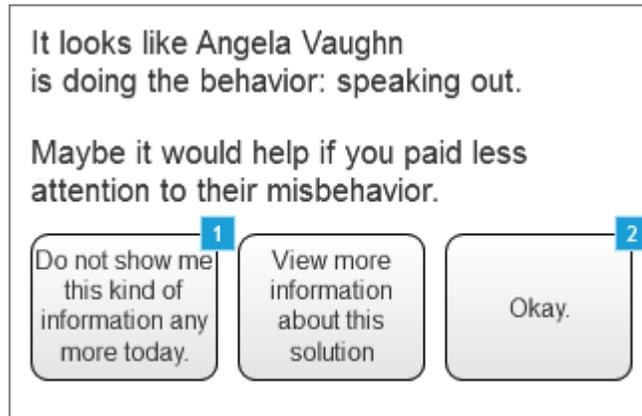
Would you like to record any information in your behavior management systems?

1.8.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in New Window/Tab

1.9. Recorded negative behavior 1

1.9.1. User Interface



1.9.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 2 in Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 2 in Popup Window

1.10. History of Behaviors

1.10.1. User Interface

The screenshot displays a user interface for 'Ms. Trombley's first grade class'. At the top, there is a header with the class name and a 'My Profile' button. Below the header is a navigation bar with five tabs: 'Record Behavior' (1), 'Current Behavior Management Systems' (2), 'History of Behaviors and Behavior Management Systems' (3), 'Teaching Resources' (4), and 'Class Information' (5). The 'History of Behaviors' section is active, showing four numbered items:

- 6 **Send Raw Data to my Email**
Send data that you have collected to the email listed in your profile.
- 7 **Create Personalized Graph of my Data**
Create graphs that visually represent the data you have collected.
- 8 **View my Saved Personalized Graphs**
Look back on the personalized graphs that you have created in the past.
- 9 **View the History of my Behavior Management Systems**
View information on the configuration of previous systems, as well as the data collected within these systems.

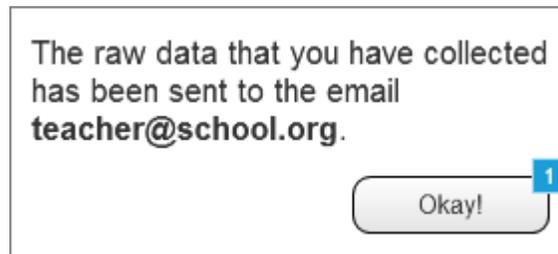
1.10.2. Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Record behavior box, Record behavior gray box Show Class information gray, teaching resources gray, Current behavior management systems gray, Class information box, teaching resources box, Current behavior management systems box Open Landing Page in Current Window
2	behavior management systems hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Current behavior management systems box, Current behavior management systems gray Show Class information gray, teaching resources gray, Record behavior gray box, Class information box, teaching resources box, Record behavior box Open Current Behavior Management Systems in Current Window
3	history of behaviors hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Show/Hide Widget Show Class information gray, teaching resources gray, Current behavior management systems gray, Record behavior gray box, teaching resources box, Class information box, Current behavior management systems box, Record behavior box
4	teaching resources hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide teaching resources gray, teaching resources box Show Class information gray, Current behavior management systems gray, Record behavior gray box, Class information box, Current behavior management systems box, Record behavior box Open Teaching Resources in Current Window
5	class information hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Class information gray, Class information box Show teaching resources gray, Current behavior management systems gray, Record behavior gray box, teaching resources box, Current behavior management systems box, Record behavior box Open Class Information in Current Window
6	My Profile	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Open Specify raw data included in email in Popup Window
7	My Profile	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Open Create Personalized Graph of my Data in Popup Window

Footnote	Name	Interactions
8	My Profile	OnClick: Case 1: Open Saved personalized graphs in Popup Window
9	My Profile	OnClick: Case 1: Open History of management systems in Current Window

1.11. Confirmation of data sent to email

1.11.1. User Interface



1.11.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

1.12. Create Personalized Graph of my Data

1.12.1. User Interface

Create Personalized Graph of my Data

Name of Graph: 4

Dates considered in data:

Start: Month: Day: Year:

End: Month: Day: Year:

Students Considered in Graph:

Lewis, Samuel

Trombley, Gabriella

Vaughn, Angela

Whole Class 1

I want to create a graph of:
(select one behavior)

Helping a peer

Completing work

Focusing

Inattention

Speaking out

Negative interaction with peer

...compared to...
(select one comparison)

Schedule

Changes of schedule

Transitions

Negative peer interactions

2 3

1.12.2. Widget Table

Footnote	Name	Interactions
1	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"
2	My Profile	OnClick: Case 1: Close Current Window
3	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data 2 in Popup Window
4	Name of graph input	OnTextChanged: Case 1: Set value of OnLoadVariable equal to text on This

1.13. Specify raw data included in email

1.13.1. User Interface

Specify the Data Sent to You

Dates considered in data:

Start: Month: Day: Year:

End: Month: Day: Year:

Students Considered in data:

Lewis, Samuel

Trombley, Gabriella

Vaughn, Angela

Whole Class 1

Behaviors considered in data:
(select one behavior)

Helping a peer

Completing work

Focusing

Inattention

Speaking out

Negative interaction with peer

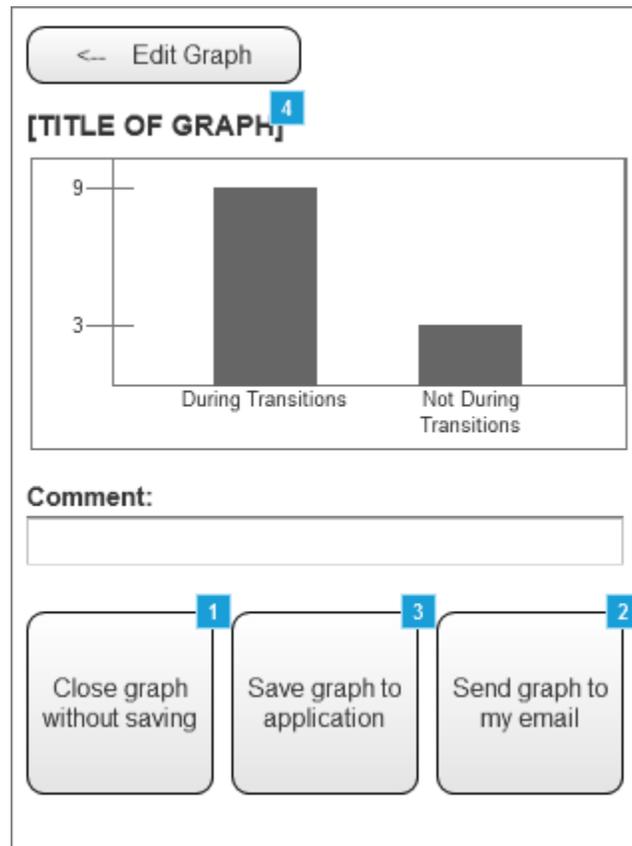
2
 3

1.13.2. Widget Table

Footnote	Name	Interactions
1	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"
2	My Profile	OnClick: Case 1: Close Current Window
3	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of data sent to email in Popup Window

1.14. Create Personalized Graph of my Data 2

1.14.1. User Interface

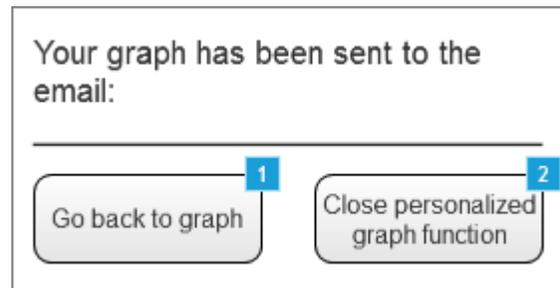


1.14.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of graph sent to email in Current Window
3	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of graph saved to app in Popup Window
4	Title of graph	OnLoad: Case 1: Set text on This equal to value of OnLoadVariable

1.15. Confirmation of graph sent to email

1.15.1. User Interface

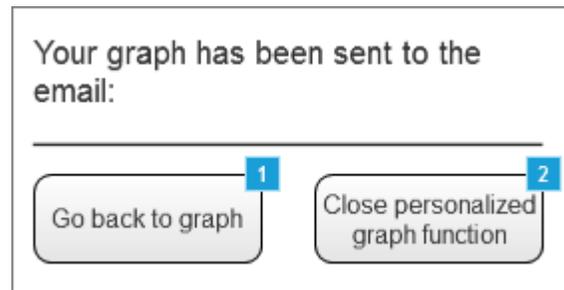


1.15.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

1.16. Confirmation of graph sent to email 2

1.16.1. User Interface

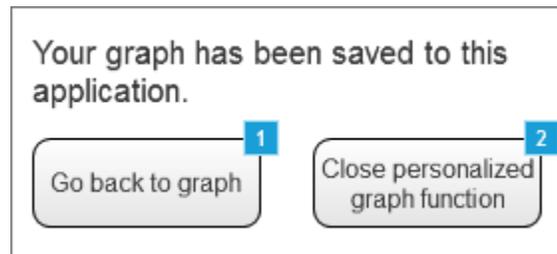


1.16.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

1.17. Confirmation of graph saved to app

1.17.1. User Interface



1.17.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data 2 in Current Window
2	My Profile	OnClick: Case 1: Close Current Window

1.18. Saved personalized graphs

1.18.1. User Interface

Create Personalized Graph of my Data
Click on one graph for more information.

Name ^ Date Created ^ 3

Graph A Date B 1

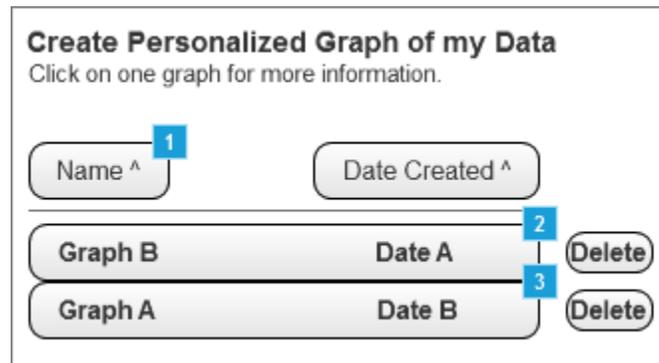
Graph B Date A 2

1.18.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs 2 in Popup Window

1.19. Saved personalized graphs 2

1.19.1. User Interface

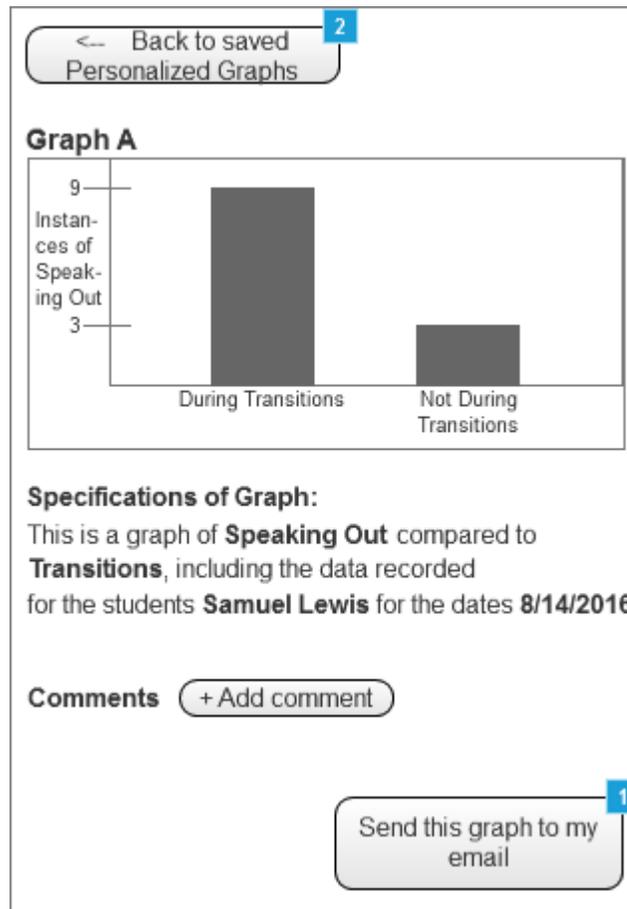


1.19.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window

1.20. More information saved graphs

1.20.1. User Interface

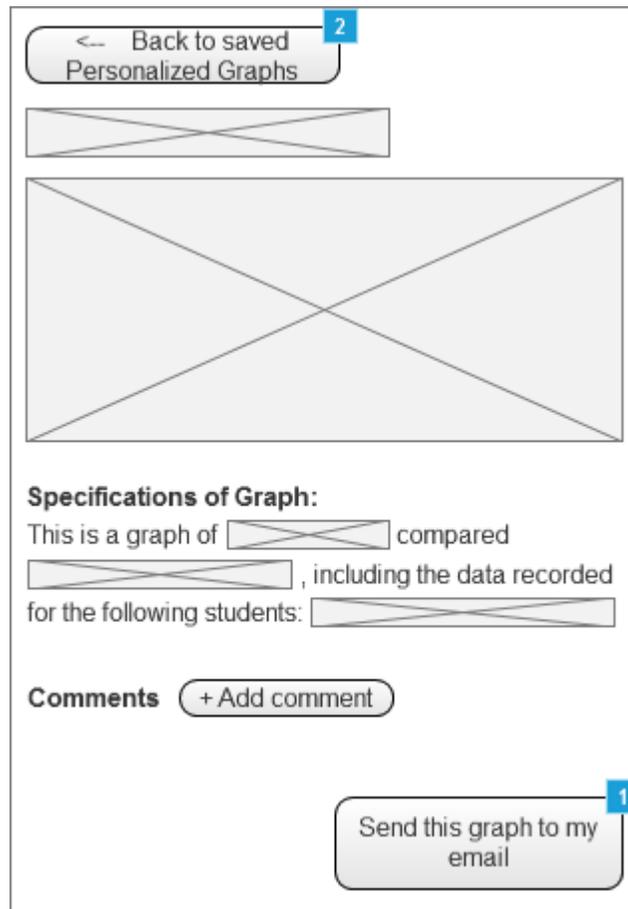


1.20.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of graph sent to email 2 in Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs in Popup Window

1.21. More information saved graphs 2

1.21.1. User Interface



1.21.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of graph sent to email 2 in Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs in Popup Window

1.22. History of management systems

1.22.1. User Interface

History of Behavior Management Systems.
Click on a system for more information.

Name ^ 1 Date Started ^ Date Ended

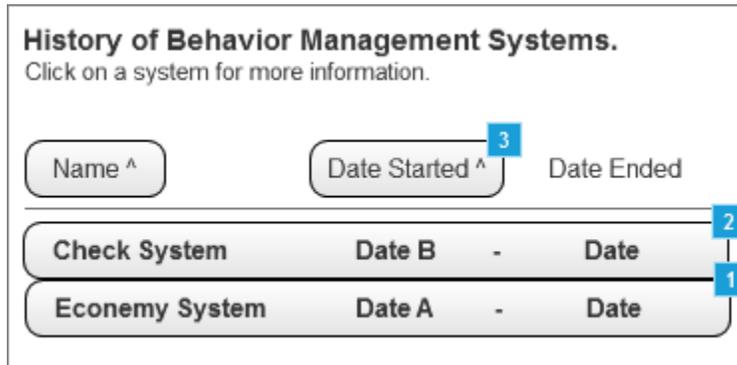
Economy System	Date A	-	Date	2
Check System	Date B	-	Date	3

1.22.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open History of management systems 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Specifics of behavior management systems in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window

1.23. History of management systems 2

1.23.1. User Interface



1.23.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Specifics of behavior management systems in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open History of management systems in Popup Window

1.24. Specifics of behavior management systems

1.24.1. User Interface

<-- Back to list of previous behavior management systems 1

Name of System: Economy System
Dates: 8/1/2016 - present
Students Involved: Whole Class
Specifications of Graph:
 This is a graph of **your time spent on behavior management**, compared to **the date this information was recorded**, including the data recorded for the following students: **full class**.

The above graph shows the amount of time that you spent on behavior interventions in your class during the specified dates of this management system.

To create a more specific graph: Make a personalized graph of my data 2

Comments + Add comment

No existing comments.

1.24.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open History of management systems in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data in Popup Window

1.25. Current Behavior Management Systems

1.25.1. User Interface

Ms. Trombley's first grade class My Profile

Record Behavior 6 Current Behavior Management Systems 7 History of Behaviors and Behavior Management Systems 8 Teaching Resources 9 Class Information

Behavior Management Systems

Red/Yellow/Green light system 2 **Red/Yellow/Green light System**
Drag a student to change their position

Check System 3 Red 10
Angela Vaughn

Economy System 4 Yellow 1 Samuel Lewis 11 Gabriella Trombley

Custom A

Green

Stop System 12 View System History Edit System Specifications

+ Add new behavior management system 5

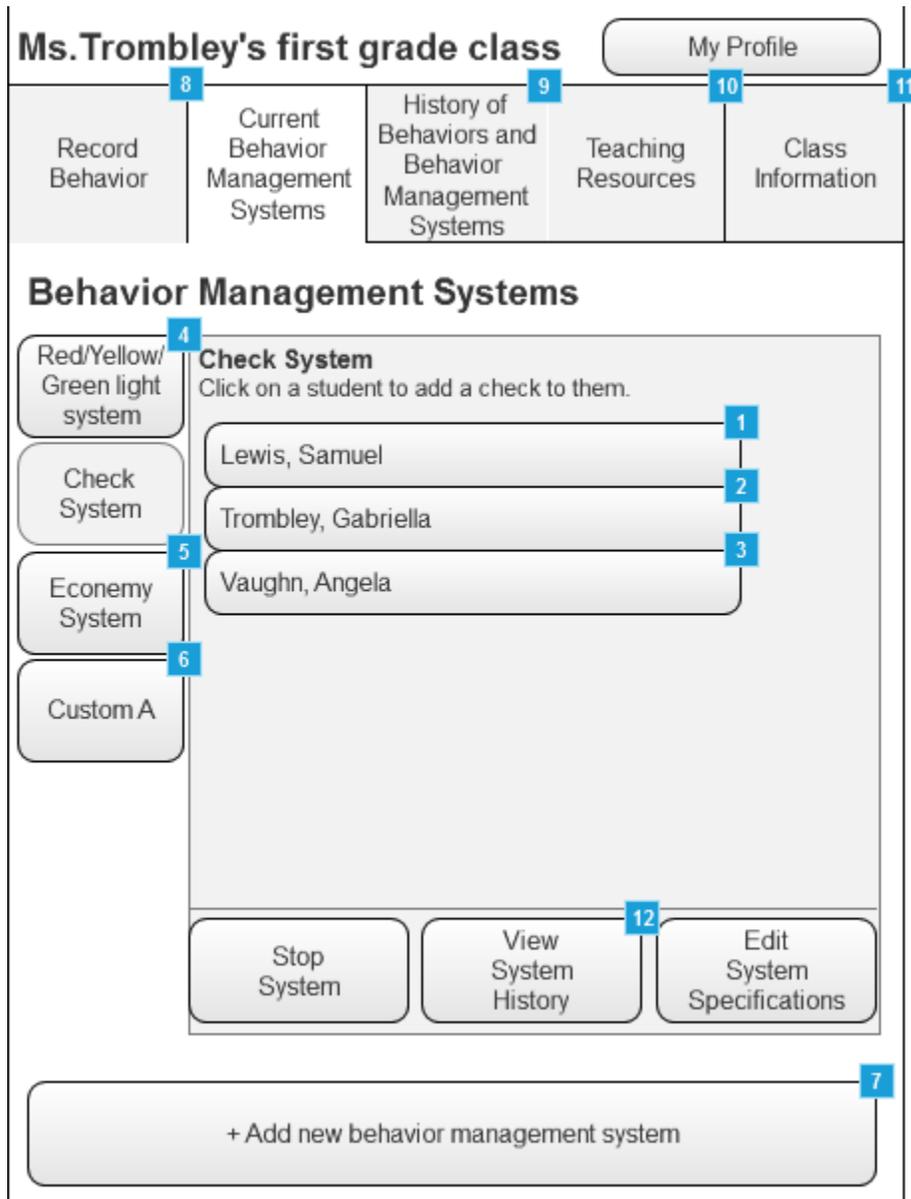
1.25.2. Widget Table

Footnote	Name	Interactions
1		OnDrag: Case 1: Move This with drag
2	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 2 in Current Window
3	My Profile	OnClick: Case 1: Open Current Behavior Management System 3 in Current Window

Footnote	Name	Interactions
4	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 4 in Current Window
5	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
6	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information gray, teaching resources gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box Open Landing Page in Parent Frame Hide record behavior gray, record behavior box
7	history of behaviors hot spot	OnClick: Case 1: Hide history of behaviors gray, History of behaviors box Show Class information gray, teaching resources gray, teaching resources box, Class information box Open History of Behaviors in Current Window
8	teaching resources hot spot	OnClick: Case 1: Hide teaching resources gray, teaching resources box Show Class information gray, history of behaviors gray, Class information box, History of behaviors box Open Teaching Resources in Current Window
9	class information hot spot	OnClick: Case 1: Hide Class information gray, Class information box Show teaching resources gray, history of behaviors gray, teaching resources box, History of behaviors box Open Class Information in Current Window
10		OnDrag: Case 1: Move This with drag
11		OnDrag: Case 1: Move This with drag
12	My Profile	OnClick: Case 1: Open History of management systems in Popup Window

1.26. Current Behavior Management Systems 2

1.26.1. User Interface



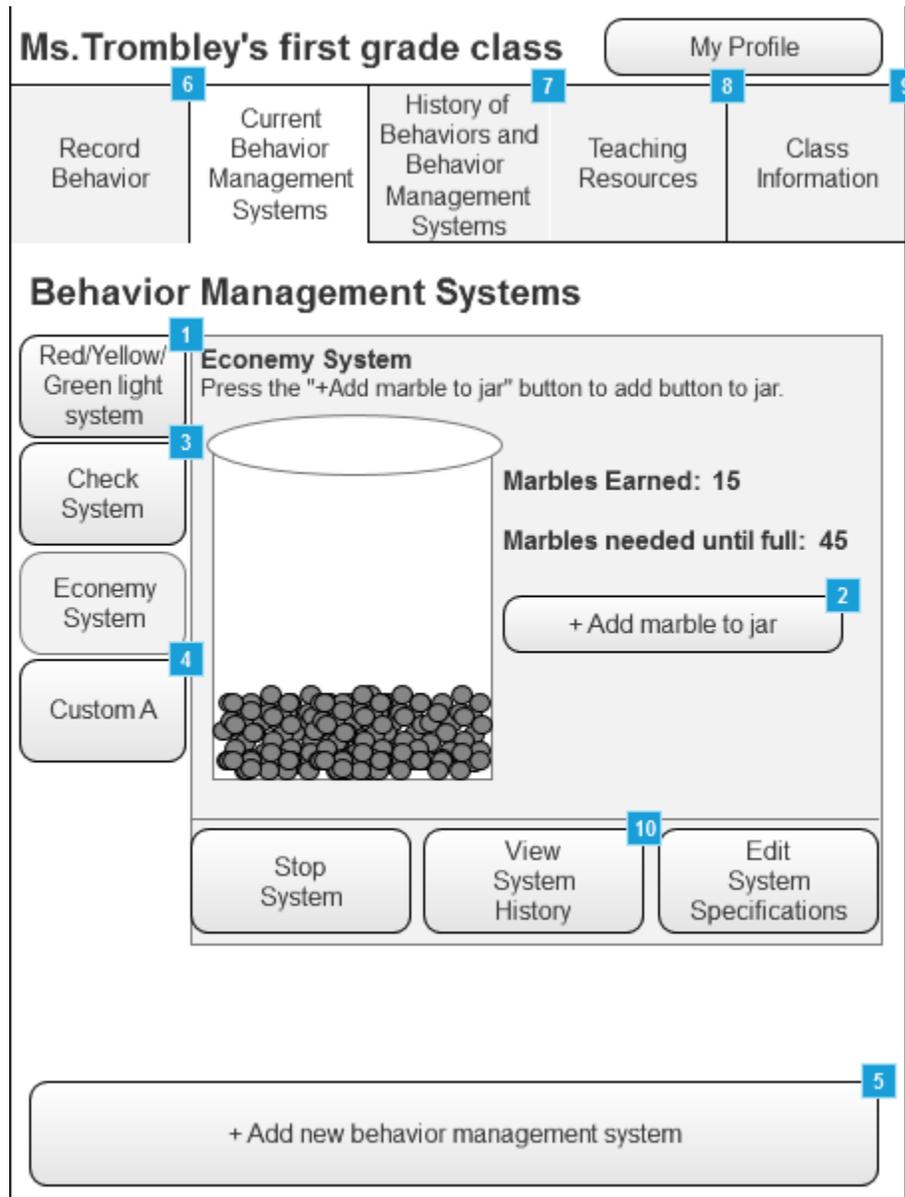
1.26.2. Widget Table

Footnote	Name	Interactions
1	sam lewis	OnClick: Case 1: Set text on This equal to "[[LVAR1 + " "]]"
2	gabriella	OnClick: Case 1: Set text on This equal to "[[LVAR2 + " "]]"
3	angela	OnClick: Case 1: Set text on This equal to "[[LVAR3 + " "]]"

Footnote	Name	Interactions
4	My Profile	OnClick: Case 1: Open Current Behavior Management Systems in Current Window
5	My Profile	OnClick: Case 1: Open Current Behavior Management System 3 in Current Window
6	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 4 in Current Window
7	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
8	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information gray, teaching resources gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box Open Landing Page in Parent Frame Hide record behavior gray, record behavior box
9	history of behaviors hot spot	OnClick: Case 1: Hide history of behaviors gray, History of behaviors box Show Class information gray, teaching resources gray, teaching resources box, Class information box Open History of Behaviors in Current Window
10	teaching resources hot spot	OnClick: Case 1: Hide teaching resources gray, teaching resources box Show Class information gray, history of behaviors gray, Class information box, History of behaviors box Open Teaching Resources in Current Window
11	class information hot spot	OnClick: Case 1: Hide Class information gray, Class information box Show teaching resources gray, history of behaviors gray, teaching resources box, History of behaviors box Open Class Information in Current Window
12	My Profile	OnClick: Case 1: Open History of management systems in Popup Window

1.27. Current Behavior Management System 3

1.27.1. User Interface



1.27.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open Current Behavior Management Systems in Current Window
2	My Profile	OnClick: Case 1: Set text on marbles needed equal to "[[LVAR1 - 1]]" Set text on Marbles earned equal to "[[LVAR2 + 1]]"

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 2 in Current Window
4	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 4 in Current Window
5	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
6	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information gray, teaching resources gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box Open Landing Page in Parent Frame Hide record behavior gray, record behavior box
7	history of behaviors hot spot	OnClick: Case 1: Hide history of behaviors gray, History of behaviors box Show Class information gray, teaching resources gray, teaching resources box, Class information box Open History of Behaviors in Current Window
8	teaching resources hot spot	OnClick: Case 1: Hide teaching resources gray, teaching resources box Show Class information gray, history of behaviors gray, Class information box, History of behaviors box Open Teaching Resources in Current Window
9	class information hot spot	OnClick: Case 1: Hide Class information gray, Class information box Show teaching resources gray, history of behaviors gray, teaching resources box, History of behaviors box Open Class Information in Current Window
10	My Profile	OnClick: Case 1: Open History of management systems in Popup Window

1.28. Current Behavior Management Systems 4

1.28.1. User Interface

Ms. Trombley's first grade class My Profile My Profile

Record Behavior 5 Current Behavior Management Systems History of Behaviors and Behavior Management Systems 6 Teaching Resources 7 Class Information 8

Behavior Management Systems

Red/Yellow/Green light system 1 **Custom A**

Check System 3 When **Samuel Lewis** exhibits **inattention 5 times**, they will receive the **punishment of completing work during free time**.

Economy System 2 **Times inattention counted: 2**

Custom A **Times inattention must be recorded until punishment is given: 3**

+1 Samuel Lewis exhibited inattention

Stop System View System History 9 Edit System Specifications

+ Add new behavior management system 4

1.28.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open Current Behavior Management Systems in Current Window
2	My Profile	OnClick: Case 1: Open Current Behavior Management System 3 in Current Window
3	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 2 in Current Window

Footnote	Name	Interactions
4	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
5	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information gray, teaching resources gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box Open Landing Page in Parent Frame Hide record behavior gray, record behavior box
6	history of behaviors hot spot	OnClick: Case 1: Hide history of behaviors gray, History of behaviors box Show Class information gray, teaching resources gray, teaching resources box, Class information box Open History of Behaviors in Current Window
7	teaching resources hot spot	OnClick: Case 1: Hide teaching resources gray, teaching resources box Show Class information gray, history of behaviors gray, Class information box, History of behaviors box Open Teaching Resources in Current Window
8	class information hot spot	OnClick: Case 1: Hide Class information gray, Class information box Show teaching resources gray, history of behaviors gray, teaching resources box, History of behaviors box Open Class Information in Current Window
9	My Profile	OnClick: Case 1: Open History of management systems in Popup Window

1.29. Add new behavior management system

1.29.1. User Interface

Add New Behavior Management System

Pre-Set Options:
Select one of the options below. By selecting one of the pre-set options, some of the specifications on the next page will be filled in for you. However, you will still be able to edit these specifications.

- Economy System 2
Give your class marbles when they behave well as a whole.
When there are a certain number of marbles, reward them with a prize.
- Check System 3
Give your students check marks when they are behaving well individually.
Reward the student with the most number of checks at the end of a given period of time with a prize.
- Red/Yellow/Green Light System 4
Give students feedback on their behavior by putting them on a chart with red, yellow, and green lights, and moving them according to their behavior.
- Customized System 5
Create your own system by inputting information such as the targeted behavior, and how it will be punished or reinforced.

Next --> 1

1.29.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new behavior management system 2 in Popup Window
2	economy system	OnSelected: Case 1: Set is selected of customized system equal to "false", and is selected of red/yellow/green light system equal to "false", and is selected of check system equal to "false"
3	check system	OnSelected: Case 1: Set is selected of economy system equal to "false", and is selected of check system equal to "false", and is selected of customized system equal to "false"
4	red/yellow/green light system	OnSelected: Case 1: Set is selected of economy system equal to "false", and is selected of check system equal to "false", and is selected of customized system equal to "false"
5	customized system	OnSelected: Case 1: Set is selected of economy system equal to "false", and is selected of check system equal to "false", and is selected of red/yellow/green light system equal to "false"

1.30. Add new behavior management system 2

1.30.1. User Interface

Name of Intervention:

Students Involved:

Lewis, Samuel
 Trombley, Gabriella
 Vaughn, Angela
 Whole Class 1

The behavior targeted with this management system is:

General Behavior 6
 Specific: 7

The targeted behavior is:

Positive 2
 Negative 3

Timing of targeted behavior(s):

The behavior needs to be 8 completed times for the student(s) to receive the reward/punishment.
 The behavior needs to be completed 9 minutes for the student(s) to receive the reward/punishment.

The behavior will be...

Reinforced 4
 Punished 5

...with...

Personalized Comment

10

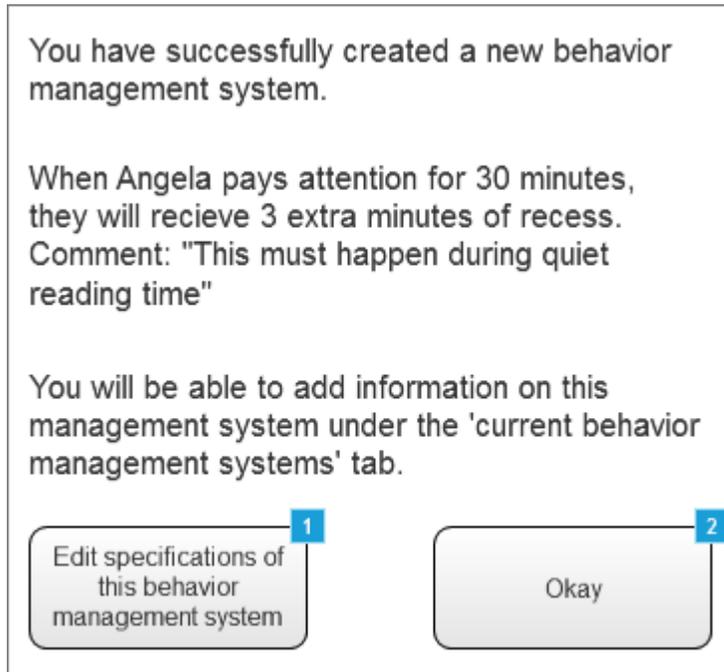
1.30.2. Widget Table

Footnote	Name	Interactions
1	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"

Footnote	Name	Interactions
2	positive radio	OnSelected: Case 1: Set is selected of negative radio equal to "false"
3	negative radio	OnSelected: Case 1: Set is selected of positive radio equal to "false"
4	positive radio	OnSelected: Case 1: Set is selected of negative radio equal to "false"
5	negative radio	OnSelected: Case 1: Set is selected of positive radio equal to "false"
6	general behavior radio	OnSelected: Case 1: Set is selected of specific behavior radio equal to "false"
7	specific behavior radio	OnSelected: Case 1: Set is selected of general behavior radio equal to "false"
8	A	OnSelected: Case 1: Set is selected of B equal to "false"
9	B	OnSelected: Case 1: Set is selected of A equal to "false"
10	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of new behavior management system in Popup Window

1.31. Confirmation of new behavior management system

1.31.1. User Interface



1.31.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new behavior management system 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

1.32. Teaching Resources

1.32.1. User Interface

The screenshot displays a user interface for 'Ms. Trombley's first grade class'. At the top, there is a header with the class name and a 'My Profile' button. Below the header is a navigation bar with five tabs: 'Record Behavior', 'Current Behavior Management Systems', 'History of Behaviors and Behavior Management Systems', 'Teaching Resources', and 'Class Information'. The 'Teaching Resources' tab is selected. Below the navigation bar, the 'Teaching Resources' section is visible, containing two resource cards. The first card is titled 'Read 'Behavior Management Digest'' and describes a combination of resources for behavior management. The second card is titled 'Reflect on my Teaching Practices' and describes a resource for recording and reviewing teaching practices. Blue numbered callouts (1-7) are placed over the interface elements.

Ms. Trombley's first grade class My Profile

1 Record Behavior 2 Current Behavior Management Systems 3 History of Behaviors and Behavior Management Systems 4 Teaching Resources 5 Class Information

Teaching Resources

6 **Read 'Behavior Management Digest'**
This combination of resources will provide useful information on behavior management systems.

7 **Reflect on my Teaching Practices**
With this resource, you can record yourself teaching, and review it with questions, which will guide your attention to problem areas.

1.32.2. Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Record behavior box, Record behavior gray box Show Class information gray, Current behavior management systems gray, history of behaviors gray, Class information box, History of behaviors box, Current behavior management systems box Open Link in Parent Frame Open Landing Page in Current Window
2	behavior management systems hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Current behavior management systems box, Current behavior management systems gray Show Class information gray, Record behavior gray box, history of behaviors gray, Class information box, History of behaviors box, Record behavior box Open Current Behavior Management Systems in Current Window
3	history of behaviors hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide history of behaviors gray, History of behaviors box Show Class information gray, Current behavior management systems gray, Record behavior gray box, Class information box, Current behavior management systems box, Record behavior box Open History of Behaviors in Current Window
4	teaching resources hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Show/Hide Widget Show Class information gray, Current behavior management systems gray, history of behaviors gray, Record behavior gray box, Class information box, History of behaviors box, Current behavior management systems box, Record behavior box
5	class information hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Class information gray, Class information box Show Current behavior management systems gray, history of behaviors gray, Record behavior gray box, History of behaviors box, Current behavior management systems box, Record behavior box Open Class Information in Current Window
6	My Profile	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Open Reflect on teaching practices in Popup Window

Footnote	Name	Interactions
7	My Profile	OnClick: Case 1: Open Reflect on teaching practices in Popup Window

1.33. Reflect on teaching practices

1.33.1. User Interface

Teaching Practices Reflections

Start a new reflection, review previous reflections, or compare previous reflections.

Start a new reflection ³

Previous Reflections

Click on the reflection to listen to the recording and review or edit the response form.

Date¹ **Form Completed?²**

8/5/2016 **No**

Compare responses on review forms over time ⁴

1.33.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1:
2	My Profile	OnClick: Case 1:
3	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 1 in Popup Window
4	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections in Popup Window

1.34. Reflect on teaching practices after practice

1.34.1. User Interface

Teaching Practices Reflections
Start a new reflection, review previous reflections, or compare previous reflections.

Start a new reflection 3

Previous Reflections
Click on the reflection to listen to the recording and review or edit the response form.

Date 1 **Form Completed?** 2

8/10/2016	Yes	5
8/5/2016	No	

Compare responses on review forms over time 4

1.34.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1:
2	My Profile	OnClick: Case 1:
3	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 1 in Popup Window
4	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections in Popup Window
5	My Profile	OnClick: Case 1: Open Review of reflection in Popup Window Close Current Window

1.35. New Reflection 1

1.35.1. User Interface

New Reflection

To start a new reflection, record a period of your teaching by starting the recording below. Once you complete your recording, you will be able to answer a series of questions which will help you review your teaching practices.

|> Start Recording

1

1.35.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 2 in Popup Window

1.36. New Reflection 2

1.36.1. User Interface

New Reflection
To start a new reflection, record a period of your teaching by starting the recording below. Once you complete your recording, you will be able to answer a series of questions which will help you review your teaching practices.

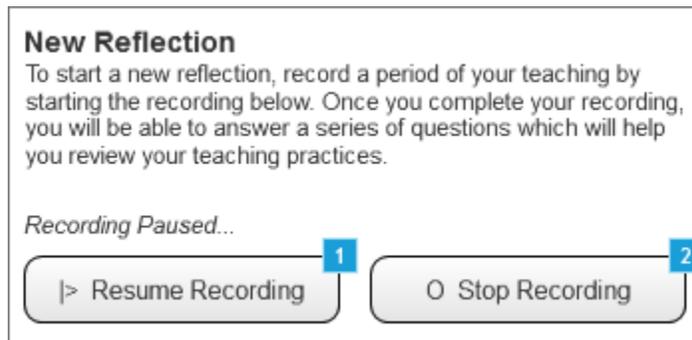
Recording in Progress...

1.36.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open New Recording 3 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Reflection after recording in Popup Window

1.37. New Recording 3

1.37.1. User Interface



1.37.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Reflection after recording in Popup Window

1.38. Reflection after recording

1.38.1. User Interface

New Reflection
You have successfully recorded a period of yourself teaching. To complete the reflection, answer the questions below. This will provide both data on your teaching practices, as well as a review of your teaching processes.

Your Recording:
Review your recording as you answer the following questions.

 00:00:00 ● 10:52:00

Questions:
Answer the following questions to reflect on your teaching practices.

1. Question A
2. Question B
3. Question C

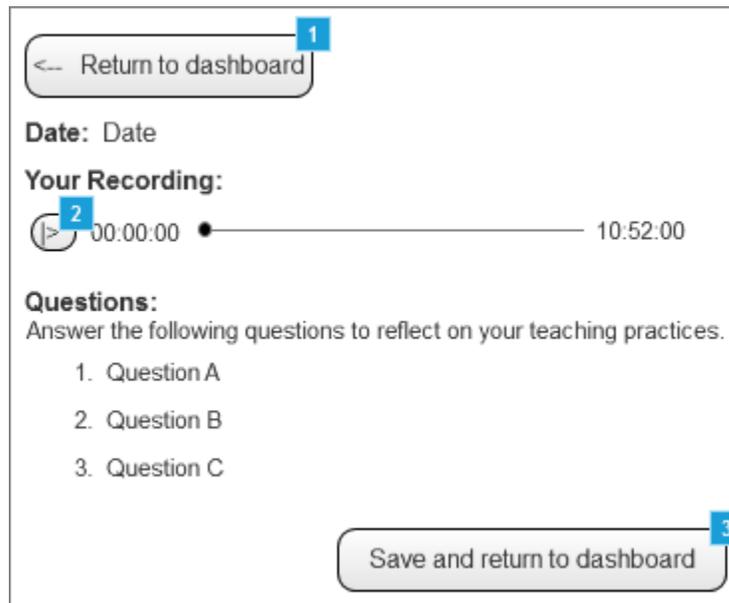
[Save and return to dashboard](#)

1.38.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices after practice in Popup Window
2	My Profile	OnClick: Case 1:

1.39. Review of reflection

1.39.1. User Interface



Return to dashboard 1

Date: Date

Your Recording:

▶ 2 00:00:00 ● 10:52:00

Questions:
Answer the following questions to reflect on your teaching practices.

1. Question A
2. Question B
3. Question C

Save and return to dashboard 3

1.39.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window
2	My Profile	OnClick: Case 1:
3	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices after practice in Popup Window

1.40. Comparison of reflections

1.40.1. User Interface

← Return to dashboard 1

Comparison of Reflections

Here you can create graphs comparing your reflections, and specify the information used when creating these graphs.

Graph Specifications

Date Range: -

Compare my form responses to the following behaviors:

- Helping a peer
- Completing work
- Focusing
- Inattention
- Speaking out
- Negative interaction with peers

Students Involved:

- Lewis, Samuel
- Trombley, Gabriella
- Vaughn, Angela
- Whole Class 2

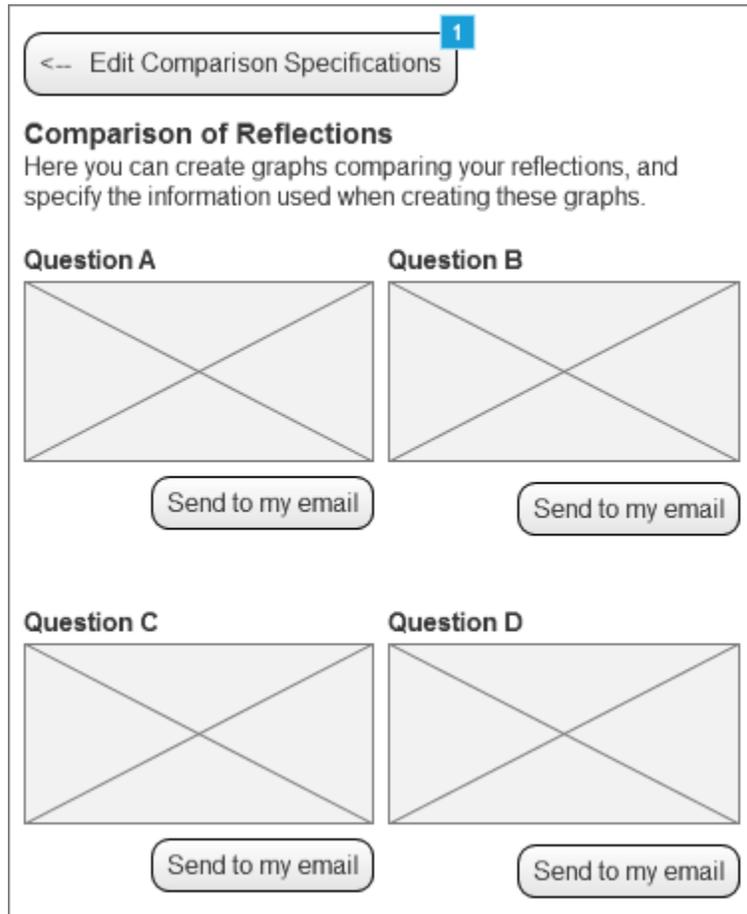
View Comparisons 3

1.40.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window
2	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"
3	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window

1.41. Comparison of reflections 2

1.41.1. User Interface

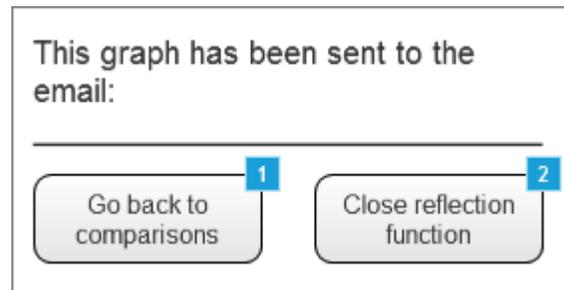


1.41.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections in Popup Window

1.42. Email confirmation

1.42.1. User Interface



1.42.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window

1.43. Class Information

1.43.1. User Interface

Ms. Trombley's first grade class

My Profile

Record Behavior	Current Behavior Management Systems	History of Behaviors and Behavior Management Systems	Teaching Resources	Class Information
-----------------	-------------------------------------	--	--------------------	-------------------

Class Information

Edit Class Information

Name: Ms. Trombley's first grade class
Time class is in session: 8:45AM - 3:25PM
Dates class is in session: 9/1/15 - 6/21/16

Class Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
8:45 - 9:15	Morning Work/Check In			
9:15 - 9:45	Morning Meeting			
9:45 - 10:00	Snack			
10:00 - 10:45	Quiet Reading			
10:45 - 11:15	Math Groups			
11:15 - 12:15	Special: Art			
12:15 - 12:45	Lunch/Recess			
12:45 - 1:30	Science Project work			
1:30 - 2:00	Assembly			
2:00 - 2:45	Social Studies Workbook			
2:45 - 3:15	Free Choice			
3:15 - 3:30	Packing Up			

Class List:
Lewis, Samuel
Trombley, Gabriella
Vaughn, Angela

1.43.2. Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Record behavior box, Record behavior gray box Show teaching resources gray, Current behavior management systems gray, history of behaviors gray, teaching resources box, History of behaviors box, Current behavior management systems box Open Landing Page in Current Window
2	behavior management systems hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Current behavior management systems box, Current behavior management systems gray Show teaching resources gray, Record behavior gray box, history of behaviors gray, teaching resources box, History of behaviors box, Record behavior box Open Current Behavior Management Systems in Current Window
3	history of behaviors hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide history of behaviors gray, History of behaviors box Show teaching resources gray, Current behavior management systems gray, Record behavior gray box, teaching resources box, Current behavior management systems box, Record behavior box Open History of Behaviors in Current Window
4	teaching resources hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide teaching resources gray, teaching resources box Show Current behavior management systems gray, history of behaviors gray, Record behavior gray box, History of behaviors box, Current behavior management systems box, Record behavior box Open Teaching Resources in Current Window
5	class information hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Show/Hide Widget Show teaching resources gray, Current behavior management systems gray, history of behaviors gray, Record behavior gray box, teaching resources box, History of behaviors box, Current behavior management systems box, Record behavior box

Footnote	Name	Interactions
6	Hot spot Monday	OnClick: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday OnLoad: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday
7	Hot spot Tuesday	OnClick: Case 1: Hide Gray Tuesday Show Gray Monday, Gray Wednesday, Gray Thursday, Gray Friday
8	Hot spot Wednesday	OnClick: Case 1: Hide Gray Wednesday Show Gray Monday, Gray Tuesday, Gray Thursday, Gray Friday
9	Hot spot Thursday	OnClick: Case 1: Hide Gray Thursday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Friday
10	Hot spot Friday	OnClick: Case 1: Hide Gray Friday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Thursday
11	Gray Tuesday	OnLoad: Case 1: Hide This
12	Gray Wednesday	OnLoad: Case 1: Hide This
13	Gray Thursday	OnLoad: Case 1: Hide This
14	Gray Friday	OnLoad: Case 1: Hide This
15	My Profile	OnClick: Case 1: Open Class information edit in Current Window

1.44. Class information edit

1.44.1. User Interface

Ms. Trombley's first grade class

My Profile

Record Behavior	Current Behavior Management Systems	History of Behaviors and Behavior Management Systems	Teaching Resources	Class Information
-----------------	-------------------------------------	--	--------------------	-------------------

Class Information

Name:

Time class is in session:

Dates class is in session:

Current Activities in Schedule:

Morning Work/Check in	M, Tu, W, Th, F	8:45AM -
Morning Meeting	M, Tu, W, Th, F	9:15AM -
Snack	M, Tu, W, Th, F	9:45AM -
Quiet Reading	M, W, F	10:00AM -
Literacy Workshop	Tu, Th	10:00AM -
Math Groups	M, F	10:45AM -
Math Lesson/Workbooks	Tu, W, Th	10:45AM -
Special: Art	M	11:15AM -
Special: Gym	Tu, Th	11:15AM -
Special: Computer Lab	W	11:15AM -

+ Add new activity

Class List: + Add new student

Lewis, Samuel
Trombley, Gabriella
Vaughn, Angela

Done Editing

1.44.2. Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Record behavior box, Record behavior gray box Show Class information gray, teaching resources gray, Current behavior management systems gray, history of behaviors gray, Class information box, teaching resources box, History of behaviors box, Current behavior management systems box Open Link in Parent Frame
2	behavior management systems hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Current behavior management systems box, Current behavior management systems gray Show Class information gray, teaching resources gray, Record behavior gray box, history of behaviors gray, Class information box, teaching resources box, History of behaviors box, Record behavior box
3	history of behaviors hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide history of behaviors gray, History of behaviors box Show Class information gray, teaching resources gray, Current behavior management systems gray, Record behavior gray box, teaching resources box, Class information box, Current behavior management systems box, Record behavior box
4	teaching resources hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide teaching resources gray, teaching resources box Show Class information gray, Current behavior management systems gray, history of behaviors gray, Record behavior gray box, Class information box, History of behaviors box, Current behavior management systems box, Record behavior box
5	class information hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Class information gray, Class information box Show teaching resources gray, Current behavior management systems gray, history of behaviors gray, Record behavior gray box, teaching resources box, History of behaviors box, Current behavior management systems box, Record behavior box

Footnote	Name	Interactions
6		OnClick: Case 1: Open Activity Information in Popup Window
7	My Profile	OnClick: Case 1: Open Class Information in Current Window
8	My Profile	OnClick: Case 1: Open Add new student popup in Popup Window
9	My Profile	OnClick: Case 1: Open Add new activity information in Popup Window

1.45. Activity Information

1.45.1. User Interface

Activity Information

Name:

Days of Activity:

M Tu W 2 Th F 3

Time of Activity:

1

1.45.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2		OnLoad: Case 1: Set is selected of This equal to "true"
3		OnLoad: Case 1: Set is selected of This equal to "true"

1.46. Add new student popup

1.46.1. User Interface

Add New Student

Search for student in school system

Search for Student **1**

1.46.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add New student with droplist in Popup Window

1.47. Add New student with droplist

1.47.1. User Interface

Add New Student

The following students match your search. Select one to add them to your class list, then press the 'add' button.

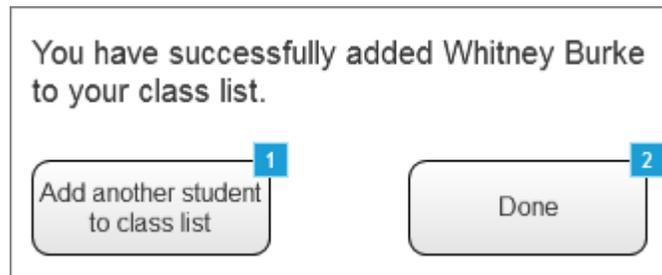
Edit Search Add student to class

1.47.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new student popup in Popup Window
2	My Profile	OnClick: Case 1 (If selected option of students found equals Burke, Whitney): Close Current Window Open Confirmation of added student in Popup Window

1.48. Confirmation of added student

1.48.1. User Interface



1.48.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new student popup in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Class Information 2 in Current Window

1.49. Add new activity information

1.49.1. User Interface

Add New Activity

Name:

Days pf Activity:

M Tu W Th F

Time of Activity: -

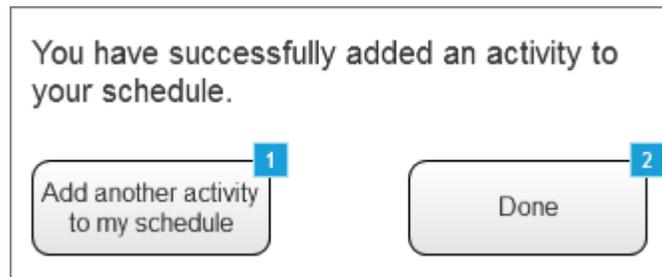
¹

1.49.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of added activity in Popup Window

1.50. Confirmation of added activity

1.50.1. User Interface



1.50.2. Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new activity information in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

1.51. Class Information 2

1.51.1. User Interface

Ms. Trombley's first grade class

My Profile

Record Behavior	Current Behavior Management Systems	History of Behaviors and Behavior Management Systems	Teaching Resources	Class Information
-----------------	-------------------------------------	--	--------------------	-------------------

Class Information

Edit Class Information

Name: Ms. Trombley's first grade class
Time class is in session: 8:45AM - 3:25PM
Dates class is in session: 9/1/15 - 6/21/16

Class Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
8:45 - 9:15	Morning Work/Check In			
9:15 - 9:45	Morning Meeting			
9:45 - 10:00	Snack			
10:00 - 10:45	Quiet Reading			
10:45 - 11:15	Math Groups			
11:15 - 12:15	Special: Art			
12:15 - 12:45	Lunch/Recess			
12:45 - 1:30	Science Project work			
1:30 - 2:00	Assembly			
2:00 - 2:45	Social Studies Workbook			
2:45 - 3:15	Free Choice			
3:15 - 3:30	Packing Up			

Class List:
Burke, Whitney
Lewis, Samuel
Trombley, Gabriella
Vaughn, Angela

1.51.2. Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Record behavior box, Record behavior gray box Show teaching resources gray, Current behavior management systems gray, history of behaviors gray, teaching resources box, History of behaviors box, Current behavior management systems box Open Landing Page in Current Window
2	behavior management systems hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide Current behavior management systems box, Current behavior management systems gray Show teaching resources gray, Record behavior gray box, history of behaviors gray, teaching resources box, History of behaviors box, Record behavior box Open Current Behavior Management Systems in Current Window
3	history of behaviors hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide history of behaviors gray, History of behaviors box Show teaching resources gray, Current behavior management systems gray, Record behavior gray box, teaching resources box, Current behavior management systems box, Record behavior box Open History of Behaviors in Current Window
4	teaching resources hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Hide teaching resources gray, teaching resources box Show Current behavior management systems gray, history of behaviors gray, Record behavior gray box, History of behaviors box, Current behavior management systems box, Record behavior box Open Teaching Resources in Current Window
5	class information hot spot	<p>OnClick:</p> <p>Case 1:</p> <ul style="list-style-type: none"> Show/Hide Widget Show teaching resources gray, Current behavior management systems gray, history of behaviors gray, Record behavior gray box, teaching resources box, History of behaviors box, Current behavior management systems box, Record behavior box

Footnote	Name	Interactions
6	Hot spot Monday	OnClick: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday OnLoad: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday
7	Hot spot Tuesday	OnClick: Case 1: Hide Gray Tuesday Show Gray Monday, Gray Wednesday, Gray Thursday, Gray Friday
8	Hot spot Wednesday	OnClick: Case 1: Hide Gray Wednesday Show Gray Monday, Gray Tuesday, Gray Thursday, Gray Friday
9	Hot spot Thursday	OnClick: Case 1: Hide Gray Thursday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Friday
10	Hot spot Friday	OnClick: Case 1: Hide Gray Friday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Thursday
11	Gray Tuesday	OnLoad: Case 1: Hide This
12	Gray Wednesday	OnLoad: Case 1: Hide This
13	Gray Thursday	OnLoad: Case 1: Hide This
14	Gray Friday	OnLoad: Case 1: Hide This
15	My Profile	OnClick: Case 1: Open Class information edit in Current Window

Formative Usability Testing

Alexandria conducted six formative usability tests with elementary school classroom teachers and special educators. The purpose of performing these formative usability tests was for Alexandria to:

- Observe likely users of the system interacting with it during theoretical “use scenarios”
- Identify areas where the application met the needs of the users
- Identify areas where the application was usable
- Identify areas where the application could better meet the needs of the users
- Identify areas that could have improved usability

Prior to conducting these observations, Tufts University Investigative Review Board (IRB) approved this research. Additionally, before conducting any observations in a school, Alexandria obtained informed consent from the teachers who she observed prior to conducting the observation.

During the usability testing, Alexandria presented subjects with tasks that they then performed using the application. While the subjects performed each task, Alexandria asked those subjects questions about the application, and about how they performed each task. Alexandria videotaped each usability test session. During the usability test sessions, Alexandria also recorded handwritten notes. After all of the test sessions, Alexandria transcribed the videos into a datasheet.

After conducting all formative usability tests, Alexandria outlined areas where the application could better meet the needs of users, and areas that could have improved usability. She then used this information to update the application prototype.



OFFICE OF THE VICE PROVOST FOR RESEARCH

Social, Behavioral, and Educational Research
Institutional Review Board
FWA00002063

September 15, 2016 | Notice of Action

IRB Study # 1608033 | Status: ACTIVE

ATTENTION: BEFORE CONDUCTING ANY RESEARCH, PLEASE READ THE ENTIRETY OF THIS NOTICE AS IT CONTAINS IMPORTANT INFORMATION ABOUT PROPER STUDY PROCEDURES.

Title: Design, Development, and Verification of Application for Streamlining of Behavior Management in Elementary Classrooms

PI: Alexandria Trombley
Faculty Advisor: Kristen Wendell

The PI is responsible for all information contained in both this notice of action and on the following **Investigator Responsibilities Sheet**.

Only copies of approved stamped consent forms and other study materials may be utilized when conducting your study.

This research protocol meets the requirements set forth by the Office for Human Research Protections in 45 CFR 46 and is approved under Expedited Category 6 & 7.

Reviewed 9/14/2016 – Expires 9/13/2017

- Approved for 10 participants for the duration of the study.

Protocol Management:

- All translated study documents must be submitted for review, approval, and stamping prior to use.
- For all changes to the protocol, submit: *Request for Protocol Modification* form
- All Adverse Events and Unanticipated Problems must be reported to the Office of the IRB promptly (no later than 7 calendar days after first awareness of the problem) using the appropriate forms.
- Six weeks prior to the expiration of the protocol on 9/13/2017, investigators must submit either a *Request for Continuing Review* or a *Request for Study Closure*
- All forms can be found at: <http://www.tufts.edu/central/research/IRB/Forms.htm>

IRB Administrative Representative Initials: _____

Formative Usability Test Plan

Introduction

Alexandria is developing the iPad application 'One-on-One' to assist classroom teachers in managing the problem behaviors of their students. Though some school districts have the financial resources to hire one-on-one aides and paraprofessionals to manage these behaviors, many others do not have these resources. With the application One-on-One, Alexandria believes that teachers will be able to manage their students' problem behaviors without distraction from their other teaching responsibilities.

Currently, the One-on-One application is in development. Alexandria has performed significant background research to define the user needs and system requirements for the application. With these requirements in mind, Alexandria conceptually modeled the application and translated that conceptual model into a low-fidelity prototype built with Axure.

The formative usability test's goal is to determine if users can find where different functions are on the application. Based on background research, teachers required the application to perform many functions. Before proceeding to the next stage of development, Alexandria wants to ensure that the structural design of the One-on-One application is sound.

This test plan describes a 10-participant test involving eight classroom teachers who work in elementary schools, and two special education professionals who work in elementary schools. Each test session will last up to 75 minutes, during which Alexandria will introduce the participant to the test environment, explain the test purpose, confirm status as a teacher or special education professional, administer hands-on tasks involving the low-fidelity prototype, and collect the participant's subjective feedback regarding the One-on-One application. During this time, Alexandria will video record the test sessions. After the test sessions, Alexandria will review the videos and collect objective data on the participant's performance while also recording subjective information provided by the test participant.

Methodology

Test location and dates

Alexandria will conduct up to 10 test sessions, starting at the time of IRB approval (likely by September 10th, 2016), and ending by September 30th, 2016. These test sessions will be conducted in private rooms in the participants' respective schools. Before recruitment, Alexandria will reach out to the directors/principals of the schools from which she would like to recruit participants, and ask their permission to use space at their school to execute the test. The email that will be used to ask this permission can be found in Appendix A.

During the test, the participant will sit at a table with Alexandria's iPad in front of them. This iPad will host the low-fidelity prototype of the One-on-One Application for use by the participant throughout the test session. One mounted video camera will be placed behind the participant such that the camera can capture the participant's actions on the iPad.

Test personnel

Typically, two individuals would administer the formative usability test—one administering the test, and one collecting data. However, because of the requirements of a senior honors thesis, Alexandria will administer this test alone. Alexandria will complete data collection post-test based on the video captured.

Test materials

- iPad with One-on-One application loaded
- Tripod
- Video camera
- Printed prompts

Participants and recruitment

Alexandria will personally recruit participants. She will find the emails of potential candidates on public websites. Alexandria will then send these potential participants a recruitment email (*see Appendix B*). If the potential participant responds that they are interested in partaking in the test, Alexandria will set up meeting times and locations with the participant on an individualized basis.

Informed consent

Each participant will have sufficient time to consider participation in the study and will have an opportunity to ask questions related to study participation. Prior to participating, each participant will read and sign an informed consent form that explains the study purpose, possible risks and benefits, and the anticipated study duration. The forms will also seek each participant's approval to video record during the test session (*see Appendix C*).

Test activities

Each test session will last up to 75 minutes, providing sufficient time for each participant to interact with and provide feedback on the One-on-One application. A detailed outline of the test activities is provided in Appendix D.

We expect each test session to include the following activities:

- Greet the participant

- Review and ask the participant to sign the informed consent form
- Explain the usability test purpose
- Have the participant complete the hands-on tasks
- Ask the participant follow-up questions about the application
- Thank the participant for their participation

Human subjects protection

Participants will be exposed to negligible risks during the usability test session.

Data collection

Alexandria will document the following test data from the video after the usability test sessions:

- Participants' anecdotal feedback regarding the One-on-One application
- Test personnel notes regarding the quality of users' interactions with the device
- Participants' responses to questions probing for subjective feedback

Alexandria will enter this information into a Microsoft Excel spreadsheet. Alexandria will collect data in a confidential manner and will not link the data to the participant's full name. She will use an alphanumeric code (e.g., P1 for the first participant) in lieu of the participant's name. This code will be linked to the video of the participants' test session, as well as the data recorded post-test based on this video.

Data Protections

Tufts Box is a password and firewall protected cloud storage system. The datasheets will be stored in Tufts Box for 3 years, and then destroyed. The videos will be stored in Tufts Box until all data has been extracted, and then these videos will be destroyed. Consent forms will be scanned and stored in Tufts Box. Hard copies of these forms will be stored in a locked drawer in Dr. Kristen Wendell's office. While being stored, the only people that will have access to these documents is PI Alexandria Trombley and her advisor Dr. Kristen Wendell.

Appendix A: Permission to Use School Grounds for Testing

Hello! I hope that this email finds you well. My name is Alexandria Trombley, and I am a rising senior at Tufts University's school of engineering. I have the privilege to be working on an honors thesis. For my honors thesis, I am designing, developing, and testing an application that will help classroom teachers and other education professionals track their students' behaviors efficiently, gain insight on the triggers of their behavioral problems, and improve these behavioral problems. To continue my work, I will be having teachers and special education professionals test the prototype of this application. I am wondering, if teachers and special education professionals from your school agree to participate in this test, if we could use space in your school for the test session?

Thank you for your time and consideration!

Best,

Alexandria Trombley

Appendix B: Recruiting Email

Hello! I hope that this email finds you well. My name is Alexandria Trombley, and I am a rising senior at Tufts University's school of engineering. I have the privilege to be working on an honors thesis. For my honors thesis, I intend to design, develop, and test an application that will help classroom teachers and other education professionals track their students' behaviors efficiently, gain insight on the triggers of their behavioral problems, and improve these behavioral problems. When the resources are available, this role would be filled by a paraprofessional or one-on-one teacher. However, there are not enough of these individuals to meet the needs of teachers and their students. I believe that this application could streamline the behavior management process for teachers, reducing the cognitive stress of behavior management in a full classroom.

To start my work, I have completed research based on empirical articles, collected information from teachers through the use of an online questionnaire, completed classroom observations to understand current behavior management practices, and interviewed special education professionals to determine how their needs could be reflected in the application design. From the information that I gathered in this work, I developed user needs and system requirements. From these system requirements, I have developed a low-fidelity prototype of the application. To determine if my design is easy to understand, I would like to test the prototype with classroom teachers and special educators such as yourself. This test would involve you completing a series of tasks with the application, and answering a couple of questions about your experience using the application and about how the application would meet your needs. This test of the application would last for approximately 75 minutes. During this test, you would be videotaped. These videotapes would be stored securely (in a password- and firewall-protected cloud storage system), and only be accessed by myself and my advisor, Dr. Kristen Wendell. Additionally, these tapes will be destroyed once they have been reviewed. Resulting data will also be stored securely, and only accessible by myself and Dr. Kristen Wendell.

I am wondering if you would be open to participating in this interview? Your participation in this aspect of my study would be greatly appreciated.

If you would be open to participating in this interview, and are comfortable with being videotaped, please contact me via email at alexandria.trombley@tufts.edu, or on my cellphone at 603.397.9085. I look forward to hearing from you soon!

Best,

Alexandria Trombley

Appendix C: Informed Consent Form

For her senior honors thesis, Alexandria Trombley will be creating an application called 'One-on-One,' which will help classroom teachers such as yourself record information about the behavior of students, and analyze the recorded data to have a better understanding of the students' problem behaviors, including their triggers and repercussions. Hopefully, an application such as this would help teachers who do not have access to the appropriate amount of support staff still provide one-on-one behavior management for their students in need of this service. Alexandria is conducting a research study in order to inform her thesis and the creation of the application. You are being asked to participate in an interview where you will interact with a prototype of Alexandria's application, and provide feedback on your experience. This interview will take approximately 75 minutes. During this time, Alexandria will be video recording the information you provide for future reference. Please note that your participation in this interview is optional, and you are more than welcome to pause or stop participating at any time.

Projected Risks: None.

Projected Benefits: Involvement in the design of an application that could one day be an asset in your classroom.

Confidentiality statement: Apart from your job title, no identifying information will be collected during this interview regarding yourself, or your students. As noted previously, you will be videotaped during this session. These videotapes will be stored securely (in a password- and firewall- protected cloud storage system called Tufts Box), only accessed by Alexandria and her advisor Dr. Kristen Wendell, and destroyed after review. The data resulting from review will also be stored securely, and only accessed by Alexandria and her advisor Dr. Kristen Wendell.

Compensation: None.

If you have any questions regarding this research, please contact the Principal Investigator Alexandria Trombley via email at Alexandria.Trombley@tufts.edu or on her cellphone at 603.397.9085.

If you have any questions about participant rights, please contact IRB Operations Manager Lara Sloboda via email at lara.sloboda@tufts.edu or at (617) 627-3417.

By signing below, you are consenting to Alexandria Trombley conducting the described interview, as well as to using the collected information in her application design and development.

Participant Signature

Date

Participant's Printed Name

PI's Signature

Date

PI's Printed Name

Appendix D: Test Plan

Introduction

Thanks again for participating in this test session. I invited you here today to collect your feedback on an application called 'One-on-One.' This application is in development. As you interact with the application, you might notice that it does not look or feel like a finalized product. In fact, this is a low-fidelity prototype of the application. We are here today to see if we are on the right track with design before we continue the development process.

Today, you will be reading different situations and tasks from pieces of paper. As you complete these tasks, I might ask you probing questions about why you completed a certain action. I will also ask you questions about the ease or difficulty you experience while completing certain tasks. As we go through this procedure, remember that we are not evaluating your ability to complete the tasks. Instead, we are working together to evaluate the application in its current state. With this in mind, please communicate your thoughts as you interact with the application as if your mind were on speakerphone. Specifically, please describe your impressions of the design, and whether or not you find certain tasks easy or difficult to complete

[Provide example of mind being on speakerphone with phone]

We will work together today for about 75 minutes. We do not have any scheduled breaks, but you can take a break at any time. You can also end the session at any time if you feel unwell or uncomfortable, without penalty. Do you have any questions before we get started?

Task 1 – Quick-Record Behavior

Prompt: Your student Samuel Lewis is helping another peer with their work. You are busy, but want to quickly record this behavior. How would you do this?

Example follow-up questions:

- Generally, how do you think the task went?
- What are your impressions of quick-recording this information?

Task 2 – Record Positive Behavior of Whole Class

Prompt Part 1: It is the end of the day. Today you had a new student in your class. Your class is typically not a group of compassionate individuals, but around 8:00 this morning they all worked together to show the new student around the classroom. You want to record that they completed this behavior this morning. How would you do this?

Prompt Part 2: You decide that your students deserve an award for their positive behavior. You use an economy behavior management system with your class where you give them marbles in response to positive behaviors. When they earn enough marbles, they get a pizza party. You think it would be a good idea to reward them with 3 marbles. How would you do this?

Example follow-up questions:

- Generally, how do you think the task went?
- What are your impressions of the advanced-record function of this application?

- Can you record all of the information that you think you would want to?

What are your first impressions of the behavior management system screen?

How did finding and updating the economy system go for you?

Task 3 – Record Behavior Using Red/Yellow/Green Light Behavior Management System

Prompt Part 1: Gabriella Trombley is misbehaving. You use a red/yellow/green light system in your class, and want to move her down because of her poor behavior. How would you do this?

Prompt Part 2: What button would you press if you wanted to edit the characteristics of the behavior management system?

Example follow-up questions:

- Generally, how do you think the task went?
- What are your impressions of the red/yellow/green light behavior management system on the application?

How did updating the economy system go for you?

Task 4 – Record Behavior Using Check Behavior Management System

Prompt Part 1: You notice Samuel going around, picking up trash after snack time. You use a check system in your class where you reward students with check marks when they are going above and beyond their duties. You want to give Samuel a check. How would you do this?

Prompt Part 2: What button would you press if you wanted to stop the system?

Example follow-up questions:

- Generally, how do you think the task went?
- What are your impressions of check behavior management system on the application?
- How did finding the stop button go for you?

How did updating the check system go for you?

Task 5 – Set up Customized Behavior Management System

Prompt: Your student Angela has some behavioral difficulties. One of these behavioral difficulties is attention, especially during quiet reading times. You decide that if the student can pay attention for 20 minutes during this time, they will earn 3 minutes of extra recess. Set up a new behavioral management system for this student.

Example follow-up questions:

- Generally, how do you think the task went?
- What are your impressions of the design of the customized behavior management program input form?
 - Does the form include all of the information you would expect to include when designing a customized behavior management program?

Task 6 – View Information on History of Behavior

Prompt: You want to see whether the economy system you have been using has been effective in decreasing the amount of time you have spent on behavior management. Where would you find this information?

Example follow-up questions:

- Generally, how do you think the task went?
- How did finding this function go for you?
- What are your impressions of the design of the form you used to develop the graph
 - Does the form include all of the information you would expect to include when designing a customized graph?

Task 7 – Access Raw Data on Student’s Behavior

Prompt: You are headed to a parent meeting with the parents of Angela Vaughn. You would like to provide them with raw data on her behaviors for the last week, including: focusing and inattention. How would you do this?

Example follow-up questions:

- Generally, how do you think the task went?
- How did finding the ‘Download Raw Data’ button go for you?

Task 8 – Compare Speaking Out to Classroom Transitions

Prompt Part 1: Sam often speaks out. You want to compare his speaking out to transitions in the schedule to see if there is a relationship. You recorded data about this today. How would you do this?

Prompt Part 2: Save the graph to the application.

Prompt Part 3: Go to the home screen. Now you would like to view the graph again. How would you do this?

Example follow-up questions:

- Generally, how do you think the task went?
- How did generating the graph go for you?
- How did saving the graph to the application go for you?
- How did finding the graph after saving it go for you?

Task 9 – Access Information on Behavior Management

Prompt: You have some questions about how to manage students who frequently instigate fights with their peers. Where would you go to find information on this topic?

Example follow-up questions:

- Generally, how do you think the task went?
- How did finding this information go for you?

Task 10 – Record Teaching

Prompt Part 1: It seems as though no matter what you do, your students are not responding to behavior interventions. You want to somehow listen to yourself teaching to see if there is anything you can improve upon. How would you do this?

Prompt Part 2: When you get to this screen, you realize that you did not complete a reflection of the recording you took on 8/5/2016. How would you complete this reflection now?

Example follow-up questions:

- Generally, how do you think the task went?
- How did finding the record function go for you?
- How did navigating through the menu and recording setup go for you?
- How did finding where to complete the reflection go for you?

Task 11 – Change Schedule

Prompt: You need to add going to the Library to your class schedule. Your class will be going to the library on Mondays from 1:00-1:45. Please add this to your class schedule.

Example follow-up questions:

- Generally, how do you think the task went?
- How did finding the schedule go for you?
- How did updating the schedule go for you?

Task 12 – Add Student to Class

Prompt: A new student, Whitney Burke, has been added to your class. Add them to the class list on your one-on-one app.

Example follow-up questions:

- Generally, how do you think the task went?

Post-test interview

- What are your overall impressions of the application that you used today?
- What did you like most about the application?
- What did you like least about the application?
- Now that you understand how it is intended to work, did you find anything particularly clear or intuitive, or unclear or confusing about the application?
- What are your impressions of where items are located in the menu bar? What do you think of the clarity of the menu bar?
- What were your impressions of finding all of the functions within the application?

- Were there any instances where a function was in a different location than you expected?
- Are there any functions in the application that you think are unnecessary?
- Are there any functions that you think should be added to the application?
- On what device or devices do you think this application should be developed?
- Imagine that this application were more refined. How does it compare to other software tools you have used in your classroom?
- On a scale from 1-7 (1 = difficult, 7 = easy), please rate the overall ease of using the application.

Formative Test Report

Summary Test Method

Sample Size

The test included six participants who are representative users of this application. The test included five public school teachers and one private school teacher, representing the disproportionate number of public schools lacking funding for individualized behavior management systems. The test included one special educator and five classroom teachers, accurately representing the proportion of special educators to classroom teachers. Refer to *Appendix A – Participant Background Information* for more information on the participants' background and relevant experience.

Location and Test Environment

I conducted the test at the participants' place of work. Five of the test participants work at the public school: Mast Way Elementary School, and one participant worked at the private school: Live and Learn Early Learning Center. As a result, I conducted five test sessions at Mast Way Elementary School, and one test session at Live and Learn Early Learning Center. I conducted all test sessions in private spaces (e.g., classrooms that were not currently in use) to minimize distractions.

Test Personnel

I administered all test sessions, and later recorded the data from all test sessions based on recorded videos.

Training

Participants received no training before using the application in the test session.

Test Activities

To start each test session, I greeted the participant and outlined the test session activities. I then confirmed background information, and asked follow-up questions to learn more about the participant's relevant experience. I then asked the participant to complete the following twelve use scenarios.

1. Quick-Record Behavior
2. Record Positive Behavior of Whole Class
3. Record Behavior Using Red/Yellow/Green Light Behavior Management System
4. Record Behavior Using Check Behavior Management System
5. Set up Customized Behavior Management System
6. View Information on History of Behavior
7. Access Raw Data on Student's Behavior
8. Compare Speaking Out to Classroom Transitions
9. Access Information on Behavior Management
10. Record Teaching
11. Change Schedule

12. Add Student to Class

For a more complete outline of the test procedure, please refer to the *Final Test Plan*. For a complete outline of expected actions to complete each activity, please refer to the *Task Analysis*.

Test Plan Deviations

- In task two after the participant submitted their advanced record form, and did not choose to add the behavior as a recurring behavior, the test administrator planned to prompt the participants as follows:

“You decide that your students deserve an award for their positive behavior. You use an economy behavior management system with your class where you give them marbles in response to positive behaviors. When they earn enough marbles, they get a pizza party. You think it would be a good idea to reward them with 3 marbles. How would you do this?”

However, the test moderator did not prompt P1 and P2. The moderator did not prompt P1 because she added a marble instead of completing the expected steps of the first part of task 2. Therefore, she had already completed the task. The test moderator did not prompt P2 because she forgot.

- In task 3 after the participant updated the Red/Yellow/Green light behavior management system, the test administrator planned to prompt the participants as follows:

What button would you press if you wanted to edit the characteristics of the behavior management system?

However, the test administrator did not ask P3 this question. Additionally, the test administrator decided that the question was leading, and changed it as follows:

*What button would you press if you wanted to **change** the characteristics of the behavior management system?*

- In task 4 after the participant updated the check system based on the use scenario, the test administrator planned to ask the participant the following question:

What button would you press if you wanted to stop the system?

The test administrator decided that this question was leading and changed it as follows:

*What button would you press if you wanted to **end** the system?*

Data Collection

I videotaped each test session. After completing all usability testing, I re-watched the videos of the test sessions, and recorded the following information in an excel spreadsheet for each test session:

- Task failures, including use errors and instances of administrator assistance.
- Close calls and difficulties as participants interacted with the application.
- Participants’ anecdotal feedback regarding the application.
- Participants’ responses to post-use scenario and post-test interview questions.

- Participants' subjective ratings.

Test Participants

The following table summarizes background information regarding the formative usability test participants (see *Table 1*). For more detailed background information, see *Appendix A – Participant Background Information*.

Table 1. Participant Background summary.

Characteristic	Data
Age	Average = 41.6, Range = 24 - 65
Sex	Female (x5) Male (x1)
Occupation	Classroom teacher (x5) Special Educator (x1)
Experience using an application for behavior management	No (x5) Yes (x1)
Visual Impairments	Corrected to normal with Contacts (x3) Normal (x2) Corrected to normal with glasses (x1)
Auditory Impairments	None (x6)
Dexterity Impairments	None (x6)

Successes

Quick-Recording a Student's Behavior

All participants completed this task with the intended series of button clicks. Participants mentioned some of the following design successes when asked how the task went for them:

- Finding the button to click to record information about the student was easy
- The interface is simple and not overwhelming
- In the classroom, you would not have to stop whatever you are doing to complete that task

Locating and Accessing the Advanced Record Function

Three participants successfully completed this task (P3, P4, P5). One of these participants said that she thought the procedure was really intuitive, and that people could, “jump in and go” (P6).

Completing the Advanced Record Form

All participants successfully completed the advanced record form. Additionally, all participants selected to not add the behavior as a recurring behavior, as anticipated. One participant noted that they liked that they could add the behavior to the quick-record popup, noting that this would lessen the time required to complete behavior recording in the future (P4). The same participant said that the form included all of the information they would want to record if they were recording a behavior (P4).

Navigating from Advanced Record Form to 'Economy System' Behavior Management System

All prompted participants completed this task as expected.

Locating 'Red/Yellow/Green Light' Behavior Management System

All six participants completed this task successfully. Three of the participants completed the task as expected (P2, P4, P5), while the other three completed the task in the alternative way described above (P1, P3, P6). One participant said that the task was very clearly labeled (P3), while another said that they thought the task was easy (P4), and another said that they liked dragging the student from one category to the other (P5).

Locating Button to Edit System Specifications

All but one prompted participant completed this task successfully (P1, P2, P4, P5). When the test moderator asked the participants what functions they expected to be able to access through the 'Edit System Specifications' button, a couple said that they expected to be able to change how many categories are in the system, and that they could change the number of categories of the system.

Locating and Using the 'Check System' Behavior Management System

All but one participant completed this task successfully (P1, P2, P3, P4, P5). Many of these participants noted that they found this task easy, especially after successfully completing the previous task. One participant said that she liked that she could update this behavior management system without disrupting the flow of the classroom (P3). Another participant noted that they liked being able to simply click one button and have the check appear (P6).

Locating Button to Stop the Behavior Management System

All participants completed this task successfully.

Locating Access to Create New Behavior Management Systems

Three participants located the 'Add new behavior management system' immediately and successfully (P2, P5, P6).

Setting Up a New Behavior Management System

Five participants set up the customized behavior management system as expected (P1, P2, P3, P4, P6). One participant reported liking that with this function, they are not constrained to the standard behavior management systems (i.e., economy system, check system) (P6). Another participant said that the custom behavior management system function hit all of the key points of a behavior management system (P3). Participants also reported that it was easy to set up a new behavior management system, and that the input screens were nicely laid out (P1, P5, P6).

Viewing Information on the History of a Behavior Management System

One participant successfully accessed information on the history of the economy system by navigating to the economy system under the 'Current Behavior Management Systems' tab, and the clicking on the 'View History' button (P2). Two participants successfully accessed information on the history of the economy system by navigating to the 'History of Behavior Management Systems' tab, navigating to the 'History of Behavior Management Systems' tab, and then selecting economy system (P3, P5). Two participants reported liking that they did not have to translate the data into a graph themselves (P3, P5). Another participant said, "I think that this is very effective," referring to the information presented on the history of behavior management systems graph (P2).

Accessing Raw Data on a Student's Behavior

One participant successfully completed this task (P1). This participant reported that they found the task to be easy. Though he completed the task by separately sending raw data on inattention and focusing, one participant still rated the task to be easy (P6).

Creating a Customized Graph

Three participants completed this task successfully (P1, P4, P5). One participant reported loving that she could compare the behaviors of her students (P1), while another reported that this function is "neat" (P6). Another participant reporting liking that they could create graphs filtered to represent any number or combination of students (P5). This participant mentioned that this would help her determine which students struggled with certain classroom situations.

Saving a Customized Graph

All participants completed this task successfully.

Accessing a Saved Customized Graph

All participants completed this task successfully.

Accessing the Behavior Management Digest

All participants completed this task successfully. One participant reported that they liked how quickly they could access additional resources (P1), while another mentioned liking that all of the information would be in one place (P6). Two participant reported that the labels of buttons associated with this task are clear and easy to understand (P2, P5).

Completing a Recording and Self-Reflection

All participants completed this task successfully. One participant reported that this function would not just be helpful for teachers reflecting on their own teaching practices, but that it could be helpful for recording students (P2). If teachers recorded their students completing different activities at different times during the year (e.g., reading), they could easily display their progress throughout the year. Another participant noted that it is quite difficult for people to reflect on their own teaching practices, and that they were excited to see this function included in the application (P4).

Completing a Self-Reflection on a Previous Recording

All participants completed this task successfully.

Change Class Schedule

All participants successfully changed the schedule, though some experienced operational difficulties. Two participants noted that the task was really easy, and laid out how they would have expected (P1, P4).

Adding a Student to the Class List

Three participants successfully completed this task with no difficulties or requirements of assistance (P3, P4, P5). One participant reported liking that they did not have to go through many steps to add a student to their class (P3). Another participant liked that the application pulled from the school system because at the end of their time in the school system, they would have all of the data that they had collected across many years. This data would create a kind of “picture” of the student (P3).

Areas Requiring Improvement

Quick-Recording a Student's Behavior

One participant struggled completing this task (P2). This participant did not understand that she was supposed to pretend to be a teacher during each use scenario. As a result, the participant did not think that she needed to use the application, and instead described how she would deal with the situation in a real classroom. The test administrator remedied this misunderstanding by re-explaining the usability test procedure. In the future, the test's introduction should more explicitly outline the goals and procedures of the usability test.

While debriefing, this participant reported that reading through all of the options on the ‘behavior’ popup would be challenging while also leading a class. This participant recommended replacing the text-based button labels (shown below in figure 1) with pictures of the various actions.

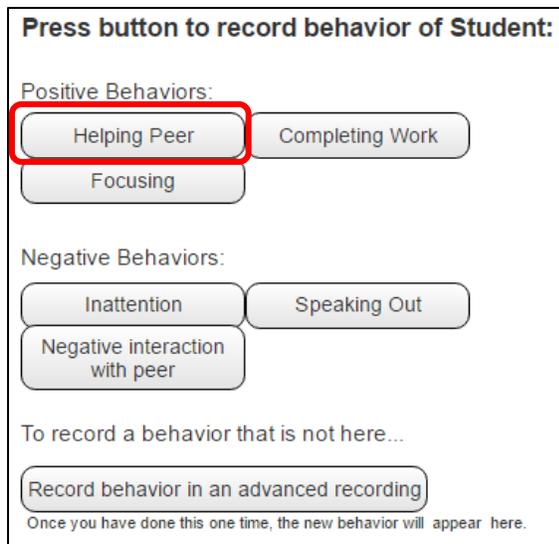


Figure 1. Quick record popup.

Recommendations

- Add icons next to the text labels on this popup. This would allow visual learners to process the information more quickly than they would if they had to read all of the text. This solution would also limit the confusion that could come from having buttons with only icons.

Locating and Accessing the Advanced Record Function

Three participants required assistance finding and accessing the advanced record function (P1, P2, P6). After reading the prompt, these participants explored the interface looking for a way to record this information. One participant added a marble to the jar, saying that is what she would do in her class (P1). Another participant said that he would click on each of the student buttons, and record the behavior separately (P6). Finally, one participant asked the test administrator for assistance.

Participants provided root causes for their difficulties locating and accessing the advanced record function. Two participants reported that they did not understand the meaning of 'Advanced record' (P1, P2). Additionally, one participant noted that she did not think that it would be related to multiple students because it was in a section related to individual students (P1). The other participant reported that they had looked for something related to many students, and that when they could not find such an item, they decided to record the behavior individually for each student (P3).

Participants provided recommendations for improving this feature. One participant recommended adding a description of 'Advanced Record' above the button (P1). Two participants recommended reorganizing the interface so that there is one button for many or all students. From this button, they would be able to access advanced record as they can for each individual student in the current interface design (P2, P6).

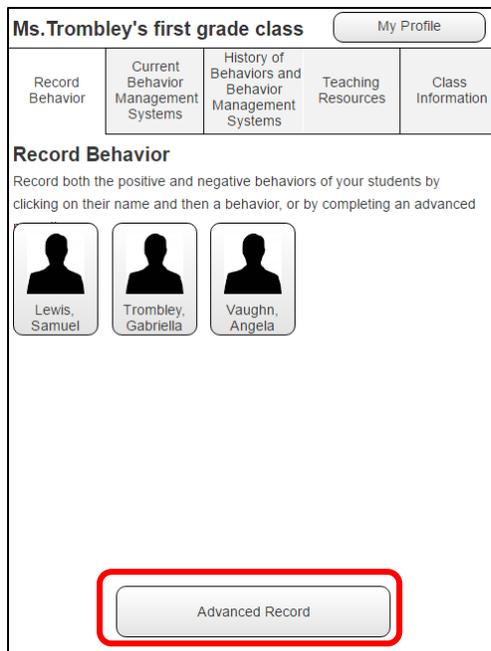


Figure 2. Record behavior page

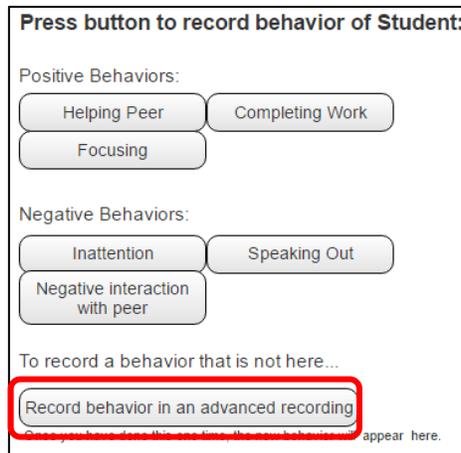


Figure 3. Record behavior popup

Recommendations

There are many possible solutions to this problem. I have listed a couple of potential solutions below, and plan to consult an expert to determine the best solution.

- If I maintain the same interface organization
 - Add a label to the button shown in Figure 2 describing the functions available under the advanced record button
- If I choose to re-organize access to the advanced record functions
 - Remove the 'Advanced Record' button shown in Figure 2
 - Add a button to the 'Record Behavior' page representing the ability to record information for many students
 - Maintain the advanced record button in the 'Record Behavior' popup show in figure 3

Completing the Advanced Record Form

Two participants struggled determining the meaning of the classroom situation, "transition" (P2, P4). Neither of these participants provided a recommendation to for improving the clarity of this feature. They both suggested that they would gain understanding as they used the system more regularly.

While inputting the time of the behavior, one participant mentioned that she would expect AM/PM to auto-fill based on the specified time (P2). For example, this participant thought that, based on the hours of the school day, the system should recognize that 8:00 relates to AM, and that 3:00 relates to PM.

Advanced Record

Behavior:

This behavior is: Positive Negative

Students Involved:

Lewis, Samuel

Trombley, Gabriella

Vaughn, Angela

Whole Class

Time Behavior Occurred:

Right Now

Previous Time:

Month: Day: Year: 2017

Time:

Describe what is/was going on in the classroom at the time of this behavior:

Transition Change of schedule

Negative peer interaction Other:

When you add a new classroom situation, it will appear here any time you do an advanced record of a classroom behavior.

Add a personalized comment:

Figure 4. Advanced record popup

Recommendations

- Ensure the input for time is the same as that on other iOS systems. This will ensure positive transfer of information.
- There are a couple of options to mitigate the risk of users not understanding built-in classroom situations. I have listed a couple of potential solutions below, and plan to consult an expert to determine the best solution.
 - Adding a drop-down information bar that will describe the classroom situation
 - Adding a '?' button associated with each built-in classroom situation to describe that situation to the user
 - Add a separate popup that will describe all of the classroom situations.

Navigating from Advanced Record Form to 'Economy System' Behavior Management System

Though all participants completed this task successfully, one participant expressed her concern about whether students would be able to see the behavior management systems as they were updated (P4). Though this participant liked the ability to update the behavior management systems despite her location, she communicated that the negative or positive reinforcement intended by the system may not last in the students' memories if they could not see the behavior management system. This

participant recommended adding a feature with which users could project their behavior management systems onto Promethean boards, or other technology visible to students.

Locating 'Red/Yellow/Green Light' Behavior Management System

Instead of navigating to the 'Current Behavior Management Systems' tab, two participants instead went to the 'Record Behavior' tab, completed an advanced record, and navigated to economy system tab as described in the 'Locating 'Red/Yellow/Green Light' Behavior Management System' section under 'Successes' above (P1, P6). Though these participants successfully updated the red/yellow/green light system, they did not do it in the most efficient way. When one participant was asked why she completed the task in this way, she reported that she would want to have the advanced record to back up why she had made a change to the behavior management system. Especially because use scenario prompted the participant to move the student 'Gabriella' to the red zone, the participant thought that the student's parents may want to know the rationale for the negative reinforcement (P1). When asked why he completed the task in this way, the other participant said that he did not know he could navigate to the behavior management systems in this way, and that he would discover this functionality after spending time looking around the application (P6).

Another participant started this task by completing the advanced record, then recognized that there was likely an easier way to complete the task. At this point, the participant completed the task by navigating to the 'Current Behavior Management Systems' tab, and moving the student appropriately (P3). When asked how she would expect to navigate to the current behavior management system, the participant said that she would expect to be able to go into the student, and access any of her current behavior management systems that way. Additionally, this participant recommended including a set of directions on how to use the application so that users would know the most effective navigation procedures.

Two participants clicked on the 'Red/Yellow/Green light system' tab when they were already viewing the Red/Yellow/Green light behavior management system (P1, P2). One participant noted that, due to the lack of color, it was difficult to tell which tab the system was displaying (P2). This participant recommended making the tabs used to navigate between the behavior management systems different colors based on whether they were open or not.

One participant articulated her concern that the teacher would be updating the behavior management systems instead of the student (P2). This participant said that she typically has her students update the behavior management system so that they feel ownership over their behaviors. This participant said that they would not have the students move themselves on the application because they may access other, sensitive information. In the end, the participant stated that she would likely have a physical system in the classroom as well so that the students could maintain ownership over their behaviors while she still developed a digital record of their behaviors.

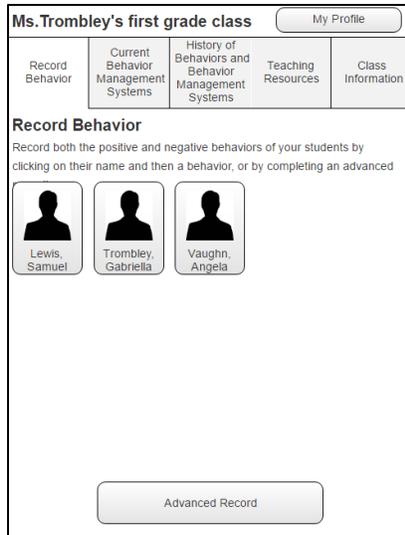


Figure 5. Record behavior page

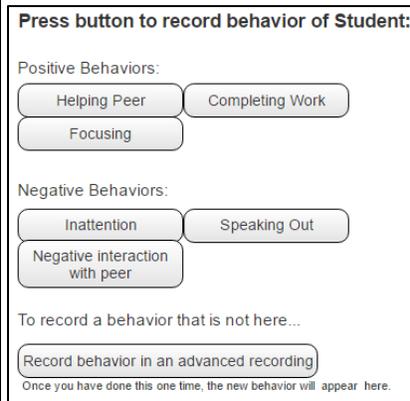


Figure 6. Quick record popup

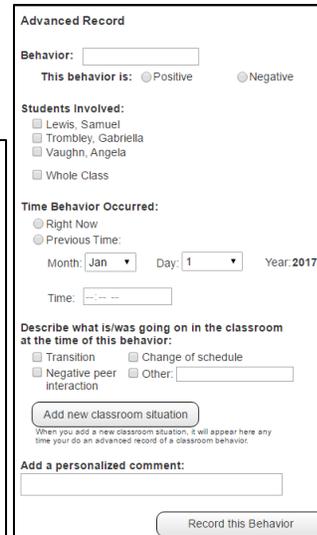


Figure 7. Advanced record popup

Recommendations

- To address participants not knowing all of the functions available to them in the application, I will add a tutorial that will show which functions are available, and briefly how to access those functions.
- To match the expectations of users, I could add access to the current behavior management systems under the 'Quick Record' and 'Advanced Record' popups. However, the addition of these functionalities may increase the time required by users to process all of the presented textual information. There are many design solutions to consider as solutions, including:
 - The addition of additional buttons to the popups
 - The addition of buttons underneath the existing student button on the 'Record Behavior' page allowing access to record a behavior or to access current behavioral management systems
 - An additional navigational popup presented when the user clicks on a student's button, from which the user could choose to navigate to a quick record, advanced record, behavior management systems, and history of collected data

I plan to consult an expert to determine the best solution.

Locating Button to Edit System Specifications

One participant required assistance locating the 'Edit System Specifications' button (P6). When asked about this difficulty, the participant said that he would have taken more time to explore if he were actually using the application. This participant also noted that he thought the buttons were in an appropriate location. During debrief after the task, this participant noted that he is a visual learner, and that he was struggling with the lack of color differentiation between the different items on the screen. He concluded that this was the reason he struggled locating functions throughout the interface.

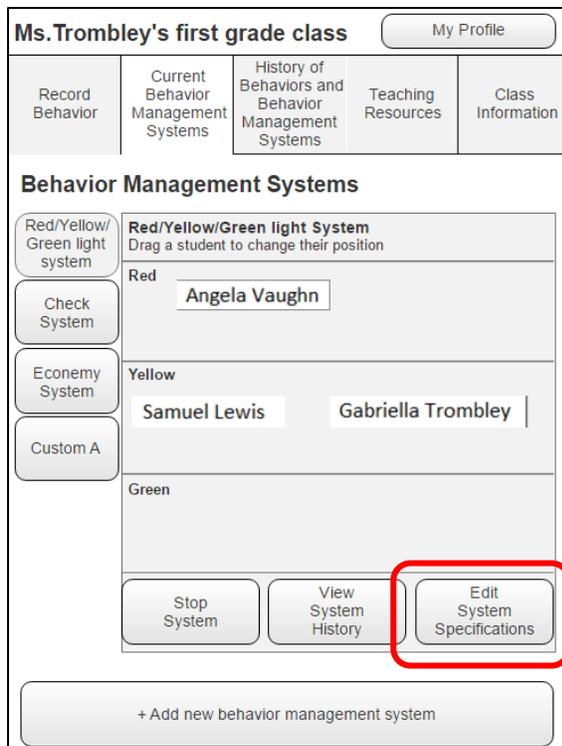


Figure 8. Behavior management systems, red/yellow/green light system

Recommendations

- When adding color to the interface, make these buttons stand out by ensuring a high contrast between them and their background.
- Increase the text size of the button labels
- It is unsure whether adding icons to these button labels, and other button labels throughout the interface for that matter, would increase the usability of the interface. I plan to consult an expert to determine if adding icons will decrease the time required for participants to perform related tasks.

Locating and Using the 'Check System' Behavior Management System

One participant struggled locating the 'Check System' behavior management system (P6). Instead, this participant navigated to the 'Record Behavior' tab, and looked for a way to navigate to the behavior management systems from this screen. This participant noted, "I do not think I am in the right place," navigated throughout a couple more tabs, and then found the 'Check System' under the 'Current Behavior Management Systems' tab. When asked why he experienced this difficulty, this participant said that he did not notice he could navigate with the tabs to the left of the behavior management systems. He again cited the lack of color differentiation for this difficulty.

One participant noted that some teachers may want the ability to take a check away, whether for the purpose of negative punishment, or because they made a mistake, adding a check to the wrong student (P5). This participant recommended adding this functionality.

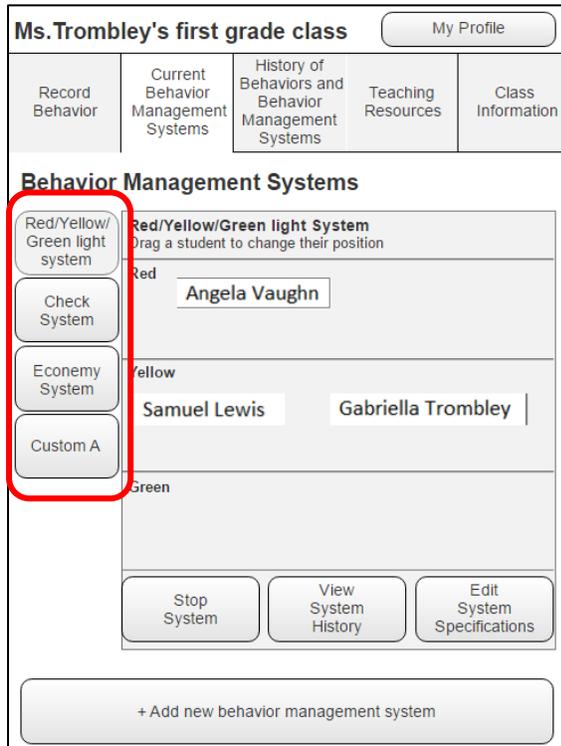


Figure 9. Behavior management system navigation

Recommendations

- Add the functionality to remove a check from a student
- Increase the salience of the behavior management system navigation by adding more contrast between the button's gradient colors
- Color the button of the in-use behavior management system the same as that behavior management system, and color the other buttons in the behavior management system navigation differently. These two colors should have a high contrast.
- Increase the text size of button labels.

Locating Access to Create New Behavior Management Systems

Two participants required assistance to locate the “Add new behavior management system” button. One participant said that she expected to see it along with all of the other behavior management system buttons, and that her attention was not drawn to the bottom of the screen (P1). Two participants thought that they needed to edit a system that was already in place because they did not see that they could add a behavior management system themselves. Both participants said that it would be easier to locate the button if it were in color (P3, P4). Additionally, these participants said that they felt locating different functions would become easier as they explored the application more.

A few participants recommended that the function be accessible via the 'Record Behavior' tab (P1, P2, P4). One participant said that they expected to find the button to add a new behavior management system after they completed an advanced record as they had with the current behavior management systems. Other participants said that they expected to find the button to add a new behavior management system under the button for each student on the 'Record Behavior' tab (P2, P4). One of these participants suggested that some people think about behavior management with the child first and the behavior management program second. She suggested that those (such as herself) who think about the child first would look for the behavior management system under each student's button on the 'Record Behavior' tab.

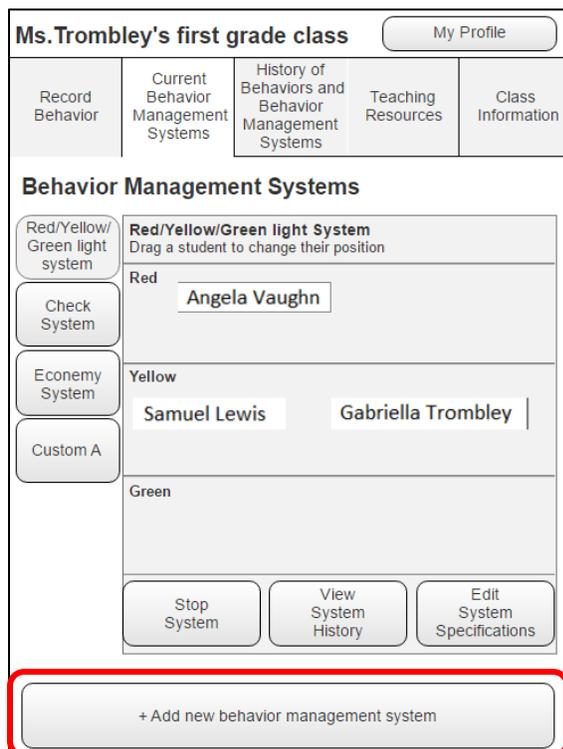


Figure 10. Behavior management systems, add a new behavior management system

Recommendations

- Include the functionality of adding a behavior management system to the tutorial presented to the user when they download the application so that users know of this functionality.
- Move the 'Add new behavior management system' button to the behavior management navigational toolbar.
- Format the 'Add new behavior management system' button differently than the other behavior management buttons so that users identify the button as having a different functionality.

Setting Up a New Behavior Management System

One participant did not set up the custom behavior management system as expected. This participant selected “Whole Class” rather than just the targeted student, Angela. When asked why she had done so, she explained that it would be unfair for one student to get additional recess while the other students did not get such a reward. This participant stated that she did know how to select just one student, but that logically she would never set up such a system (P5).

Viewing Information on the History of a Behavior Management System

Three participants experienced close calls or required assistance while completing this task.

One participant required assistance viewing information on the history of the behavior management system (P1). This participant clicked on the ‘History of Behavior Management Systems’ tab, then selected ‘Send Raw Data to my Email.’ Then, the participant reported confusion as they attempted to select input values based on the provided use scenario. After receiving direction back to the ‘History of Behavior Management Systems’ tab, this participant successfully accessed the intended graphs on the history of the Economy system. During debrief, this participant reported that the raw data peaked her interest, and that she did not know that there was a way for the system to develop the graph for her. This participant also recommended improving the clarity of the button ‘View History.’ This participant suggested a label along the lines of, ‘View the Data on this Behavioral Management System.’

Another participant sent raw data to their email, and said that they would create a graph out of the data that was sent to their email (P6). After the test administrator guided the participant to the ‘View History of my Behavior Management Systems’ tab, this participant easily accessed and interpreted the information on the history of the economy system. When asked about finding the button to access graphical information on the behavior management systems, this participant reported that the screen looked cluttered. As a result, they did not read the function of all of the buttons, and clicked on the one that made sense. This participant suggested “de-cluttering” the screen a bit so that different functions become easier to find.

One participant experienced a close call accessing the ‘History of Behavior Management Systems’ tab. This participant clicked on the ‘View History’ button while still under the ‘Custom A’ behavior management tab. This participant quickly realized that they were under the incorrect behavior management system, and navigated to the economy system. This participant said that she did not know which behavior management system she was looking at. As a mitigation, this participant recommended adding color to the tabs of the behavior management systems.

Though they completed the task successfully, one participant recommended including more information on the axis of the graph representing the history of the current behavior management systems (P3).

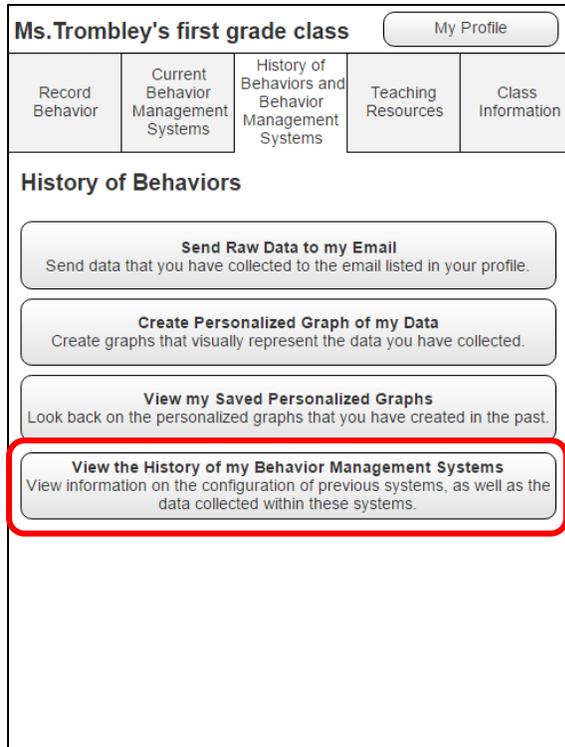


Figure 11. History of behavior management systems page.

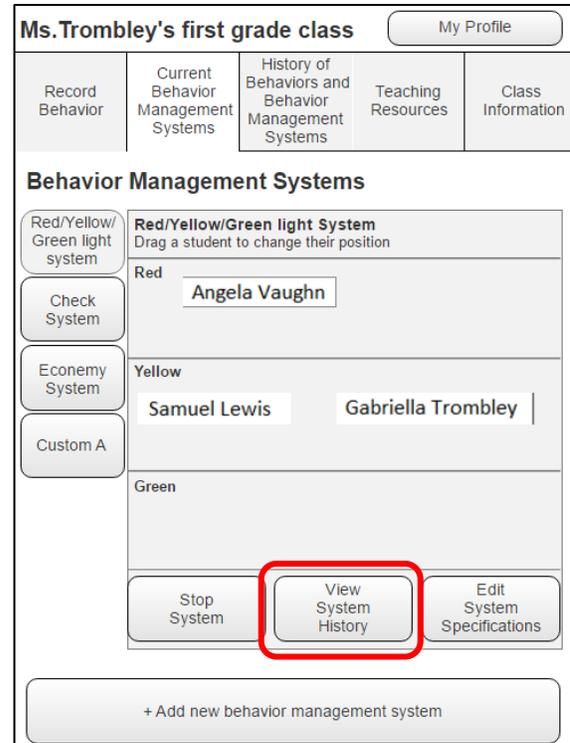


Figure 12. Current behavior management systems, view system history button

Recommendations

- Include the functions available under the 'History of Behavior Management Systems' tab in the tutorial available to users when they download the application so that users know about the available functions.
- Clarify the wording of the button that currently reads 'View the History of my Behavior Management Systems' to read 'View Data on my Behavior Management Systems.'
- Change the labeling the button from 'View System History' to View History of [insert name of system here]

Accessing Raw Data on a Student's Behavior

Two participants required assistance completing this task (P2, P3). While attempting to complete this task, one participant looked for a way to view the raw data because she thought that from viewing the raw data, she would be able to print it or manipulate it in some way (P2). This participant recommended including the functionality to be able to view data, and then having other functions accessible on the screen from where the user views that data. While attempting to complete this task, the other participant looked for a way to select the student 'Angela' and then to view the raw data associated with that student (P3). This participant recommended organizing the application in such a way that the user could find the student, and then find all of the functions related to that student. This participant alternatively suggested showing the raw data, and prominently showing or explaining that the

participant could then filter the data by students. This participant thought that if users knew how the raw data could be filtered, they may better understand this function.

Instead of sending the raw data to their email, two participant instead made a graph of the data (P4, P5). These participants reported that they did not click on the 'Send Raw Data to my Email' button because she wanted to see the raw data before sending it to her email. However, one participant said that she would likely use the graphing function regardless of the situation because she is a visual learner and thinker (P4). Both participants reported that they would have received the information they were looking for. As a result, they did not feel like they had committed an error.

One participant recommended adding the function to send the email to emails other than the one stored in the application (P5). This participant thought that having a list of her students' parents to whom she could send the data would be helpful.

While filtering the raw results to be sent to their email, one participant only selected the behavior 'Inattention' rather than 'Attention' and 'Inattention, and then said they would complete the same series of actions for the behavior 'Attention.' When explaining why he would complete the tasks by sending the two data sets separately, this participant pointed out that the direction states 'select on behavior,' which directed them to believe they could only select on behavior while filtering the data. As a mitigation, this participant recommended clarifying the wording.

Specify the Data Sent to You

Dates considered in data:

Start: Month: Jan Day: 1 Year: 2015

End: Month: Jan Day: 1 Year: 2015

Students Considered in data:

- Lewis, Samuel
- Trombley, Gabriella
- Vaughn, Angela
- Whole Class

Behaviors considered in data:
(select one behavior)

- Helping a peer
- Completing work
- Focusing
- Inattention
- Speaking out
- Negative interaction with peer

Cancel Send Data

Figure 13. Popup for specifying data sent to email

Recommendations

- Add the functionality to view raw data from the application

- See the section 'Locating 'Red/Yellow/Green Light' Behavior Management System' under Opportunities for Improvement, above for mitigations for participants attempting to access unavailable functions under student icons on the 'Record Behavior' screen
- Add the functionality to send the data to emails other than the one saved on the application
- Change the label 'select one behavior' to 'select at least one behavior' on the popup shown in Figure 13.

Creating a Customized Graph

Two participants required assistance locating the button to create a personalized graph (P2, P3). One participant initially looked on the 'History of Behavior Management Systems' tab, but then navigated away from this page when she did not see any buttons labeled with the words 'Analyze data' or 'Review data' (P2). This participant noted that the verb 'graph' may be too specific, and that she would instead look for a button to analyze the data. Once they located the button to create a personalized graph, this participant created the graph successfully. The other participant did not know that they could compare the variables that they had previously recorded (P3). This participant recommended adding a note when the participant records data letting them know that they could compare this data later. This participant also recommended clarifying the button label so that it communicates that you can compare data from both quick and advanced recordings. Once they located the button to create a personalized graph, this participant also created the graph successfully.

One participant experienced difficulty locating the button to create a personalized graph (P6). This participant reported that, because of the word 'compare' in the prompt, he was looking for the word 'compare' somewhere on the screen. When asked if he thought that the application would be clear in a real-life setting where he had not just read words in a prompt, the participant reported that it would be clear after going through the tasks one time. Once they located the button to create a personalized graph, this participant also created the graph successfully.

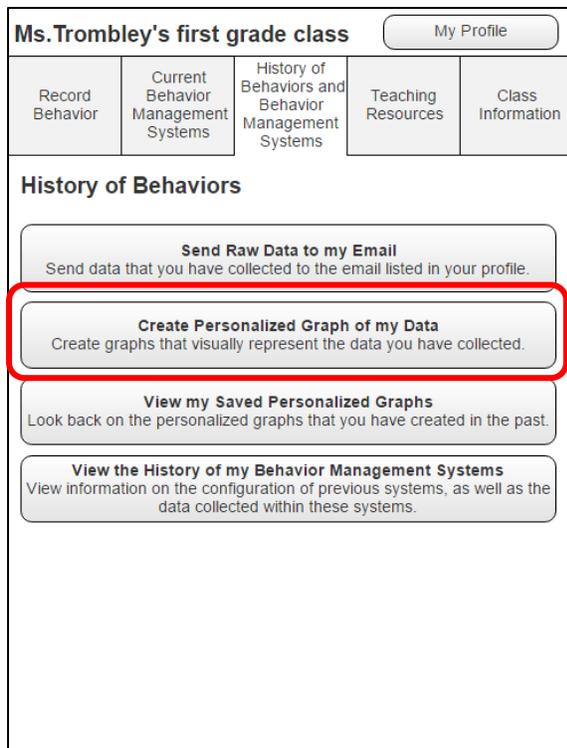


Figure 14. History of behaviors screen, create personalized graph of my data button

Recommendations

- Change the labeling of button from 'Create Personalized Graph of my Data' to 'Analyze Data.'
- Include the function to create a personalized graph in the tutorial available to users when they download the application.

Saving a Customized Graph

There are no areas requiring improvement for this task.

Accessing a Saved Customized Graph

There are no areas requiring improvement for this task.

Accessing the Behavior Management Digest

There are no areas requiring improvement for this task.

Completing a Recording and Self-Reflection

There are no areas requiring improvement for this task.

Completing a Self-Reflection on a Previous Recording

There are no areas requiring improvement for this task.

Change Class Schedule

Three participants experienced operational difficulty while completing this task (P1, P3, P5). These participants attempted to click on the activity to change the schedule rather than pressing the "Add activity" button. Two of these participants (P1, P5) clicked the "Add activity" button immediately after,

and said that successfully performing the task was “very easy.” However, one participant (P3) closed out of the ‘edit class information’ state before successfully completing the task.

When asked how the task could be made clearer, one participant reported that she had “jumped the gun,” and that the only change she could imagine making the function more clear would be adding color to the interface (P3). She reported that this would have drawn her eye to functional parts of the page. The other two participants reported that there is nothing they would change to make the procedure clearer (P1, P5).

Additionally, one participant recommended adding the functionality to print and download the class schedule (P2). This participant found the input method for activities easier than in other scheduling systems.

Record Behavior	Current Behavior Management Systems	History of Behaviors and Behavior Management Systems	Teaching Resources	Class Information
-----------------	-------------------------------------	--	--------------------	-------------------

Ms. Trombley's first grade class My Profile

Class Information

Name:

Time class is in session:

Dates class is in session:

Current Activities in Schedule:

Morning Work/Check in	M,Tu,W,Th,F	8:45AM - 9:15AM
Morning Meeting	M,Tu,W,Th,F	9:15AM - 9:45AM
Snack	M,Tu,W,Th,F	9:45AM - 10:00AM
Quiet Reading	M,W,F	10:00AM - 10:45AM
Literacy Workshop	Tu,Th	10:00AM - 10:45AM
Math Groups	M,F	10:45AM - 11:15AM
Math Lesson/Workbooks	Tu,W,Th	10:45AM - 11:15AM
Special: Art	M	11:15AM - 12:00PM
Special: Gym	Tu, Th	11:15AM - 12:00PM
Special: Computer Lab	W	11:15AM - 12:00PM
Special: Music	F	11:15AM - 12:00PM

Class List:

Lewis, Samuel
Trombley, Gabriella
Vaughn, Angela

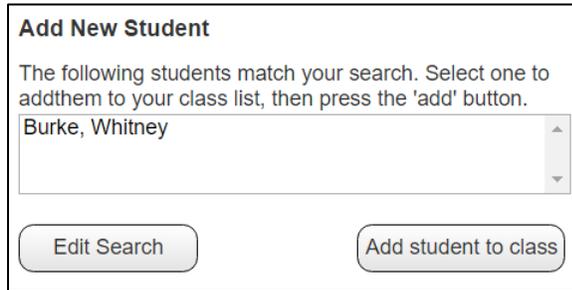
Figure 15. Edit class information page

Recommendations

- Move the ‘Add Activity’ button to the top of the schedule
- Add directions on how to edit activities and add activities under the label ‘Current Activities in Schedule’
- Ensure sufficient contrast between the ‘Add Activity’ button and its background
- Add the functionality to send the schedule to one’s email.

Adding a Student to the Class List

On the first attempt, two participants did not click on the student 'Whitney Burke' before clicking the "Add Student to Class" button (P1, P2). One participant immediately then re-read the directions, selected the student of interest, and successfully added them to the class. The other participant thought that they had successfully added the student to their class, and required assistance to realize there was another task they must complete (P2). This participant reported that they were unsure of why they were adding the student to their class because at their school, the front office adds students to their online class list. This participant recommended clarifying the wording describing the function.



Add New Student

The following students match your search. Select one to add them to your class list, then press the 'add' button.

Burke, Whitney

Edit Search Add student to class

Figure 16. Add new student popup

Recommendations

- If the search function only produces one student, the system should automatically highlight this student. If the search function produces two students, the "Add student to class" button will remain in-actionable until the user has selected a student from the list. Once the user has successfully selected the student from the list, the user will be able to add the student to their class.

Post-Test Interview

Overall Impressions

Participants expressed overwhelmingly positive impressions of the application. One participant reported, “This is amazing” (P1), while another reported that she saw the application being really helpful (P2). One participant discussed her impressions in-depth (P3). This participant saw the application as useful in a couple of ways. She reported that it would be helpful in limiting classroom disruptions for behavior management, keeping up with behavior management systems consistently, measuring the effectiveness of a behavior management system, and for representing data and information to parents and other education professionals. Another participant reported liking the system, especially because it included a lot of “pertinent information,” and because she could more readily recognize trends in her classroom (P4). Finally, one participant reported that she could tell that research on the needs of teachers had been completed prior to the design of the application (P4).

Aspects of the Application which Participants Most Like

In addition to comments made throughout the usability test, participants reported liking that the application helps teachers complete many functions that they wish they had time for, but that they do not have time to do on a daily basis (P1), and that they could compare behaviors to classroom situation (P3). One participant noted that she liked the visual aspects of the application, and recommended including more visual representations of information throughout the application (P2).

Aspects of the Application which Participants Least Like

Most participants reported that there was nothing about the application that they disliked. One participant said that finding all of the functions, and knowing which functions were available to her was challenging. This participant recommended including sufficient training for users. This participant said that she would expect training to include information on what the user can do with the application, and then some test scenarios with which the user can practice using the application (P2). Two other participants also mentioned that they found it challenging to know which functions were available to them. However, these participants reported that understanding which functions were available would become much easier if they used the system consistently (P1, P3).

Additional Functionalities to Include

Most participants could not think of any additional functions to include in the application. However, one participant recommended adding a “buzzer” function to the application. She reported that as a special educator, she has teachers put on a buzzer. Every time the buzzer rings they record the behavior of a particular student. This participant saw this application as an opportunity to make the reminder discrete. Another participant recommended adding the functionality to send parent reminders (P5). This participant said that typically, she forgets to send out information about the highs and lows of her students’ days, and that she would appreciate a reminder to send out such emails. The same participant, while thinking about reminders, recommended adding reminders for most functions in the system, stating that by the end of the day she identifies many things that she should have done, but did not have the time to complete. This participant recommended reminders to record behaviors, update the behavior management systems, send updates to parents and complete self-reflections.

Functionalities to Remove from the Application

Participants reported that they appreciated all of the functionalities in the application, and that they would not recommend removing any of these functions.

Appendix A – Participant Background Information

Participant ID	Age	Gender	Occupation	Location of work	Visual Impairment	Auditory Impairment	Dexterity Impairment	Previous experience with behavior management application
P1	25	Female	Teacher	Mast Way Elementary School	No	None	None	None
P2	42	Female	Teacher	Mast Way Elementary School	Corrected with contacts	None	None	None
P3	65	Female	Teacher and academic advisor to teaching interns	Mast Way Elementary School	Corrected with glasses (distance and reading)	None	None	None
P4	50	Female	Special Education Director	Mast Way Elementary School	Corrected with contacts	None	None	Yes -- does not remember the name
P5	24	Female	Teacher (program director)	Live and Learn Early Learning Center	No	None	None	None
P6	44	Male	Teacher	Mast Way Elementary School	Corrected with contacts	None	None	None

Appendix B -- Raw Data

Participant ID	Demographics							
	Age	Gender	Occupation	Location of work	Visual Impairment	Auditory Impairment	Dexterity Impairment	Previous experience with behavior management application
1	25	Female	Teacher	Mast Way Elementary School	No	No	No	No
2	42	Female	Teacher	Mast Way Elementary School	Corrected	No	No	No
3	65	Female	Teacher and academic advisor to teaching interns	Mast Way Elementary School	Corrected	No	No	No
4	50	Female	Special Education Director	Mast Way Elementary School	Corrected	No	No	Yes -- does not remember the name
5	24	Female	Teacher (program director)	Live and Learn Early Learning Center	No	No	No	No
6	44	Male	Teacher	Mast Way Elementary School	Corrected	No	No	No

Participant ID	Task 1: Quick record behavior			Task 2: Record positive behavior of whole class		
	Observations	Rating	Other notes	Observations	Rating	Other notes
1	clicked on "sam lewis">clicked on "helping peer"	7	AT: how did that task go for you? Really easy	reads the task > "it isn't an individual student..." > clicks on class information > "but that is just the	6	AT: when you were first looking for somewhere to record the information... is

			<p>AT: impressions: I like that it is simple and not overwhelming, and that there isn't a long list. My one question is: can I click on two behaviors before I submit it?</p> <p>AT: I am not going to answer that question right now.</p>	<p>schedule" > "hm how would you do this?" "I am just going to click around" > clicks on teaching resources > clicks on history of behavior management systems > clicks on economy system > clicks on check system > clicks on economy system > "I would add a marble to the jar, at least that is what we would do in our class."</p> <p>AT: to get your feedback I am going to direct you to the [advanced record] button down here</p> <p>Scrolls down looking at the options > Selects whole class > selects positive behavior > selects other > types in personal comment > clicks record behavior > clicks no on the popup because "how often are you going to</p>		<p>there a reason you didn't look at the advanced record? How could we make it more clear?</p> <p>I didn't know what the advanced recording would be, if it was more geared towards an individual student because of all of the individual students up here--I didn't know how it would work. You know how sometimes you just have to learn how an app works? Sometimes it just takes tinkering around with it to see how it works. I think I would know how to use it once I used it for a while.</p> <p>[in respect to advanced record] AT: is there anything you like/don't like?</p> <p>I think the behavior</p>
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				<p>get a new student in the classroom?" > clicks yes to the new behavior management system > "oh, I already did that adding a marble to the jar"</p>		<p>thing is great, positive and negative is good, whole class is perfect because it automatically selects all of the students, time is great because especially if you were trying to get data on students</p> <p>AT: is there a reason you didn't do the time record?</p> <p>No, I think I just wasn't looking closely. Also, I think as a teacher you sometimes wouldn't get the time because you are trying to get the behavior. Though it is pretty quick, sometimes I think you would just want to get the key information.</p> <p>AT: you like the option to put in all</p>
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						<p>of the info but sometimes you might not put it all in?</p> <p>Yes. And I am wondering if in record behavior you could put more information on what an advanced recording could mean.</p>
2	<p>Clicks on "sam lewis" > "so I am trying to understand... I would be watching them interact and I would be using this?" AT: yes "okay, when you said recording I thought you meant with a video" > clicks on helping peer > clicks on no</p>	<p>6</p> <p>AT: top reason for 6 instead of 7?</p> <p>Selecting a name was easy, and then the reason I didn't choose a 7 was because I had to read all of the options which could take a lot of time when you are working with students but I think it would be a 7</p>	<p>AT: how did that go for you?</p> <p>The ease of doing that was fine, I just at first didn't understand that I was pretending to be the teacher, but now that I see what I am doing here that was fine.</p>	<p>"it sounds like it is the whole class" > clicks class information "maybe if I just click around a little" > "I do not know what is clickable" > "I guess I want to record behavior but there isn't a way to do it for the whole class > clicks on record behavior > [assist] AT: what if I direct your attention to this button down here? > clicks advanced record > clicks whole class > clicks positive behavior > adds a note under 'behavior'</p>	<p>5</p> <p>AT: main reason?</p> <p>There were more steps to take. With a new app, the greater ease, the more likely I am to use it. The more steps, I might not use it to record the information. It is important to be able to add all of the information. However, if I were more familiar with it then it would be a lot easier.</p>	<p>AT: you were looking for a place to record the behavior. Is there any way we could make the function of the button more clear to you?</p> <p>I don't know. It does so much you cannot really change the label of the button. When you click on one student do you have the option to do an advanced record?</p> <p>AT: [shows] yes</p>

		<p>once I knew the options that were there.</p> <p>AT: how could we make it easier for you to find the correct option?</p> <p>Add an icon so it is faster to scan. I imaging the visual prompts we use to cue students on certain behaviors. For example, helping peer would show two students sitting side by side--just give a visual so when I am talking to students I do not have to read the text as well.</p>		<p>> for the time I would put in a previous time > "I probably wouldn't need to put in AM/PM because it would be so obvious > clicks other > types "touring classroom" under other > "it sounds like a one-time event so I do not think I would need to add a new classroom situation" > clicks record behavior > "I am not sure what a quick record is" > AT: explains quick record > "okay then because this is unusual I would not make it one that shows up again" > clicks no [Alexandria forgets to have her do the economy system]</p>	<p>AT: anything on the advanced record that we could remove so that there was fewer steps?</p> <p>If the date automatically populates, and if the date were the same as like on an iPhone, and otherwise I think it was effective. Maybe just the input methods.</p> <p>AT: what hardware would you develop it on?</p> <p>Something mobile so you do not have to turn your back on the students. If it were on an iPad you could have the standard input method.</p>	<p>Maybe it would be helpful to have a button for the whole class. I guess getting to know the system, again, would be important.</p>
3	clicks on "sam lewis" > clicks on	7	AT: how did that go for you? > "it was easy and	clicks on record behavior > clicks on class information >	6 going through the first time, it would be 7 the next time	AT: how did that go for you? > I think that once you go

	helping peer > clicks on no		fast, and you didn't have to stop what you are doing to do that"	clicks on record behavior > clicks on advanced record > selects positive > types in the behavior 'greeting new student' > selects whole class > selects right now > puts in 8:00 (says they would put in 8:00AM) (still with the right now set > "could be considered transition because its transitioning to having a new student" > selects other > tries to type > unselects other > "it isn't what I consider a transition though" > selects other > types in 'entering classroom' > records behavior > selects no > AT: gives direction > selects yes > clicks on the economy system > clicks add marble to jar		through it once, it would be easy. The first time you go through it you are learning, but the next time you would know what to pres. AT: anything you like or not? > When you pick the system you are using there is a visual with the system, I like that. The only glitch that I had was when I was trying to figure out if it was a transition or not. But like I said, if you had this class it would be so familiar that it would be easy.
4	clicks on sam lewis > clicks on helping peer > selects no	7	AT: how did that go for you? "that was so easy"	"Would my profile have my class in it?" > "so I want the whole group though" > clicks	6 because I had to spend some time looking for it. But if I was just playing	AT: How did that go for you? > I think it is really intuitive. I

				<p>on current behavior management systems > clicks on record behavior > clicks on advanced record > clicks on positive > clicks on whole class > unselects all of the individual students > "would put in time" > "it is sort of a transition. Or I could put it under other if I wanted to" > selects other > "that's nice that you can add a personalized comment. The setup is good" > AT: were looking for somewhere to record info. What were you looking for? > I was looking for the class. I was thinking...it would be easier to see the class right there [on the record behavior screen]. AT: prefer access to the whole class on the landing page? > yes. Unless your button for the advanced</p>	<p>around or I knew where things were, it would be easier</p>	<p>think people could just jump in and go.</p>
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				<p>record...well I guess that does a lot of things. Maybe have all of the students be all in one color and then have the button for the whole class in a different color. That would be easy to see > AT: how would you have people access other advanced record information? > If I have a student who already has difficulty, maybe that student would have the advanced record and other students would not. Or you might also want to do something with color coding. Something to make it easy to find those kids, and makes it easy to record advanced information for those kids. > I have one other thing. If I am in the moment will it give me the current time already? > AT: is that something that you would like? > yes</p>		
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				<p>> looks at the advanced record popup again > "the antecedents are so difficult. Maybe each student could have different check marks. But we don't want the teacher to take a lot of time to prep the system because they wouldn't want to do that. But I think having the teacher be able to have what they can record be customized, that would be helpful for the teacher. Or even if I could remind myself to go back and record some behavior, something that is quick when you are teaching. The quick record is easy, and you don't want to overcomplicate it, you don't want to add a lot of some kids but some kids are going to have more of a profile so having more information easily</p>		
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				<p>accessible for them would be helpful. > Maybe it would come set up as the advanced record and then you could hide different aspects of the record > maybe you could hide it, but then you might have to put it back in > [AT note: she is talking about computer learning--having the computer learn what you record for each student and then having those ones be the only ones that show up. My only concern is teachers losing the ability to be able to record information because they don't have time</p> <p>selects no > would the default behavior go under their quick record? > yes > you could have stopped me! > AT: don't worry, it helps confirm my design</p>		
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				<p>AT: direction to use economy system > "if I added a marble would it project out on a screen? > selects yes for recording in behavior management system > clicks on economy system > adds the marble to the jar > "I like that" > "that is easy because no matter where I am at in the room I can do that" > AT: you mentioned projecting. What were you thinking? > The kids need to see it as well. If I just say it to them it might not last in their memory. Maybe it could go up onto the promethean board > AT: consistently or intermittently? > I think because teachers use their boards differently, then they should be able to be custom.</p>		
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				Some teachers might want to have it up in the corner all of the time, and some might not use their boards all of the time			
5	clicks on "sam lewis" > clicks on "helping peer" > record behavior	7	easy	clicks advanced record > types in a name of the behavior > selected positive > selected whole class > says she would set the time > selects other > types in "new student arrival" next to other > presses record behavior > presses no default behavior > closes the popup > AT: second direction > clicks history of behavior > clicks on history of behavior management systems > clicks on economy system > closes the popup > presses current behavior management systems > presses the add marble	6	AT: why 6 instead of 7? Just because it requires more of me having to remember... well if I do not click on the "yes" after recording the behavior then I have to go to another tab to find it. I am more of a tactile person I think I would just use an actual jar of marbles instead of the application for this. But there are classrooms and classrooms that the virtual one would work better for them.	AT: overall how did that go for you? > Not hard AT: noticed it took some time to get to the current behavior management systems. Can you tell me more about that? > I thought I had to go back to the record of the behavior I just put in, and then click the "yes" button from the last popup to navigate to the current behavior management system associated with that record. I think it is just the order in which the questions were asked.

6	clicks on "sam lewis" > clicks on "helping peer" > record behavior	7 AT: anything you liked or would change? > I would assume this would generate something at the end. If I see a good behavior I usually don't write it down. It would be good to do that, so that is a neat feature.	AT: how did that go for you? > pretty easy	Clicks on history of behaviors > clicks on class information > "must have missed something > clicks on record behavior > "I would probably click on each kid and record the behavior." [assist--directs to the button] > types the name of the behavior > clicks positive > clicks whole class > clicks right now > clicks other > fills in "new student" > clicks add new classroom behavior button > clicks no "I wouldn't expect that to happen all of the time" > AT: direction to add marble > clicks yes > clicks economy system > "oh that is cool" > clicks add marbles	3 AT: top reasons? > I wasn't sure where I was supposed to be navigating, but I think that is true of new applications, you always have to use it a couple times to figure out where everything is	AT: it seemed that finding the advanced record was challenging. How could we improve it? > It was something that we were trying to do for the whole class, so I was looking for something for the whole class. Maybe if you just had a button for the whole class too that would be good AT: overall how did that task go for you? >
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	Task 3: Record Behavior Using Red/Yellow/Green Light Behavior Management System	Task 4: Record Behavior Using Check Behavior Management System
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Participant ID	Observations	Rating	Other notes	Observations	Rating	Other notes
1	<p>Clicks on gabriella on main screen > "misbehaving could be many things" > record behavior in advanced recording > clicks gabriella > clicks right now > changes date > selects other > puts in personalized comment > selects yes for going to behavior management > clicks on red/yellow/green light system > moves gabriella to the red > "I am assuming that in this scenario red is bad behavior"</p>	6	<p>AT: the first thing you did was go to the advanced record. You clicked right now then changed the time. Is there a way we could make it clear that it would automatically record the time?</p> <p>"I say it automatically on January so I changed it to October because I am weird about those things. I was trying to be smarter than the computer. Sometimes the computer has a mind of its own.</p> <p>AT: I am wondering if there is a reason you didn't come to current behavior management systems first?</p> <p>"I thought it might be beneficial to me to record the behavior first so I could show the justification for</p>	<p>Navigates to current behavior management systems > selects check system > clicks on sam</p> <p>AT: what if you wanted to end the system?</p> <p>Clicks the stop button</p> <p>AT: what if you wanted to edit it?</p> <p>Clicks on edit systems button</p> <p>AT: what would you expect to see here?</p> <p>A way to take away a check because when you are clicking your fingers might stumble on something else, so that is mostly what I would be looking for</p>	7	<p>AT: How did that go for you?</p> <p>Really well, really easy</p> <p>AT: impressions of this part of the application?</p> <p>I really like this, we use this in our classroom often.</p>

			why I moved her into the red. That way I could show people the reason why the behavior wasn't working for the classroom.			
2	<p>Clicks on behavior management system > clicks on red/yellow/green light system > drags gabriella > "I thought I had to pick a system from there--oh, now I see, I am on the red/yellow/green light system" "I thought I had to pick which system I was working on first"</p> <p>AT: is there something you would change about how it pops up automatically?</p> <p>Maybe if the button labels looked different or if there was a color, it would show that it is already open and that's what I am looking at. But if I could just grab her and move her, it would be really easy" "but when you are in a classroom you want the student to feel responsible for moving</p>	6	<p>AT: overall how did that go for you?</p> <p>Pretty easy. I would say a 6 just because it took me a second to see that we were already in that option. But if it were colored, it would be easier to see.</p>	<p>Clicks on check system > clicks on Samuel lewis > "that is easy"</p> <p>AT: what would you press if you wanted to end the system?</p> <p>Stop system</p>	7	<p>AT: overall how did that task go for you?</p> <p>Easy</p> <p>AT: is there anything you particularly liked about it?</p> <p>The buttons were clear, quick and easy to find. I am wondering again whether the student would know they were on the system, if they would know how many checks they have, etc.</p> <p>AT: if you were just handed this app today, how would you make the</p>

	<p>themselves to have that impact, so I wonder if there would be a physical system in the classroom as well" "I would not have students move themselves on the iPad because I would not want them to want to touch the iPad and then try to have bad behavior so they could use the iPad.</p> <p>AT: what button would you press if you wanted to edit the system?</p> <p>I would click edit system specifications</p> <p>AT: what do you think you could change if you clicked on that?</p> <p>How many categories there are, changing the names of the categories at our school we have the zones of regulation where there is also blue, so that would be one to add in there.</p>				<p>systems more visible to the students?</p> <p>I would have to decide if I wanted them to see it or not. If I wanted them to see it, maybe I would have them check it themselves on a physical system, and then I would also do it in my system for the record, but he would have the pride of checking it himself.</p>
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3	<p>Clicks on class information > clicks on record behavior > clicks on gabriella > clicks on advanced record > "it doesn't say exactly what she is doing, it just says that she is misbehaving" > types in misbehaving for behavior > selects negative > selects Gabriella > selects right now > submits behavior > "I think there would have been a faster way to do that" > closes the popup > clicks on current behavior management system > moves gabriella > AT: how would you change it? > "I would probably...instead of looking for her I would go to that (still thinking about the last task) "If I were using this application I would have looked through it before using it. Once I realized that I needed to go to the behavior management system then find her, it was fine." AT: would you have expected to be able to access it differently? > "I would expect to have been</p>	6 because it is set up well, it just requires some experience to use it.	<p>AT: how did that go for you? > It was harder because I went in the wrong direction to start with. It was a little harder because I had to figure out where to go to first. > AT: what do you think about the navigation [to the left on the behavior management systems page? > I like it. If you are sitting down to do your behavior management systems you can easily get around > AT: any way to make navigation more clear? > It is all there, it just takes going through it to understand where to go first. I wonder if a set of directions would help you understand where to go first when you are first beginning.</p>	<p>Clicks on check system > clicks on Samuel lewis > "I think I learned from the previous one that I needed to go to the system first. > AT: to stop? > Points to stop button > AT: what'd you think of the buttons at the bottom? > I like how it is compartmentalized or all mixed in. I think it would be easy to find.</p>	7 <p>AT: things you like and change? > It was simple in that once you clicked on the system it was all there. It wasn't like in class where you have to go up to the board and put the check which disrupts the flow of the class. You could do it just standing while you're still teaching.</p>
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	able to find her behavior management system under her name on the first page" > AT: so now what if I direct you to this [edit] button. Can I get your feedback? > "I guess it might mean that if you change some of the rules for the behavior management plans, you could tweak the categories, or you could change the parameters of the system.				
4	Clicks on red/yellow/green light system tab > moves gabriella > "that would be easy" > AT: if you wanted to change how would you do that? > edit button	7	AT: pretty easy!	Clicks on the check system > clicks on Samuel > so again I think you would want this accessible somewhere > AT: what if you wanted to end? > clicks stop	7 AT: How did things go for you? > easy
5	Goes to the red/yellow/green behavior management > clicks to drag gabriella > AT: what if you wanted to add a category, change it? > clicks the edit button	7	AT: how did that go for you? > Easy > AT: was there anything you liked or didn't like? > I liked dragging the student, that was easy	Clicks on check system button > clicks on sam lewis > AT: what if you wanted to end the system? > clicks on the stop system button	7 AT: anything like/dislike in particular? > It was simple. But what if you wanted to take a check away? Is it a system that you can only earn checks? I think they should only be able to add checks. > some teachers want it to

						go both ways but it will have a default
6	<p>Clicks on gabriella Trombley on the record behavior screen > clicks on advanced record > clicks on negative > clicks on gabriella > clicks on right now > clicks on one of the behaviors negative peer interaction > clicks on yes navigating to current behavior management systems > clicks on red/yellow/green light system "am I on this, is this what it is?" > reads directions > moves gabriella > AT: change it in some way? > "I am not sure" > [assist] > clicks on the edit system specifications button > AT: what do you think about how clear that button is? > I think it is fine. I think if it were mine I would test it out and figure it out. It makes sense that it is there.</p>	4	<p>AT: overall how did that go for you? > The moving part was easy. The locating functions took a minute. I think it all being black and white is tough. I am very visual, and I think that would help me. > AT: what do you think about being able to navigate with the tabs at the top? > That is easy. The tabs are in a good order.</p>	<p>Clicks on record behavior > clicks on current behavior management systems > clicks on record behavior > clicks on advanced record > 'I don't think this is where I want to be" > closes pop out > clicks on history of behaviors > "I am just looking around right now" > clicks on behavior management systems > "oh, check system it was right there" > clicks on sam lewis > "that was easy"</p>	6	<p>AT: anything like or change? > I like the graphic of the check</p>

Participant ID	Task 5: Set up Customized Behavior Management System			Task 6: View Information on History of Behavior		
	Observations	Rating	Other notes	Observations	Rating	Other notes
1	<p>clicks on record behavior tab > clicks on advanced record > selects angela > puts in the name of the behavior > selects positive behavior > selects other > types in "quiet reading time" into other field > would add new classroom situation > record this behavior > "I am wondering if there is a way I could set up a clock for the student or maybe a clock would pop up, or some way..."</p> <p>AT: what if I directed you to the add new behavior management system button</p> <p>Clicks customized system radio button > types in name of intervention "paying attention" > selects Angela > selects</p>	<p>4</p> <p>AT: what were the top 2 reasons?</p> <p>I didn't know where to go to add the new system. I think part of me saw the picture of angela and knew that is who I wanted to target, and I wanted to know if I could do that through record behavior.</p>	<p>AT: I am wondering if there is a way we could draw your attention to the create behavior management system button?</p> <p>Maybe because... I think it is a matter of exploring things and knowing where things are. Obviously, I think it is easy to find the current behavior management systems. Maybe it would be nice to have the place to add one up near those buttons [under the buttons for current behavior management systems]</p> <p>AT: overall how did it go for you?</p> <p>Once I knew where to go it was a 6, it was easy and nicely laid out. I am wondering if when you do an advanced</p>	<p>History of behaviors and behavior management systems > clicks send raw data to my email > clicks whole class > clicks on inattention and speaking out "these are more negative behaviors" > "And would the data... I guess I'll see what happens" > "how would the data come back?" > AT: excel spreadsheet</p> <p>AT: what if I directed you to this button here?</p> <p>"I could press the economy system and then Oh! That makes life a lot easier."</p>	<p>4</p> <p>AT: just because of finding the function you're looking for?</p> <p>Yeah</p> <p>AT: would using the raw data have worked for you?</p> <p>Yeah, I would have seen the decrease in the behavior</p>	<p>AT: what would make it clearer that looking at the history of the behavior management systems was an option?</p> <p>Sometimes I think it is a matter of spending time with the application. I think because I thought decreasing behaviors, the raw data peaked my interest because you constantly have to be presenting data. I do not know what you could necessarily say because it is pretty easy. I think I didn't know what history really meant in that situation.</p> <p>AT: how could we make the wording</p>

	<p>specific behavior > selects positive behavior > "I am all about positive reinforcement" > enters 20 minutes > selects reinforced > types "3 extra minutes of recess" into the 'with' field > clicks create management system > clicks okay</p>		<p>recording if there could be a link to add a new behavioral management system. It is great the way it is.</p>		<p>clearer?</p> <p>Maybe "view the data on my behavioral management system" or something like that.</p> <p>AT: overall how did that task go for you?</p> <p>Once I knew where to go that was great. I love that you can get raw data sent to your computer. The fact that it comes up with the line graph is great--I love this, this is great.</p>	
2	<p>clicks add new behavior management system > selects customized system > clicks next > selects angela > selects specific behavior > fills in "attention to reading" in the field > clicks positive > clicks the second timing option > types in 20 minutes > clicks</p>	6	<p>AT: how did that go for you?</p> <p>That was pretty easy. Maybe a 6 just because I am still trying to figure out where to put all of the information. I like that it can be behavior specific because so often we are developing systems for individual students. So</p>	<p>Clicks on economy system > clicks on view system history > clicks on economy system "so that is very clear because it shows not only how many marbles are in the jar but it shows how it has effected the need to spend time on behavior</p>	7	<p>AT: anything particularly easy to do?</p> <p>I like the visual seeing the marble jar right there. The words are very clear in respects to what I am looking for.</p> <p>AT: Would you expect to see icons</p>

	<p>reinforced > adds "3 minutes extra recess" > clicks create add new behavior management system > clicks okay</p>		<p>now if I click on that student will I see any systems I put in place for them?</p> <p>AT: is that something you would like to see?</p> <p>Yes, somewhere would be good. If the sub was teaching if they could click their name and see their systems that would be helpful because it would be consistent.</p>	<p>management. I think that is very effective.</p>		<p>here?</p> <p>I don't think so I think that would be really difficult to show. Maybe for the system history there could be a graph, but I think the words are necessary. If I am doing this, I am probably doing it at a time when I have some more time to read it--it is not quick and on the fly like adding behavior information.</p>
3	<p>"I would have to decide if I would set up a new one or customize it > "I don't know what custom A means > clicks on edit system specifications > clicks on custom A > AT: direct to the bottom button > "I didn't see it" > At: any reason? > No, I don't know why I didn't see it. I guess I was just looking where I had looked before" > sets</p>	<p>6 because I overlooked the bottom, 7 the next time</p>	<p>AT: how did that task go for you? > It was easy to set up something new once I saw the button > AT: how to make it clearer? > make it in color. Differentiating it in some way to get someone's attention > AT: anything like or to change? > I liked that when you got to the screen to set it up it was really straightforward--it hit</p>	<p>clicks on histories of behavior management systems > "I am not sure whether...I am sure you would want to see a graph" > clicks on view the history of my behavior management systems > clicks on economy system > "yeah this would show me" "you could just look at the graph</p>	7	<p>AT: how did that go? > It was easy, it was the only one that made sense. I like the graph--it was a good visual, and you didn't have to translate the data > AT: anything you liked or change? > I like that you can see the data and you don't have to interpret it. The only thing is that the axis are a little sparse--I</p>

	up the customized system as expected in the design		all of the key points of a behavior management system	and see that you were spending less time		might want to know how much time I spent so add minutes to the left axis
4	Clicks on the custom system > reads the custom behavior management system > "so I could just add a student?" > AT: I would like you to add a new custom one without editing the ones that are there > Hm > Clicks on history of behavior management systems > "can I do it under this one?" > AT: do it like you would if you were using it > clicks on history of behavior management systems > AT: let me direct you to the add new behavior management system > "how could I have not seen that??" > AT: how would you make it more attention-grabbing? > Well, you could make it brighter. But where	5 just to find it, but creating it was easy, that would be a 7.	AT: how did that go for you? That was pretty easy. The problem was that I couldn't see it, and I don't know why that happened. > AT: what do you think about accessing the custom behavior management system? > Well, what would the labels of the buttons be? > Whatever you named the system > okay. So, would those appear on the first page? I think it should be accessible on the first page. I think of the child first, and then the behavior management system. > AT: how do you imagine accessing the behavior management systems? > I am wondering if there could be a...if you just clicked on their name, and then there	Clicks on history of behavior management system (still under custom) > AT: is it clear that you are still under custom? > clicks on economy system > clicks on history > clicks on economy system > "oh nice" > AT: what does that mean to you? > This makes me happy to see it going down. This is wonderful, I see this being such a good thing for parents who think the class is unruly	7 The difficulty navigating is not having time to play with it. I think that is all that it is.	AT: how did that go for you? > Very easy > AT: how could we make the navigation [on the left] more clear? > Most people will just jump in and look around. I'm not sure you need it to be clearer... I think about coloring it again. > It was easy. It just comes down to navigation.

	<p>my eyes went first was over here [points to the left with the other behavior management buttons] > "Isn't it weird, there is a brain block on it. There must be a psychological reasons. > I wonder if it is the...I don't know. It really was on the screen? > AT: yep > clicks on add new behavior management system > adds the new system as expected > presses okay</p>		<p>were two options: record behavior or behavior management system, then you could easily know what you are working on with each student. > AT: do you imagine being able to access it through the top tab as well, or just through the student? > I would like to keep it with the child. But everyone thinks about it differently, so you have to take that into account to. It would make sense maybe to be able to access it through both locations [the record behavior and the behavior management systems] > it would be easier for someone new to just click on the student and then find their behavior management system</p>			
5	<p>clicks on new behavior management system > clicks on custom system > selects whole class > puts in name of intervention > clicks</p>	7	<p>AT: why did you select the whole class? > Because that wouldn't be fair. It's not like she is going to be outside herself, everyone</p>	<p>clicks on history of behavior management systems > clicks on history of behavior management</p>	7	<p>AT: how did that task go for you? > wasn't difficult but it could be because I accidentally got to it before</p>

	<p>specific radio > types in "20 minutes of SSR" > selects minutes radio button > types in 20 minutes > puts "3 minutes of extra recess" in the "with" field</p>		<p>would be outside with extra recess.</p> <p>AT: overall how did it go? > easy, good</p>	<p>systems > "I could do this, or I could make a graph of my data" > clicks on create personalized graph > scrolls through > "this is for specific behaviors though" > closes popup > clicks on history of behavior management systems > clicks on economy system > "and it shows me the pretty graph"</p>		<p>AT: anything you like or dislike? > I like it makes the graph for me so I do not have to create the graph myself. Is there a way to look at individual students? > We'll get to that in a minute.</p>
6	<p>clicks on add new behavior management system > clicks on customized systems > clicks on next > clicks on angela > clicks on specific behavior > types in "attention" > clicks on positive behavior > clicks on second radio for minutes > types in 20 minutes > types in 3 minutes into the "with" field > clicks okay</p>	7	<p>AT: how did that go for you? > That was pretty easy, I think I am getting the hang of it > AT: anything you liked or would change? > I like the idea that you are not confined to the standard behavior management systems-- I like the flexibility to create your own one.</p>	<p>Clicks on history of behavior management system > click on send raw data to my email > "oh, so the economy system, this is individual" > clicks on whole class > clicks on send data > "I am not sure if that was what you were going for" > AT: would work, but want to get feedback (directs to history of behavior management</p>	4	<p>AT: what did you think about finding this? > I had a little trickier time finding it. I think it is neat it shows you how much time you have spent dealing with behaviors > AT: how could we make the history of behaviors landing page more clearly? > There are a lot of words on the buttons. I think if there was a way to simplify it, which would be good. This</p>

				systems) > clicks on economy system > AT: what is this page telling you? > telling me how much time spent on behavior management. It is recording how much time I have spent on behavior management.		is probably something you would be doing not in a time-stressed way so maybe this is okay. AT: how did it go overall? > little trickier finding buttons
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	Task 7: Access Raw Data on Student's Behavior			Task 8: Compare Speaking Out to Classroom Transitions		
Participant ID	Observations	Rating	Other notes	Observations	Rating	Other notes
1	Clicks raw data > clicks angela > clicks focusing and inattention buttons > clicks send data	7	AT: wondering what the reason for not doing the dates was? I would usually do it, I didn't think that this version would work. I would normally do it. AT: overall how would it go for you? Easy	"I am just going to click around" > clicks on the create personalized graph > scrolls down > "sometimes I go from back to front" > clicks on transitions radio > clicks on speaking out transitions > clicks on sam > types into name of graph field > "I would do the date" > clicks on create graph	7	AT: how did that task go for you? Easy--I love that you can compare the behaviors

				<p>AT: now save it</p> <p>Clicks on save graph button</p> <p>AT: [closes popup] how would you find the graph again?</p> <p>clicks on view my saved personalized graphs button</p>	
2	<p>Clicks on history of behaviors > "send raw data to my email? I guess I would just like to view it. I don't know how I would do that" > clicks on personalized graphs > [assist directs to the send raw data button] > changes date > clicks on angela > clicks on focusing and inattention > clicks on send data > clicks on okay</p> <p>AT: you mentioned you were looking to just view the raw</p>	5 just because of my understanding of where to go		<p>clicks on view history of behavior management systems > "this isn't where I want to be" > clicks on record behavior > "I want to review the behavior" > clicks on history of behavior management systems > clicks on history of behavior management systems > clicks on behavior management systems [assist directs to the right button] > puts in the name of the graph > clicks on sam lewis ></p>	5 <p>AT: how could we make the button clearer?</p> <p>I know, it is clear once I know. I am wondering if it could be "review data" or "analyze data" and then once you get into it, you can create a graph.</p> <p>AT: overall how did that go for you?</p> <p>5--may all be on the user and my own tech experience and getting to know</p>

	<p>data. Do you think this would be a helpful function to have?</p> <p>I think it would be helpful. Especially if I was in a meeting and they brought up the question, I would want to bring it up right then. I would not want to send it and then have to pull up the email. It would also be helpful to just review the whole class.</p>			<p>clicks on speaking out > clicks on transitions > clicks on create graph > "okay"</p> <p>AT: lets save the graph</p> <p>clicks on save graph</p> <p>AT: how would you find the graph to view again</p> <p>click on saved personalized graphs</p>		<p>the system. I think it would be a 7 once I had done it before.</p> <p>AT: why 5?</p> <p>Just trying to read through everything and finding out what I was looking for.</p>
3	<p>Reviews history of behaviors > clicks on class information > clicks back to history of behaviors > reviews the options again > "I am looking for a way to see the raw..." clicks on record behavior > clicks on angela > "this is just to record, this is not going to help me ></p>	<p>5 because I had to go through a couple of steps. Once I got there it was clear.</p>	<p>AT: how did that go for you? [see observations]</p>	<p>"I think it would still be in history" > let me just try this again (clicks on the raw data button) > "this doesn't allow me to see the specifics of what I recorded in terms of whether it was at a transition or not, so there must be something else" > clicks on record behavior > clicks on</p>	<p>5.5 It is just a matter of going through the first time and seeing which one has which information. I think once you used it the first time it would be easy.</p>	<p>AT: overall how did that go for you? > It was just figuring out where to make the graph. ></p>

	<p>reviews the tabs again > AT: what are you looking for? > "I am looking for Angela's marks. I am looking for something that says her, and then some way to see her data > AT: directs to the raw data button > selects the dates > selects angela > "you can only pick one. I don't know if I should select focusing or inattention" clicks on focusing > "I guess I could go through it again and then do focusing > sends to email > "I guess at the beginning I was just looking for something that said her name > AT: how do you imagine that looking? > Either have individual buttons on the history screen that shows you their</p>			<p>sam > "this is just recording, this is not what I want" > clicks on history of behaviors > clicks on history of behavior management systems > reads the label of the create graph > keep looking > AT: directs to the button > clicks on sam lewis > "would put in the date" > clicks speaking out > clicks transitions > creates graph > "oh, that's good" > "my glitch was knowing that you could compare the variables you had recorded in that particular link" > AT: how could we make it more clear? > "what you do record... (clicks on the quick record, clicks on the advanced record) maybe the button could somehow say "including advanced</p>		
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	<p>data, or even in the raw data label you could say something about how you can filter it down for each student. What wasn't clear to me on the label is how specific you could go.</p>			<p>record information" so you know where it comes from" > "I still say that when you go through each time, it is clear that you could find it a second time" > "maybe you could call it personalized graph of my data with specifics, or something like that" > AT: how to save? > clicks on save button > AT: how would you access it again? > clicks on view my saved graphs</p>		
4	<p>"I would go and print it" > clicks on custom management systems (looking for angela) > clicks on history of behavior management systems > clicks create personalized graph of my data > puts in the name of the graph > selects angela > selects</p>	7	<p>AT: how did that go for you? > Easy because I got what I was looking for. I am a big graph/visual person, so I think even if there was the chance to look at the raw data I would look at the graph.</p>	<p>"Oh, well now I know how to do this" > creates the graph as expected > "this is great. I see this being great for teachers who have tried something and they want to show that it is or isn't working for their kid because sometimes teachers have a gut feeling about what</p>	7	<p>AT: how did that go for you? > easy, especially since I had already done it once</p>

	<p>focusing > selects inattention > under compared to, does not select anything "I am not sure what I would compare to. I would want to compare it to her peers because it would be a control > "that is easy to set up the graph" > AT: would that give you the information you want? > yes > AT: want to get your feedback on the raw data > the reason I didn't click on it is because I thought I would want to see something before sending it anywhere, I guess the email made me shy away because I would want something I could quickly just look at on here. But I like that you can filter down the data because you don't want to be looking</p>			<p>is going on with their kid but parents or other professionals want data to back it up</p>		
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	at the data for an entire class when you are in a parent meeting, you want something specific					
5	Clicks on create personalized graph > names it AV graph > selects angela selects focusing and inattention > selects schedule > clicks on create graph > AT: why not choose the send raw data to my email? > It was the email part. > AT: what would you change? > I would have two separate buttons. I skipped right to the email part. I would want to see the data first and then decide if I wanted to send it to my email. > AT: reconfirms what she said.	7 -- I got what I was looking for	AT: how did it go for you? > Fine for me, didn't follow directions but it would have worked > AT: can I get your feedback on the raw feedback function > clicks through it with all of the right steps > AT: how did it go for you? > It was easy, but it adds another step because I have to then open my email that would be tricky. Maybe it would be nice if you could send it to other emails too, like parents emails. Also, it might be nice if somewhere you could set up automated emails to parents that would have some sort of email just to check in and show them how their student is doing. I think options like that where you could have all of the parents' emails	Clicks on create personalized graph > types in the name of the graph > clicks Samuel lewis > clicks on speaking out > clicks on transitions > clicks on create graph > AT: how would you save it? > Clicks save graph > AT: now if you wanted to see it again, how would you do it? > clicks on saved personalized graphs	7	AT: how did that go for you? > good > AT: anything you liked or didn't like: I liked that you could do the whole class because then you would be able to start with the whole class and then narrow it down by student to see who is having trouble.

			<p>in there, and then it could send an update, that would be nice. > AT: what kind of information would be sent? > When I was little we had a red/yellow/green system and every day we had to color in the day with the color of whatever we ended up on. Maybe you wouldn't want to do it every day, but something so they know how the kids are doing > AT: what format of data? > Graphs and texts, not raw data. Something that is easy to read. You could help them to see that for ex. trends, they might be able to identify trends that teachers cannot. It is difficult to keep the communication open, especially in public schools where teachers are pushed out. I think this would help.</p>			
6	"I just did that, so I know how to do that" > clicks on	7	AT: a reason you selected helping a peer instead of inattention	Clicks on current behavior management	5--relatively easy	AT: how did that go for you? > It wasn't apparent to

	<p>send data to email > clicks on angela > clicks on helping a peer > clicks on send data > clicks on okay</p>		<p>and focusing? > The direction said to just click one, so I just selected one. I didn't know I could click on all of them. This is the kind of stuff that you would want to talk about in a conference--you want to talk about all of the positives and all of the negatives. I wouldn't want to only have the data on focusing and inattention. But I thought I could only select one behavior.</p> <p>AT: how did that go for you? > Easy. Like I said I had already done it before. And again, I think as you use it more you would figure out where everything is and how everything works. There is a learning curve.</p>	<p>systems > clicks on record behavior > clicks on teaching resources > clicks on create personalized graphs > clicks on Samuel > clicks on speaking out > clicks on transitions > clicks on create graph > "oh wow that's neat" > AT: what if you wanted to save it for later? > Press save > AT: what if you wanted to access it again? > clicks on view my saved personalized graphs</p>	<p>AT: top reason? > figuring out where to start</p>	<p>me that I could go there to see the data. Again, I think it was wording. The task said that I wanted to compare, so I think I was looking for something that said "compare" > AT: if you were in a classroom situation where you wanted to compare the behaviors, what would you be looking for in the application? When you don't have the wording of the prompt? > I think once I had used it once, I would know where to go. And maybe in the description on the button you could say "compare" instead of "graph"</p>
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	Task 9: Access Information on Behavior Management			Task 10: Record Teaching		
Participant ID	Observations	Rating	Other notes	Observations	Rating	Other notes

1	clicks on teaching resources tab > clicks on read behavior management digest	7	<p>AT: how did it go for you?</p> <p>Easy, I love there is a teaching resources tab because it would be so helpful in a quick minute because behaviors change every day</p>	<p>Clicks on reflect on my teaching practices > clicks start a new reflection > clicks start recording</p> <p>AT: imagine we stop recording. Impression on screen?</p> <p>It looks like you can look at how much time you spent teaching, and I would assume...are these going to be questions that would be with the system?</p> <p>AT: they would come with the system. Teachers would be able to answer questions before moving on. What do you think?</p> <p>I think it is great. You want to reflect as a teacher, but we do not have a lot of time. With this, you actually have a recorsing of yourself, which a lot of people do not.</p> <p>AT: what questions do you imagine?</p> <p>Engagement, language--is it</p>	7	<p>AT: overall how did it go?</p> <p>Easy</p>
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				<p>direct, is it understandable</p> <p>AT: you realize you didn't complete the recording on Aug 5th.</p> <p>Clicks on august 5th > "I would answer the questions and then return to the dashboard again"</p>		
2	<p>clicks on teaching resources > clicks on behavior management digest "because that sounds like reading information that isn't my own information"</p>	7	<p>AT: how did it go for you?</p> <p>I think teaching resources is simple and to the point so you can see that is where you would go.</p>	<p>clicks on reflect on teaching practices > clicks on start a new reflection > clicks start recording > "that seems easy" > AT we can imagine we are done recording. What would you imagine you could do on this screen? I would listen to it again. I could reflect back on it later or now.</p> <p>AT: what would you imagine those questions would be?</p> <p>They would have to be very broad to capture whatever it is I am looking for. Maybe something like "what did you do well in that lesson?" maybe "what is something you noticed that you could improve?" I was going to say "were students</p>	7	<p>AT: overall how did that task go for you?</p> <p>It was easy to find and understand and if it were an iPad it would make the recording easy to do. I think it would be good not just for analyzing my teaching, but I could record the student during, for example, during a reading assessment you could record them. Over time you could see the fluency change.</p>

				<p>engaged," but that is specific to what you are looking for at the time. Maybe also an open-ended place to comment.</p> <p>AT: how would you complete the Aug. 5th recording?</p> <p>Clicks August 5th reflection</p>		
3	clicks on teaching resources > clicks on read behavior management digest > "that was very easy"	7	AT: how did that go? > that was very easy	<p>Clicks on reflect on my teaching practices > clicks on start a new reflection > clicks on start recording > clicks on stop recording > AT: what would you do on this screen? > Then you would answer the questions > "this would be good for the interns actually. They have to do a 3-5 lesson sequence and then they have to do reflections on that" > AT: how would you go back and do the reflection? > clicks on the un-reflected recording > would answer the questions</p>	7	AT: what questions would you have? > how engaged were the students, participation of the students, focus, whether they were fooling around, whether they could sit, engagement, interest, attention, any egregious misbehavior, you might find if you videotape different times of the day it is more obvious that they are less engaged.
4	clicks on teaching resources > clicks on behavior management digest > "it would be great to have some	7	AT: how did that go for you? > it was easy	<p>Clicks on reflect on teaching practices > clicks on start a new reflection > clicks start recording > starts the recording > AT: what</p>	7	AT: how did that task go for you? > Easy. It is so important for people to be able to think about what they are doing, so I

	quick information for teachers who are really in a pickle especially since sometimes in those situations it is a challenge to think clearly, you want to just have a quick way to get some information			questions do you imagine being on this screen? > I think it is important for teachers to think about whether they have been doing the behavior systems consistently, follow-through, whether they are engaging to the kids, what their language is like--the language is really important, whether they are using positive language, whether they are commanding the student to do something, whether they give the student some autonomy		really like that you included this
5	clicks on teaching resources > clicks on read 'behavior management digest'	7	AT: what kind of information would you expect to see here? > Obviously, people will be looking for online resources, so I would think that ... I think it would be good if it updated and were attached to the internet in some way that would be good. Also, maybe if there was suggested reading, or teaching manuals, that would be good. Even if there was a	Clicks on reflect on my teaching practices > clicks on start a new reflection > clicks on start recording > clicks on stop recording > "I have a 10 hour recording, that is concerning > AT: how could we make it clearer that it is 10 minutes > get rid of the milliseconds... well, maybe just do minutes and seconds. The person who recorded it would know how long it is approximately. > AT: what questions would you expect	7	AT: how did that task go for you? > Easy > AT: anything like or to change? > I like that it offers the option because we often don't do this and when we do it is such a hassle to get a video setup. Maybe it would be helpful if there was a reminder so you could remind yourself to do a reflection for example every 3 weeks. > AT: do you see that being important throughout the

			<p>specific program that a school used, it would be good if they could upload resources for their teachers that follows their philosophies > AT: how did it go? > Easy the label was clear.</p>	<p>to see here to help teachers reflect on their teaching? > Is it video or just voice? > AT: just depends on the device that is being used > In this case, you are looking at behavior interventions, so I would expect them to be reflective on the intervention and how you responded to the behavior, etc. But also behavior can have to do with engagement levels and teaching practices, so maybe questions on that too. > AT: direction > clicks on the reflection "and now I could answer the questions" > "would there be a way that you could save them or send them so that other teachers could send them so that you could have an outside person answer the same questions as you did? Sometimes other people see something that you don't see."</p>	<p>rest of the application? > Absolutely. At the end of the day you forget you were supposed to do 52 things. Maybe not giant alarms, but maybe an alert system that popped up on the application, that would be good. > AT: describe a bit more > It would be under teaching practices and it would let you set up a weekly/etc. reminder, and then you would have another one on the record behavior tab to remind you to record behaviors. Something I am working on right now is remembering to send home positive notes to my students every 2 weeks because we always focus so much on the negative. I want to make sure that the kids and their parents are hearing something important. Those are things at the end of the day you've forgotten because you didn't write it down at the moment. This could go in</p>
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						with the updates to the parents--it would make it easier to record positive behaviors (so important).
6	clicks on teaching resources > clicks on read behavior management digest	7	AT: how did that go for you? > That was easy. I like that there is one place to go where you can access all of that information.	n/a	n/a	n/a

Participant ID	Task 11: Change Schedule			Task 12: Add Student to Class		
	Observations	Rating	Other notes	Observations	Rating	Other notes
1	Clicks on class information > clicks on edit class information > tries to click on activity on the list > clicks on add new activity > types in library as name > clicks on Monday button > would put in the time > clicks create activity	7	AT: how did that task go for you? Really easy	Clicks on add new student > types Whitney burke into search > clicks on search for student > clicks on add student to the class > clicks on Whitney's name > clicks on add student to the class AT: way to make it clearer that you have to select a student before adding them to the class? I feel like that is trial and error. That is just learning the system.	6	AT: overall how did that go for you? Really easy, except for just learning the function that you have to click it before adding the student.

2	Clicks on class information > clicks on edit class information > clicks on add new activity > adds the name of the activity > clicks on Monday > adds the time > adds activity to the schedule > clicks done	7	<p>AT: how did that go for you?</p> <p>That was easy, no problem at all</p> <p>AT: anything you particularly liked?</p> <p>Finding it was very clear. It would be great if then it would pop out a schedule of the week--I spend a lot of time creating that in word, and it would be really helpful if it just popped out.</p> <p>AT: send to self or download?</p> <p>Yes</p>	<p>clicks on my profile > clicks on teaching resources > clicks on done editing > clicks on edit class information > clicks on add new student > types in Whitney Burke > clicks search for student "I do not know if I am searching for her" > clicks add student to class > AT: there is one more step you need to do > clicks on Whitney burke then clicks on add student to class "I think if there were a bunch of students there then I would have realized that I needed to click on her, but because she was the only one I did not think I needed to click on her. That would have been clear.</p>	7	<p>AT: overall how did that go for you?</p> <p>7. The button was clear, add new student. A suggestion is that where it says "search for student" I didn't understand what you were searching in, I thought you were just adding the name of the student to the list. Maybe if it were like PowerSchool, you would have to add students from the school.</p> <p>AT: is there anything you would expect to see here based on your experience?</p> <p>The office does the adding, we do not have the control to add the student, so I haven't done it.</p>
3	Clicks on class information > clicks on Monday > clicks on the schedule around 1:30 > clicks on edit class information > clicks on	6 the first time a 6 and then the next time it would	<p>AT: reason not clear? > Just jumping the gun. I didn't look at all of them. I think generally it would be clear enough. > AT: anything to make it</p>	<p>clicks on add new student > types in Whitney Burke > presses search > clicks add student to class > reads the direction ></p>	7	<p>AT: how did it go for you? > Pretty straightforward > Like or change? > You didn't have to go through many steps. I liked that you</p>

	done editing > "will it let me go in here and change it [clicks on the schedule again] > clicks on edit class information > clicks on add activity > types library > clicks Monday > "would add time" > adds class activity	probably be a 7	clearer? > differentiating with colors or fonts would make your eyes look at everything more.	selects Whitney > clicks add student to class > clicks done		could just click on one thing and add them.
4	Clicks on class information > clicks on edit class information > clicks on add new activity > adds the name of the activity > clicks on Monday > adds the time > adds activity to the schedule > clicks done	7	AT: how did that go for you? > easy, it is how I would expect it to be set up	clicks on add new student > types in Whitney Burke > clicks search > clicks on Whitney > clicks add student > clicks done	7	AT: how did that task go for you? > easy
5	clicks on class information "because that seems logical" > clicks on edit class information > scrolls through the list > clicks between science and assembly because "that is where it would go" > clicks on add new behavior button > types in "Library" > clicks Monday > says would put in the time of the	7	AT: how did it go? > Easy > AT: noticed at first you tried to add by clicking on list. Anything we could improve? > No, I think it is logical the way it is. Can you make reminders for specials too? Reminders that you have to leave. It is difficult to remember to get the kids together. Especially when you are really engrossed in an	clicks on add new student > types in Whitney Burke > clicks search > clicks on Whitney > clicks add student > clicks done	7	AT: how did it go for you? > Easy > Anything easy or you would change? > I liked it was attached to the school system so it pulls right from there. It would be good to have a picture of the student at the end of their time across years. It would be interesting to see if some kids did better with some teachers than others.

	activity > clicks add activity > clicks done		activity and you look up and then you're 15 minutes late.			
6	n/a	n/a	n/a	n/a	n/a	n/a

	Post-test interview	Overall rating
Participant ID		
1	<p>AT: overall impressions?</p> <p>I think this is amazing</p> <p>AT: what did you like most?</p> <p>I think it gets at a lot of the things teachers wish they had time for. Setting up a system like this is a lot of work in the classroom, but if you have it online you are more likely to do it.</p> <p>AT: what did you like least?</p> <p>There wasn't anything that I disliked, it was just me trying to find out what the system offered.</p> <p>AT: anything particularly clear or unclear?</p> <p>I think everything is clear, all of the tab titles are great, and it is just exploring each section and seeing what is involved.</p> <p>AT: anything that you think is unnecessary</p> <p>I think all of them are wonderful</p> <p>AT: any functions that should be added?</p>	7

	<p>I think you can already add so much, so I can't think of anything else</p> <p>AT: what device?</p> <p>I would think it would be best on a computer because that is what school districts normally give you. I don't think you could do it on your phone because it would be a conflict.</p> <p>AT: how does it compare to other software tools you've seen?</p> <p>I've only seen paper data collection. This is the first piece of technology I have seen for behavior management.</p>	
2	<p>AT: overall impressions?</p> <p>I think what I understood what I was doing, I could see it being really helpful. Most of it is very clear, and the buttons tell you what the functions are.</p> <p>AT: what did you like the most about the application?</p> <p>The visual piece for me is really important. Being able to click on the student's button was easy.</p> <p>AT: what was the most challenging part?</p> <p>Just finding where to go. I think if a system like this were in place then ensuring adequate training and time for familiarization would be helpful. We often have great resources and without training we do not have any idea of the possibilities of the application.</p> <p>AT: what would that look like?</p> <p>Information on what is in each tab, and then maybe doing some of what we did today with going through imaginary scenarios--that is a good way to learn how</p>	6

	<p>to use the system.</p> <p>AT: clear/intuitive, unclear/confusing?</p> <p>Something that stands out to me is the graph showing how effective systems are. We use systems because someone else recommends it to us, and with our gut we feel that it is working, but having the data to back that up is really helpful.</p> <p>AT: any functions that are unnecessary?</p> <p>No I think they're all helpful.</p> <p>AT: any functions that should be added?</p> <p>I think with user time, really putting it into play with a pilot or something... it seems very thorough.</p>	
3	<p>AT: overall impressions? > Two things it would be positive. It would be a timesaver where you wouldn't have to disrupt the class for behavior management systems like the check system It would also be better for evaluating the effectiveness of the system, which you cannot do when you have a chart on the wall. It would also be good for parent teacher conferences where you could bring data to back up everything you had been seeing. In the course of a day you try so many different things with so many different kids, and you don't have real data to remember what is effective for each student. This is a user friendly way to collect the data > AT: anything to change? > I am not the techiest person, but it is clear. Anything I had to look at twice I would remember the next time > AT: are there any functions that are unnecessary? > no, I don't know if teachers have that many behavior management systems going, but I think with IEPs they have a lot going on. I like that feature where you could figure out if there was a connection between a behavior and what was going on in the classroom. All of the functions have relevance. > AT: anything to add? > No, in terms of what the purpose it, it gives you the option of adding and modifying systems, so no, I think they're all there.</p>	<p>7 because I think it makes it easier in terms of the efficiency and it gives you the data you don't normally have. No, I think it is well thought out, and it gives you a lot of options.</p>

4	<p>AT: overall impressions? > Well I think I have pretty much shared my opinions as we went through, but I like all of the features that you included. Did you do any research on which features are included? > Yes > you can tell because you have the key ones that I think teachers would need > AT: anything to add? > I think it would be helpful to add some sort of reminder. We have our teachers wear clickers and every time they click they are supposed to record the student's behavior, or whatever we decided. I think having a discrete reminder on the screen would be great because we have a lot of kids who ask what the clicker is and it is tricky to explain. This would also be easy because maybe the reminder could also be the place where the teacher records the information and then it would all be in one step > AT: anything that should not be included? > no, I think all of the functions are important</p>	7 because I think once I had used it once it would be so straightforward, and it even is now, but I think that it is a great tool
5	<p>AT: overall impressions? > I liked it. It was easy to use. It had a lot of pertinent information. I like that you can record information and see trends and export it. You don't have this information right now--you can't recognize trends with so much going on.</p> <p>AT: what would you change? Nothing to what is there. I just like the ideas for adding on additional possible functionalities. That could be done in the future.</p> <p>AT: on what device? PC is great but I think for a lot of classrooms, something on an iPad or tablet of some sort would be better. A lot of schools are using that, and then you can also take it on fieldtrips and outside and everything, and still record information in the moment. Maybe if there was a way you could log on the PC and the iPad that would be good because it is tough to print from the iPad.</p>	7
6	n/a	

Prototype Version 2

Based on the opportunities for improvement that Alexandria identified during formative usability testing, Alexandria updated the Axure prototype. Alexandria plans to work with students from the Tufts Computer Science department to develop this application after the conclusion of her senior honors thesis.

Changes from Version A to Version B

Update Reference ID	Update	Rationale for Update
1	Include the functionality to add actual pictures of students to their button on the landing page	<ul style="list-style-type: none"> Secondary research. Individuals reviewing ClassDojo reported that they wish it had the functionality to add pictures of their actual students.
2	Include the functionality to change the schedule for just one day (e.g., for one-time assemblies)	<ul style="list-style-type: none"> Interview with special educator, who reported that users should be able to change their classroom schedule for just one day
3	Include the functionality for other educators or special educators to see real-time behavior information about particular students	<ul style="list-style-type: none"> Interview with special educator, who reported that, as a special educator, it would be helpful to see what is going on in the classroom in real-time
4	Include the functionality to do inner-agreement checks of behavior	<ul style="list-style-type: none"> Interview with special educator, who reported that currently, special educators encourage teachers to compare the behaviors of the student of interest to the behaviors of another, randomly-selected student
5	Include the functionality to compare behaviors to the time of day, and the response of the teacher	<ul style="list-style-type: none"> Interview with special educator, who said that these are common predictors of behaviors
6	Include the functionality to be able to send out a report about the student's behavior to their educational team at the end of a certain period of time (e.g., 1 month)	<ul style="list-style-type: none"> Interview with special educator, who reported that they have to spend time developing these reports quite frequently
7	Ensure all notifications are accompanied by a visual and auditory notification	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors'
8	Include the functionality to edit all inputs	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors' Formative testing
9	Include the functionality to set the application language	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors'
10	Show the user where they are in operational sequences	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors'
11	Provide the user with access to information on how to complete each function	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors'
12	Ensure all directions are phrased as actions	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors'
13	Ensure the system provides the user with feedback on whether or not they have	<ul style="list-style-type: none"> 'Mitigating Performance Shaping Factors'

	successfully completed an action every time they attempt to complete an action	
14	In the alarm-setting function, require the user to set a goal for how frequently they record the behaviors of their students	<ul style="list-style-type: none"> • 'Mitigating Performance Shaping Factors'
15	Include a tutorial for the user to view when they first download the application	<ul style="list-style-type: none"> • 'Mitigating Performance Shaping Factors' • Formative Testing
16	Ensure the input for time is the same as that on other iOS systems. This will ensure positive transfer of information.	<ul style="list-style-type: none"> • Formative Testing
17	Increase the text size of the button labels	<ul style="list-style-type: none"> • Formative Testing
18	Color the button of the in-use behavior management system the same as that behavior management system, and color the other buttons in the behavior management system navigation differently. These two colors should have a high contrast.	<ul style="list-style-type: none"> • Formative Testing
19	Move the 'Add new behavior management system' button to the behavior management navigational toolbar.	<ul style="list-style-type: none"> • Formative Testing
20	Format the 'Add new behavior management system' button differently than the other behavior management buttons so that users identify the button as having a different functionality.	<ul style="list-style-type: none"> • Formative Testing
21	Clarify the wording of the button that currently reads 'View the History of my Behavior Management Systems' to read 'View Data on my Behavior Management Systems.'	<ul style="list-style-type: none"> • Formative Testing
22	Change the labeling the button from 'View System History' to View History of [insert name of system here]'	<ul style="list-style-type: none"> • Formative Testing
23	Include the functionality to view raw data from the application	<ul style="list-style-type: none"> • Formative Testing
24	Include the functionality to send the data to emails other than the one saved on the application	<ul style="list-style-type: none"> • Formative Testing
25	Change the label 'select one behavior' to 'select at least one behavior' on the popup specifying data sent to email.	<ul style="list-style-type: none"> • Formative Testing

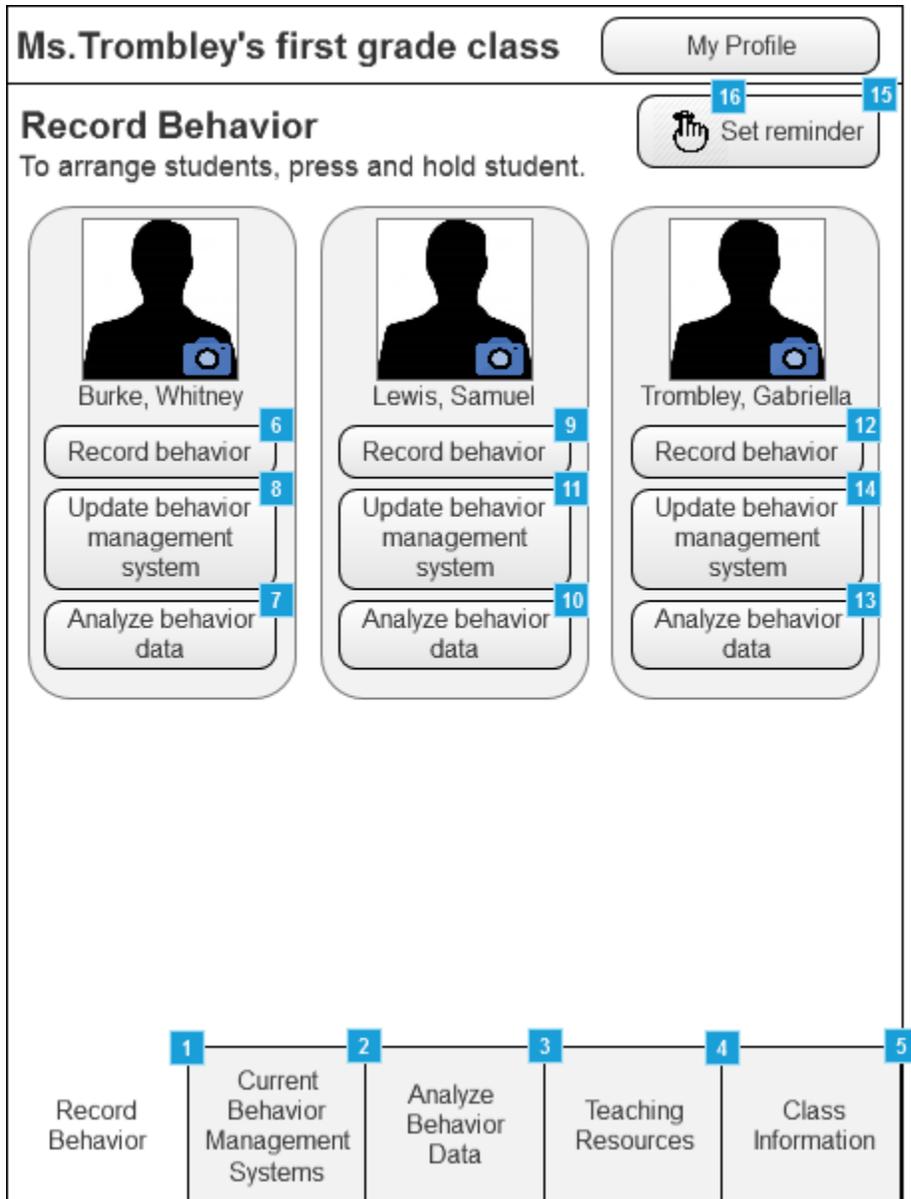
26	Change the labeling of button from 'Create Personalized Graph of my Data' to 'Analyze Data.'	<ul style="list-style-type: none"> • Formative Testing
27	Move the 'Add Activity' button to the top of the schedule in the 'edit' state of the 'Classroom Information' tab	<ul style="list-style-type: none"> • Formative Testing
28	Add directions on how to edit activities and add activities under the label 'Current Activities in Schedule'	<ul style="list-style-type: none"> • Formative Testing
29	Add the functionality to send the schedule to an email.	<ul style="list-style-type: none"> • Formative Testing
30	If the search function only produces one student, the system should automatically highlight this student. If the search function produces two students, the "Add student to class" button will remain in-actionable until the user has selected a student from the list. Once the user has successfully selected the student from the list, the user will be able to add the student to their class.	<ul style="list-style-type: none"> • Formative Testing
31	Include the functionality to send updates to classroom Parents	<ul style="list-style-type: none"> • Formative Testing
32	Include reminders to record behaviors, update the behavior management systems, send updates to parents, complete self-reflections, and transition to activities in the schedule	<ul style="list-style-type: none"> • Secondary research. Individuals reviewing ClassDojo reported that they wish it had the functionality to remind them to record behavioral information about their students. • Special Educator Interview • Formative Testing
33	Change the quick record to be a checklist of behaviors rather than a single button press to enable recording multiple behaviors, and to ensure that users can check their input	<ul style="list-style-type: none"> • Expert review by Val Ng
34	Separate the landing page into the top section where the users can record an individual behavior, or record a more complex behavior. Underneath that, add a section for student profiles with all of their information/access to all of the functions relating to that student.	<ul style="list-style-type: none"> • Expert review by Val Ng
35	Move the navigation buttons to the bottom of the screen	<ul style="list-style-type: none"> • Expert review by Val Ng
36	Limit button labels to 2-3 words	<ul style="list-style-type: none"> • Expert review by Val Ng
37	Add icons when there are long lists of buttons/actionable items. However, do	<ul style="list-style-type: none"> • Expert review by Val Ng

	not add the long list of items for short lists, or for buttons where the icon would be complex and indiscernible.	
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Prototype Version 2

1.1 Landing Page

User Interface



Widget Table

Footnote	Name	Interactions
1	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box, Current behavior management systems box Open Link in Parent Frame
2	behavior management systems hot spot	OnClick: Case 1: Hide Current behavior management systems box Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
3	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box, Current behavior management systems box Open History of Behaviors in Current Window
4	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box, Current behavior management systems box Open Teaching Resources in Current Window
5	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box, Current behavior management systems box Open Class Information in Current Window
6	My Profile	OnClick: Case 1: Close Current Window Open record behavior popup in Current Window
7	My Profile	OnClick: Case 1: Close Current Window Open History of Behaviors in Current Window
8	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in Current Window
9	My Profile	OnClick: Case 1: Close Current Window Open record behavior popup in Current Window

Footnote	Name	Interactions
10	My Profile	OnClick: Case 1: Close Current Window Open History of Behaviors in Current Window
11	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in Current Window
12	My Profile	OnClick: Case 1: Close Current Window Open record behavior popup in Current Window
13	My Profile	OnClick: Case 1: Close Current Window Open History of Behaviors in Current Window
14	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in Current Window
15	My Profile	OnClick: Case 1: Open Set reminder record behavior in Popup Window
16		OnClick: Case 1: Open Set reminder record behavior in Popup Window

Advanced Record Popup

User Interface

Advanced Record

Fill in any of the fields below. You can use data recorded in this form to analyze the behaviors of your students later.

Behavior: 5

This behavior is: Positive 2 Negative 3

Students Involved:

Lewis, Samuel 6

Trombley, Gabriella 7

Vaughn, Angela 8

Whole Class 1

Time Behavior Occurred:

5	56	June	14	2011
6	57	July	15	2012
7	58	August	16	2013
8	59 AM	September	17	2014
9	00 PM	October	18	2015
10	01	November	19	2016
11	02	December	20	2017

Describe what is/was going on in the classroom at the time of this behavior:

Transition Change of schedule

Negative peer interaction Other:

When you add a new classroom situation, it will appear here any time you do an advanced record of a classroom behavior.

How did you respond to the behavior?

Add a personalized comment:

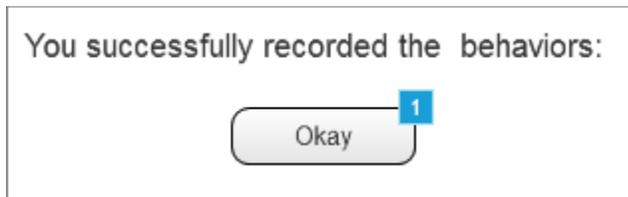
4

Widget Table

Footnote	Name	Interactions
1	Whole Class	<p>OnSelected:</p> <p>Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" Set value of student equal to "whole class"</p> <p>OnUnselected:</p> <p>Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"</p>
2	positive radio	<p>OnSelected:</p> <p>Case 1: Set is selected of negative radio equal to "false"</p>
3	negative radio	<p>OnSelected:</p> <p>Case 1: Set is selected of positive radio equal to "false"</p>
4	My Profile	<p>OnClick:</p> <p>Case 2 (If is selected of positive radio equals true): Open Preset this behavior? in Popup Window Close Current Window</p> <p>Case 3 (Else If is selected of negative radio equals true): Open Recorded negative behavior 1 in Popup Window Close Current Window</p>
5		<p>OnTextChanged:</p> <p>Case 1: Set value of behavior equal to text on focused widget</p>
6	Sam Lewis	<p>OnSelected:</p> <p>Case 1: Set value of student equal to "Samuel Lewis"</p>
7	Gabriella Trombley	<p>OnSelected:</p> <p>Case 1: Set value of student equal to "Gabriella Trombley"</p>
8	Angela Vaughn	<p>OnSelected:</p> <p>Case 1: Set value of student equal to "Angela Vaughn"</p>

Successfully recorded behavior

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

Preset this behavior?

User Interface

Would you like to make this behavior a default behavior? A default behavior will appear when you complete a quick-record.

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior advanced in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Recorded positive behavior advanced in Popup Window

Recorded positive behavior advanced

User Interface

Your recorded that your whole class is doing the behavior: being kind to new student.

Don't forget to commend your students on their positive behaviors!

Would you like to record any information in your behavior management systems?

No 1

Yes 2

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in New Window/Tab

Recorded negative behavior 2

User Interface

Your successfully recorded that _____.

If you comment on their behavior, always remember to tell your students why this behavior is negative.

Would you like to record any information in your behavior management systems?

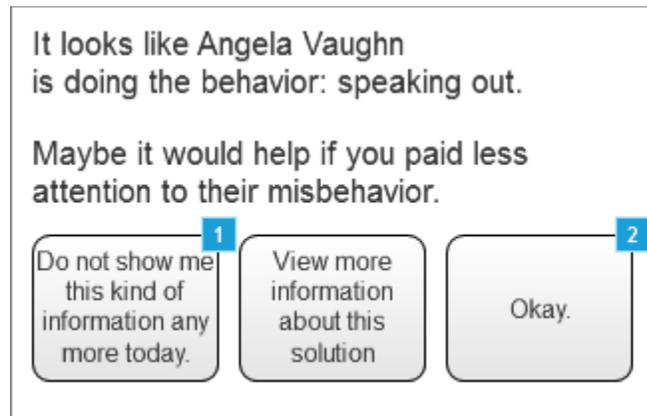
1 2

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Current Behavior Management Systems in New Window/Tab

Recorded negative behavior 1

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 2 in Current Window
2	My Profile	OnClick: Case 1: Close Current Window Open Recorded negative behavior 2 in Popup Window

Record behavior popup

User Interface

Record behavior

Positive behaviors:

- Helping a peer
- Completing work
- Focusing

Negative behaviors:

- Inattention
- Speaking out
- Negative interaction with peer

²

To:

- Select more than one student
- Record a behavior from a previous time
- Record what was going on in the class at the time of the behavior
- Add a personalized comment to the behavior

Procede to advanced recording here:

¹

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Advanced Record Popup in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Successfully recorded behavior in Popup Window

Set reminder record behavior

User Interface

Set reminder

Set reminder to:

Additional notes:

Time of reminder:

5	56		June	14	2011
6	57		July	15	2012
7	58		August	16	2013
8	59	AM	September	17	2014
9	00	PM	October	18	2015
10	01		November	19	2016
11	02		December	20	2017

Repeat:

Never

times

Every **Seconds** until...

5	56		June	14	2011
6	57		July	15	2012
7	58		August	16	2013
8	59	AM	September	17	2014
9	00	PM	October	18	2015
10	01		November	19	2016
11	02		December	20	2017

1

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

History of Behaviors

User Interface

Ms. Trombley's first grade class
My Profile

Analyze Behavior Data

To view more information or to edit, press on a recording.

Filter by...
Sort by: Most recent
Search...

	Date / Time	Student	Behavior
(X)	Monday Jan. 23 9:00AM	Lewis, Samuel	Focusing
(X)	Monday Jan. 23 8:57AM	Vaughn, Angela	Helping peer
(X)	Monday Jan. 23 8:42AM	Trombley, Gabriella	Completing Work
(X)	Monday Jan. 23		

9

 Email this data

10

 View saved graphs

11

 Analyze data

Record Behavior

Current Behavior Management Systems

Analyze Behavior Data

Teaching Resources

Class Information

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open Specify raw data included in email in Popup Window
2	My Profile	OnClick: Case 1: Open Create Personalized Graph of my Data in Popup Window

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Saved personalized graphs in Popup Window
4	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
5	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
6	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
7	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
8	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window
9		OnClick: Case 1: Open Specify raw data included in email in Popup Window
10		OnClick: Case 1: Open Saved personalized graphs in Popup Window
11		OnClick: Case 1: Open Create Personalized Graph of my Data in Popup Window
12		OnClick: Case 1: Open Datapoint: Sam in Popup Window
13		OnClick: Case 1: Open Datapoint: Angela in Popup Window
14		OnClick: Case 1: Open Datapoint: Gabby in Popup Window

Confirmation of data sent to email

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

Create Personalized Graph of my Data

User Interface

Create Personalized Graph of my Data

Name of Graph: 3

Dates considered in data:

June	14	2011
July	15	2012
August	16	2013
September	17	2014
October	18	2015
November	19	2016
December	20	2017

- to -

June	14	2011
July	15	2012
August	16	2013
September	17	2014
October	18	2015
November	19	2016
December	20	2017

Students Considered in Graph:

Lewis, Samuel
 Trombley, Gabriella
 Vaughn, Angela
 Whole Class 1

I want to create a graph of:
(select one behavior)

Helping a peer Inattention
 Completing work Speaking out
 Focusing Negative interaction with peer

...compared to...
(select one comparison)

Schedule Transitions
 Changes of schedule Negative peer interactions
 Time of day Educator's response to behavior
 Another peer (randomly selected, use for inner-agreement check)

2

Widget Table

Footnote	Name	Interactions
1	Whole Class	<p>OnSelected:</p> <p>Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true"</p> <p>OnUnselected:</p> <p>Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"</p>
2	My Profile	<p>OnClick:</p> <p>Case 1: Close Current Window Open Create Personalized Graph of my Data 2 in Popup Window</p>
3	Name of graph input	<p>OnTextChange:</p> <p>Case 1: Set value of OnLoadVariable equal to text on This</p>

Specify raw data included in email

User Interface

Specify the Data

Dates considered in data:

June	14	2011
July	15	2012
August	16	2013
September	17	2014
October	18	2015
November	19	2016
December	20	2017

- to -

June	14	2011
July	15	2012
August	16	2013
September	17	2014
October	18	2015
November	19	2016
December	20	2017

Students Considered in data::

- Lewis, Samuel
- Trombley, Gabriella
- Vaughn, Angela
- Whole Class 2

Behaviors considered in data:

(select at least one behavior)

- Helping a peer
- Inattention
- Completing work
- Speaking out
- Focusing
- Negative interaction with peer

Enter emails to which you would like the data sent

Separate email addresses by a semi-colon

1

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of data sent to email in Popup Window

Footnote	Name	Interactions
2	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"

Send graph to email

User Interface

Enter emails to which you would like the graph sent
Separate email addresses by a semi-colon

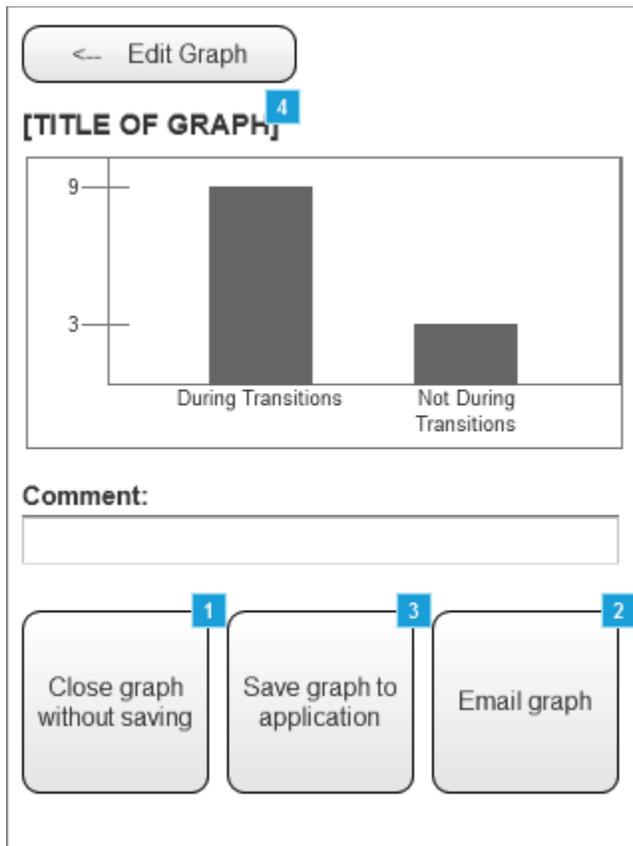
 ¹

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of graph sent to email in Popup Window

Create Personalized Graph of my Data 2

User Interface

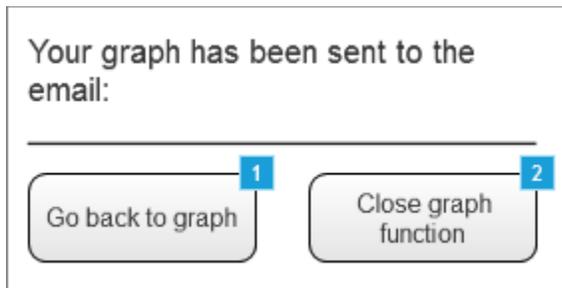


Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window
3	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of graph saved to app in Popup Window
4	Title of graph	OnLoad: Case 1: Set text on This equal to value of OnLoadVariable

Confirmation of graph sent to email

User Interface

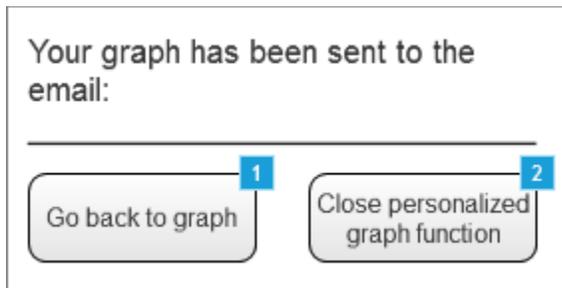


Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

Confirmation of graph sent to email 2

User Interface

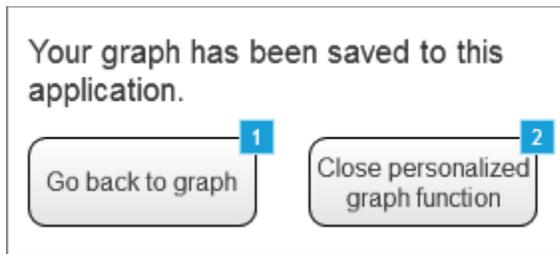


Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

Confirmation of graph saved to app

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data 2 in Current Window
2	My Profile	OnClick: Case 1: Close Current Window

Saved personalized graphs

User Interface

Create Personalized Graph of my Data
Click on a graph for more information.

Name ^ Date Created ^ 3

Graph A Date B 1

Graph B Date A 2

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs 2 in Popup Window

Saved personalized graphs 2

User Interface

Create Personalized Graph of my Data

Click on a graph for more information.

1

Name ^ Date Created ^

2

Graph B Date A Delete

3

Graph A Date B Delete

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window

More information saved graphs

User Interface

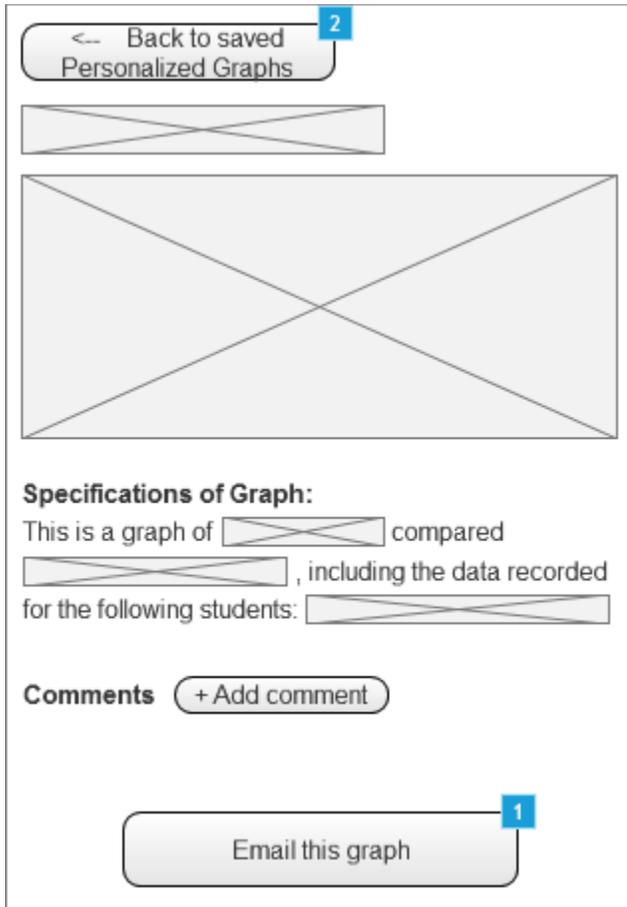
The screenshot shows a user interface for viewing saved graphs. At the top, there is a button labeled 'Back to saved Personalized Graphs' with a blue callout box containing the number '1'. Below this is a bar chart titled 'Graph A'. The y-axis is labeled 'Instances of Speaking Out' with tick marks at 3 and 9. The x-axis has two categories: 'During Transitions' and 'Not During Transitions'. The bar for 'During Transitions' reaches the 9 mark, and the bar for 'Not During Transitions' reaches the 3 mark. Below the chart, there is a section titled 'Specifications of Graph:' followed by text: 'This is a graph of **Speaking Out** compared to **Transitions**, including the data recorded for the students **Samuel Lewis** for the dates **8/14/2016**.' Below the specifications is a 'Comments' section with a '+ Add comment' button. At the bottom, there is a large button labeled 'Email this graph' with a blue callout box containing the number '2'.

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Send graph to email in Popup Window

More information saved graphs 2

User Interface

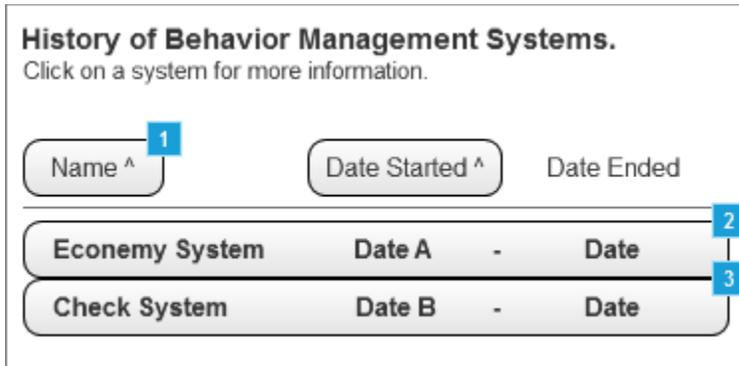


Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Send graph to email in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Saved personalized graphs in Popup Window

History of management systems

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open History of management systems 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Specifics of behavior management systems in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window

History of management systems 2

User Interface

History of Behavior Management Systems.
Click on a system for more information.

Name ^ Date Started ^ Date Ended

Check System	Date B	-	Date
Economy System	Date A	-	Date

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Specifics of behavior management systems in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open More information saved graphs in Popup Window
3	My Profile	OnClick: Case 1: Close Current Window Open History of management systems in Popup Window

Specifics of behavior management systems

User Interface

1
<-- Back to list of previous behavior management systems

Name of System: Economy System
Dates: 8/1/2016 - present
Students Involved: Whole Class
Specifications of Graph:
 This is a graph of **your time spent on behavior management**, compared to **the date this information was recorded**, including the data recorded for the following students: **full class**.

The above graph shows the amount of time that you spent on behavior interventions in your class during the specified dates of this management system.

To create a more specific graph:
2
 Make a personalized graph of my data

Comments + Add comment

No existing comments.

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open History of management systems in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Create Personalized Graph of my Data in Popup Window

Datapoint: Sam

User Interface

You recorded the following information in this entry:

To change any of the information, make the necessary change, then press "Save" at the bottom of this form.

Students Involved:

- Lewis, Samuel 2
- Trombley, Gabriella 3
- Vaughn, Angela 4
- Whole Class 1

Behaviors recorded:

- Helping a peer
- Completing work
- Focusing
- Inattention
- Speaking out
- Negative interaction with peer

Time Behavior Occurred:

5	56	June	14	2011
6	57	July	15	2012
7	58	August	16	2013
8	59 AM	September	17	2014
9	00 PM	October	18	2015
10	01	November	19	2016
11	02	December	20	2017

What is/was going on in the classroom at the time of this behavior:

- Transition
- Change of schedule
- Negative peer interaction
- Other:

Personalized comment:

N/A

Save Changes

Widget Table

Footnote	Name	Interactions
1	Whole Class	<p>OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" Set value of student equal to "whole class"</p> <p>OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"</p>
2	Sam Lewis	<p>OnSelected: Case 1: Set value of student equal to "Samuel Lewis"</p>
3	Gabriella Trombley	<p>OnSelected: Case 1: Set value of student equal to "Gabriella Trombley"</p>
4	Angela Vaughn	<p>OnSelected: Case 1: Set value of student equal to "Angela Vaughn"</p>

Datapoint: Angela

User Interface

You recorded the following information in this entry:

To change any of the information, make the necessary change, then press "Save" at the bottom of this form.

Students Involved:

- Lewis, Samuel 2
- Trombley, Gabriella 3
- Vaughn, Angela 4
- Whole Class 1

Behaviors recorded:

- Helping a peer
- Completing work
- Focusing
- Inattention
- Speaking out
- Negative interaction with peer

Time Behavior Occurred:

5	56	June	14	2011
6	57	July	15	2012
7	58	August	16	2013
8	59 AM	September	17	2014
9	00 PM	October	18	2015
10	01	November	19	2016
11	02	December	20	2017

What is/was going on in the classroom at the time of this behavior:

- Transition
- Change of schedule
- Negative peer interaction
- Other:

Personalized comment:

N/A

Save Changes

Widget Table

Footnote	Name	Interactions
1	Whole Class	<p>OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" Set value of student equal to "whole class"</p> <p>OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"</p>
2	Sam Lewis	<p>OnSelected: Case 1: Set value of student equal to "Samuel Lewis"</p>
3	Gabriella Trombley	<p>OnSelected: Case 1: Set value of student equal to "Gabriella Trombley"</p>
4	Angela Vaughn	<p>OnSelected: Case 1: Set value of student equal to "Angela Vaughn"</p>

Datapoint: Gabby

User Interface

You recorded the following information in this entry:

To change any of the information, make the necessary change, then press "Save" at the bottom of this form.

Students Involved:

- Lewis, Samuel 2
- Trombley, Gabriella 3
- Vaughn, Angela 4
- Whole Class 1

Behaviors recorded:

- Helping a peer
- Completing work
- Focusing
- Inattention
- Speaking out
- Negative interaction with peer

Time Behavior Occurred:

5	56	June	14	2011
6	57	July	15	2012
7	58	August	16	2013
8	59 AM	September	17	2014
9	00 PM	October	18	2015
10	01	November	19	2016
11	02	December	20	2017

What is/was going on in the classroom at the time of this behavior:

- Transition
- Change of schedule
- Negative peer interaction
- Other:

Personalized comment:

N/A

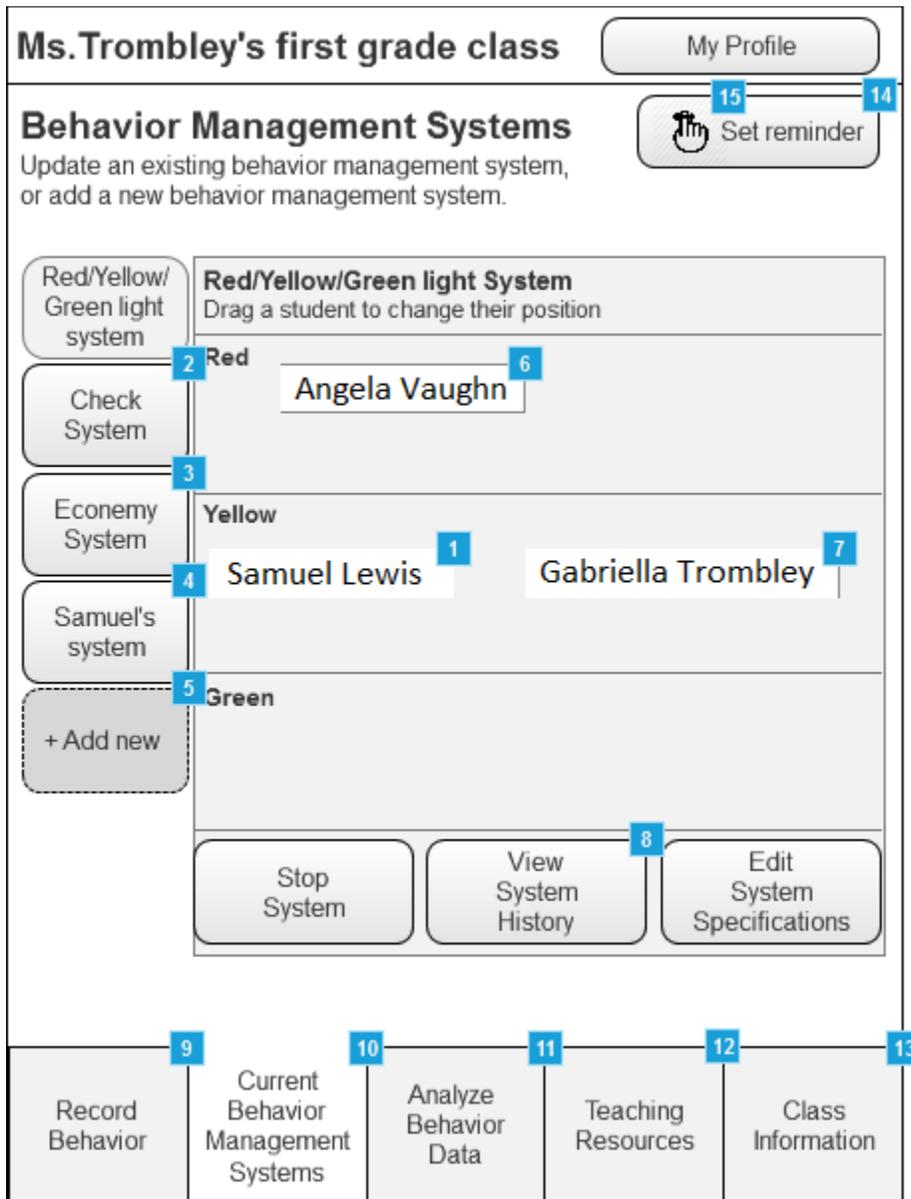
Save Changes

Widget Table

Footnote	Name	Interactions
1	Whole Class	<p>OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" Set value of student equal to "whole class"</p> <p>OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"</p>
2	Sam Lewis	<p>OnSelected: Case 1: Set value of student equal to "Samuel Lewis"</p>
3	Gabriella Trombley	<p>OnSelected: Case 1: Set value of student equal to "Gabriella Trombley"</p>
4	Angela Vaughn	<p>OnSelected: Case 1: Set value of student equal to "Angela Vaughn"</p>

Current Behavior Management Systems

User Interface



Widget Table

Footnote	Name	Interactions
1		OnDrag: Case 1: Move This with drag
2	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 2 in Current Window

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Current Behavior Management System 3 in Current Window
4	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 4 in Current Window
5	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
6		OnDrag: Case 1: Move This with drag
7		OnDrag: Case 1: Move This with drag
8	My Profile	OnClick: Case 1: Open History of management systems in Popup Window
9	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
10	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
11	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
12	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
13	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window
14	My Profile	OnClick: Case 1: Open Set reminder update in Popup Window

Footnote	Name	Interactions
15		OnClick: Case 1: Open Set reminder update in Popup Window

Unnamed

State1

Unnamed

State1

Unnamed

State1

Current Behavior Management Systems 2

User Interface

Ms. Trombley's first grade class My Profile

Behavior Management Systems Set reminder

Update an existing behavior management system, or add a new behavior management system.

Check System
Click on a student to add a check to them.

System	Student	Checks	+	--
Red/Yellow/Green light system	Lewis, Samuel	✓ ✓ ✓	+	--
	Trombley, Gabriella	✓ ✓	+	--
Economy System	Vaughn, Angela	✓ ✓ ✓ ✓ ✓	+	--

+ Add new

Stop System View System History Edit System Specifications

Navigation Bar:

- Record Behavior
- Current Behavior Management Systems
- Analyze Behavior Data
- Teaching Resources
- Class Information

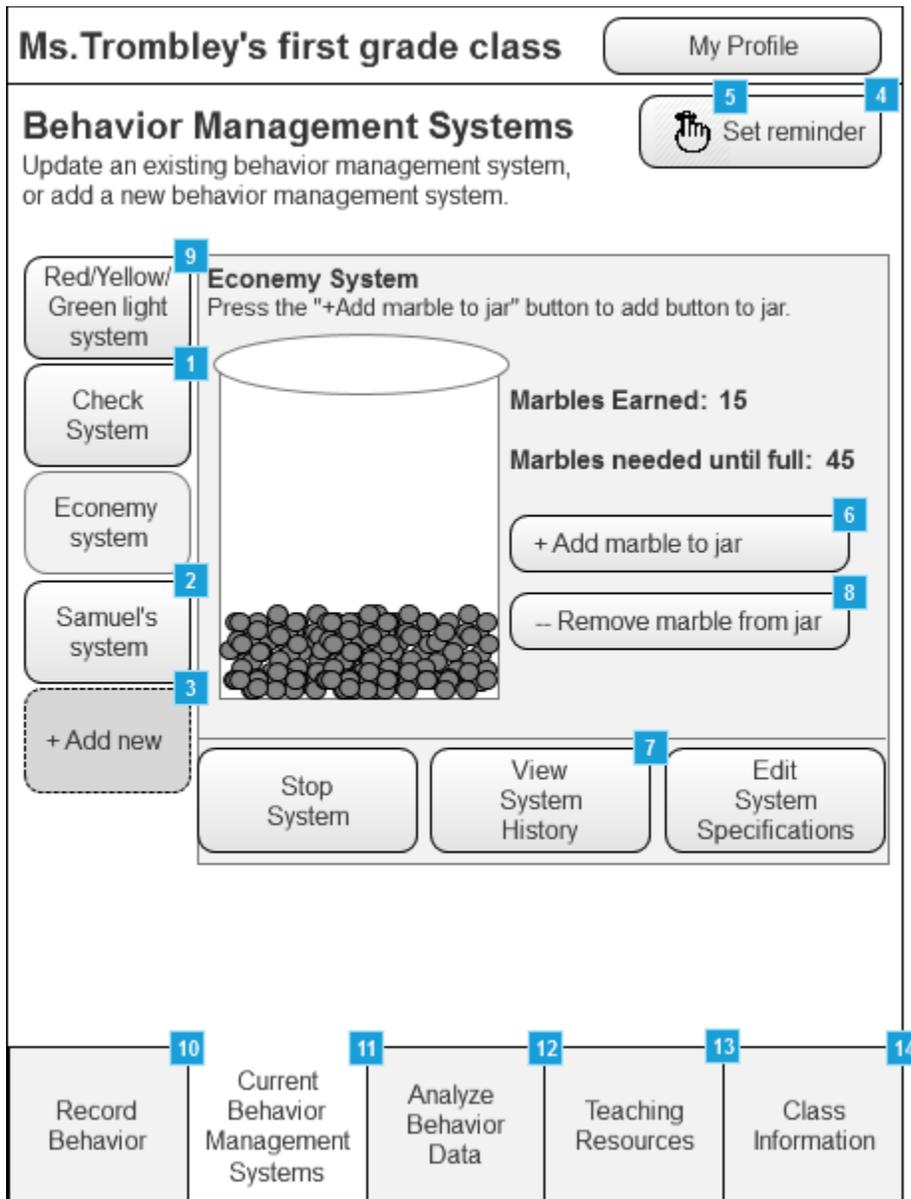
Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open Set reminder update in Popup Window
2		OnClick: Case 1: Open Set reminder update in Popup Window

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Current Behavior Management Systems in Current Window
4	My Profile	OnClick: Case 1: Open Current Behavior Management System 3 in Current Window
5	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 4 in Current Window
6	My Profile	OnClick: Case 1: Open History of management systems in Popup Window
7	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
8	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
9	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
10	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
11	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
12	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window

Current Behavior Management System 3

User Interface



Widget Table

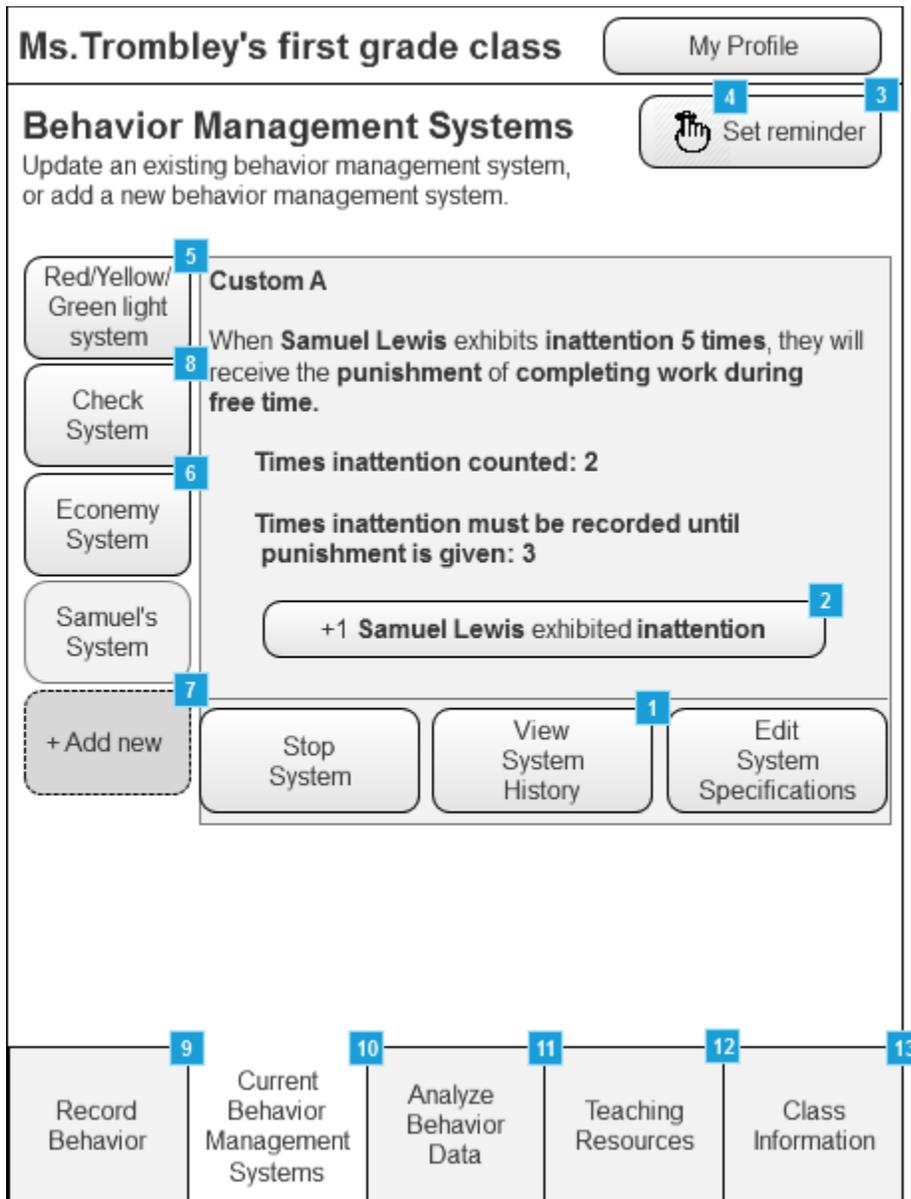
Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 2 in Current Window
2	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 4 in Current Window

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
4	My Profile	OnClick: Case 1: Open Set reminder update in Popup Window
5		OnClick: Case 1: Open Set reminder update in Popup Window
6	My Profile	OnClick: Case 1: Set text on marbles needed equal to "[[LVAR1 - 1]]" Set text on Marbles earned equal to "[[LVAR2 + 1]]"
7	My Profile	OnClick: Case 1: Open History of management systems in Popup Window
8	My Profile	OnClick: Case 1: Set text on marbles needed equal to "[[LVAR1 + 1]]" Set text on Marbles earned equal to "[[LVAR2 - 1]]"
9	My Profile	OnClick: Case 1: Open Current Behavior Management Systems in Current Window
10	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
11	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
12	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
13	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window

Footnote	Name	Interactions
14	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window

Current Behavior Management Systems 4

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open History of management systems in Popup Window
2	My Profile	OnClick: Case 1: Open Confirmation add inattention in Popup Window

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Set reminder update in Popup Window
4		OnClick: Case 1: Open Set reminder update in Popup Window
5	My Profile	OnClick: Case 1: Open Current Behavior Management Systems in Current Window
6	My Profile	OnClick: Case 1: Open Current Behavior Management System 3 in Current Window
7	My Profile	OnClick: Case 1: Open Add new behavior management system in Popup Window
8	My Profile	OnClick: Case 1: Open Current Behavior Management Systems 2 in Current Window
9	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
10	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
11	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
12	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
13	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window

Add new behavior management system

User Interface

Add New Behavior Management System

Pre-Set Options:
Select one of the options below. By selecting one of the pre-set options, some of the specifications on the next page will be filled in for you. However, you will still be able to edit these specifications.

Economy System 2
Give your class marbles when they behave well as a whole.
When there are a certain number of marbles, reward them with a prize.

Check System 3
Give your students check marks when they are behaving well individually.
Reward the student with the most number of checks at the end of a given period of time with a prize.

Red/Yellow/Green Light System 4
Give students feedback on their behavior by putting them on a chart with red, yellow, and green lights, and moving them according to their behavior.

Customized System 5
Create your own system by inputting information such as the targeted behavior, and how it will be punished or reinforced.

1

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new behavior management system 2 in Popup Window
2	economy system	OnSelected: Case 1: Set is selected of customized system equal to "false", and is selected of red/yellow/green light system equal to "false", and is selected of check system equal to "false"
3	check system	OnSelected: Case 1: Set is selected of economy system equal to "false", and is selected of check system equal to "false", and is selected of customized system equal to "false"
4	red/yellow/green light system	OnSelected: Case 1: Set is selected of economy system equal to "false", and is selected of check system equal to "false", and is selected of customized system equal to "false"
5	customized system	OnSelected: Case 1: Set is selected of economy system equal to "false", and is selected of check system equal to "false", and is selected of red/yellow/green light system equal to "false"

Add new behavior management system 2

User Interface

Add New Behavior Management System

Name of System:

Students Involved:

- Lewis, Samuel
- Trombley, Gabriella
- Vaughn, Angela
- Whole Class 1

Ther behavior targeted with this management system is:

- General Behavior 6
- Specific: 7

The targeted behavior is:

- Positive 2
- Negative 3

Timing of targeted behavior(s):

- The behavior needs to be 8 completed times for the student(s) to recieve the reward/punishment.
- The behavior needs to be completed 9 minutes for the student(s) to recieve the reward/punishment.

The behavior will be...

- Reinforced 4
- Punished 5

...with...

Personalized Comment

10

Widget Table

Footnote	Name	Interactions
1	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"
2	positive radio	OnSelected: Case 1: Set is selected of negative radio equal to "false"
3	negative radio	OnSelected: Case 1: Set is selected of positive radio equal to "false"
4	positive radio	OnSelected: Case 1: Set is selected of negative radio equal to "false"
5	negative radio	OnSelected: Case 1: Set is selected of positive radio equal to "false"
6	general behavior radio	OnSelected: Case 1: Set is selected of specific behavior radio equal to "false"
7	specific behavior radio	OnSelected: Case 1: Set is selected of general behavior radio equal to "false"
8	A	OnSelected: Case 1: Set is selected of B equal to "false"
9	B	OnSelected: Case 1: Set is selected of A equal to "false"
10	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of new behavior management system in Popup Window

Confirmation of new behavior management system

User Interface

You have successfully created a new behavior management system.

When Angela pays attention for 30 minutes, they will receive 3 extra minutes of recess.
Comment: "This must happen during quiet reading time"

You will be able to add information on this management system under the 'current behavior management systems' tab.

1
Edit specifications of this behavior management system

2
Okay

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new behavior management system 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

Confirmation add inattention

User Interface

You recorded that Samuel exhibited inattention.
Is this correct?

2 No. Do not record inattention.

1 Yes. Record inattention.

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window

Set reminder update

User Interface

Set reminder

Set reminder to:

Additional notes:

Time of reminder:

5	56		June	14	2011
6	57		July	15	2012
7	58		August	16	2013
8	59	AM	September	17	2014
9	00	PM	October	18	2015
10	01		November	19	2016
11	02		December	20	2017

Repeat:

Never

times

Every **Seconds** until...

5	56		June	14	2011
6	57		July	15	2012
7	58		August	16	2013
8	59	AM	September	17	2014
9	00	PM	October	18	2015
10	01		November	19	2016
11	02		December	20	2017

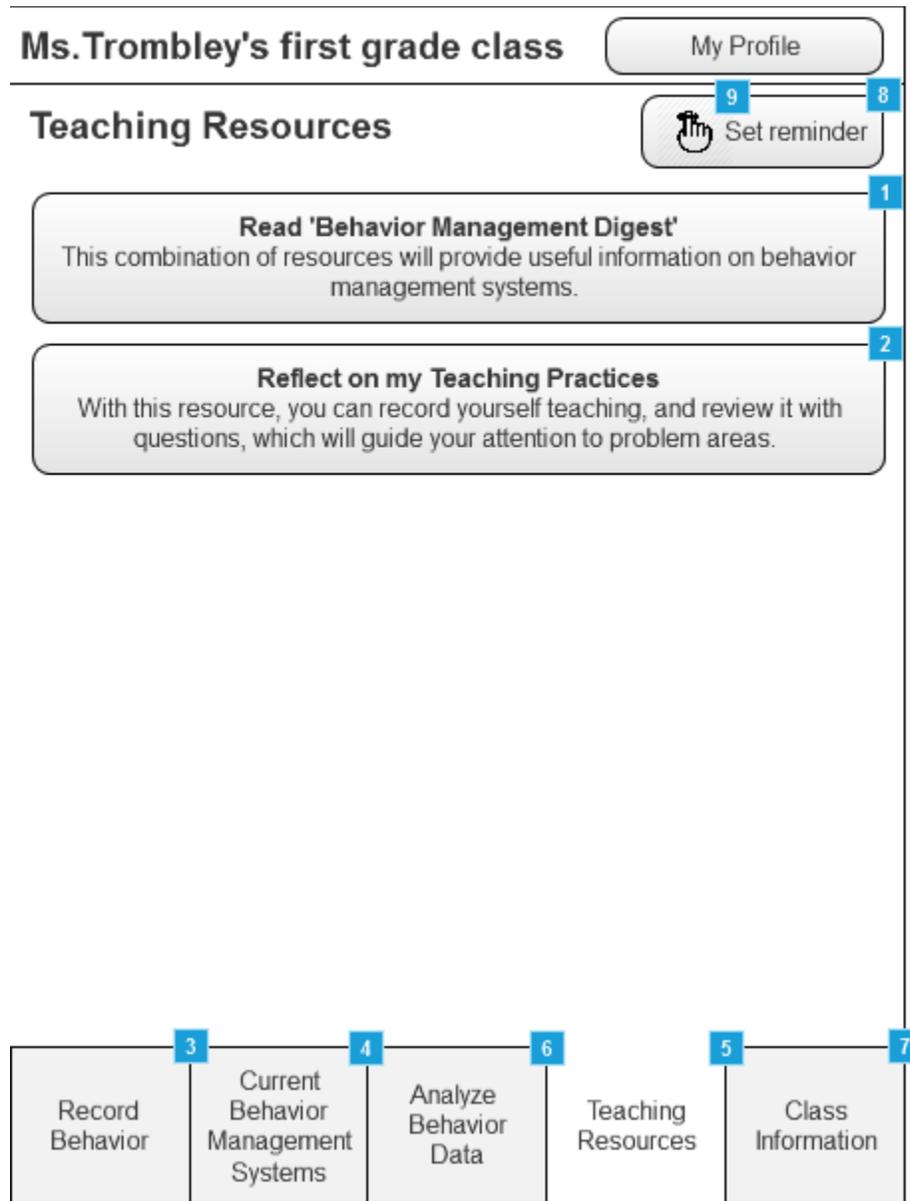
¹

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

Teaching Resources

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Open Reflect on teaching practices in Popup Window
2	My Profile	OnClick: Case 1: Open Reflect on teaching practices in Popup Window

Footnote	Name	Interactions
3	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
4	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
5	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
6	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
7	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window
8	My Profile	OnClick: Case 1: Open Set reminder reflect in Popup Window
9		OnClick: Case 1: Open Set reminder reflect in Popup Window

Reflect on teaching practices

User Interface

Teaching Practices Reflections

Start a new reflection, review previous reflections, or compare previous reflections.

3 Start a new reflection

Previous Reflections

Click on the reflection to listen to the recording and review or edit the response form.

1 Date^ **2** Form Completed?^

8/5/2016 No

4 Compare responses on review forms over time

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1:
2	My Profile	OnClick: Case 1:
3	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 1 in Popup Window
4	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections in Popup Window

Reflect on teaching practices after practice

User Interface

Teaching Practices Reflections

Start a new reflection, review previous reflections, or compare previous reflections.

Start a new reflection 3

Previous Reflections

Click on the reflection to listen to the recording and review or edit the response form.

Date^ 1 **Form Completed?^** 2

8/10/2016	Yes
8/5/2016	No

Compare responses on review forms over time 4

5

Widget Table

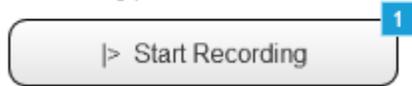
Footnote	Name	Interactions
1	My Profile	OnClick: Case 1:
2	My Profile	OnClick: Case 1:
3	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 1 in Popup Window
4	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections in Popup Window
5	My Profile	OnClick: Case 1: Open Review of reflection in Popup Window Close Current Window

New Reflection 1

User Interface

New Reflection

To start a new reflection, record a period of your teaching by starting the recording below. Once you complete your recording, you will be able to answer a series of questions which will help you review your teaching practices.



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 2 in Popup Window

New Reflection 2

User Interface

New Reflection

To start a new reflection, record a period of your teaching by starting the recording below. Once you complete your recording, you will be able to answer a series of questions which will help you review your teaching practices.

Recording in Progress...

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open New Recording 3 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Reflection after recording in Popup Window

New Recording 3

User Interface

New Reflection

To start a new reflection, record a period of your teaching by starting the recording below. Once you complete your recording, you will be able to answer a series of questions which will help you review your teaching practices.

Recording Paused...

1 2

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open New Reflection 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Reflection after recording in Popup Window

Reflection after recording

User Interface

New Reflection
You have successfully recorded a period of yourself teaching. To complete the reflection, answer the questions below. This will provide both data on your teaching practices, as well as a review of your teaching processes.

Your Recording:
Review your recording as you answer the following questions.

 00:00:00 ● ————— 10:52:00

Questions:
Answer the following questions to reflect on your teaching practices.

1. Question A
2. Question B
3. Question C

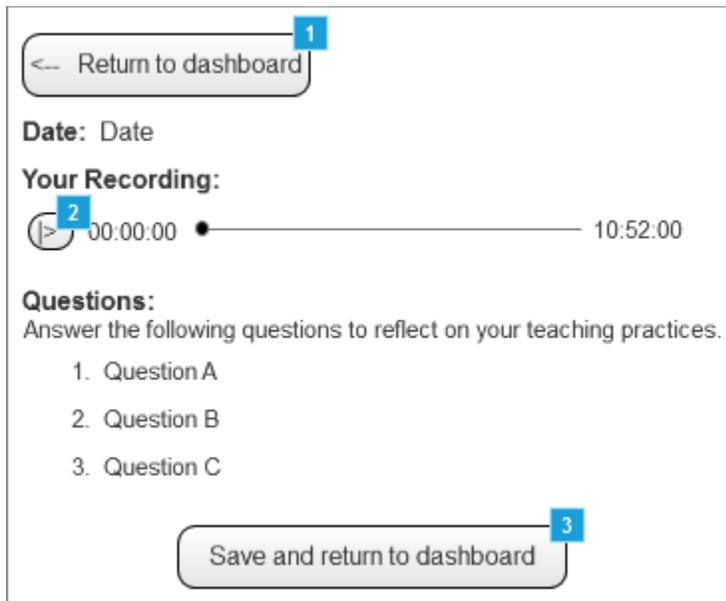
 Save and return to dashboard

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices after practice in Popup Window
2	My Profile	OnClick: Case 1:

Review of reflection

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window
2	My Profile	OnClick: Case 1:
3	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices after practice in Popup Window

Comparison of reflections

User Interface

[← Return to dashboard](#) 1

Comparison of Reflections

Here you can create graphs comparing your reflections, and specify the information used when creating these graphs.

Graph Specifications

Date Range: -

Compare my form responses to the following behaviors:

- Helping a peer
- Completing work
- Focusing
- Inattention
- Speaking out
- Negative interaction with peers

Students Involved:

- Lewis, Samuel
- Trombley, Gabriella
- Vaughn, Angela
- Whole Class 2

[View Comparisons](#) 3

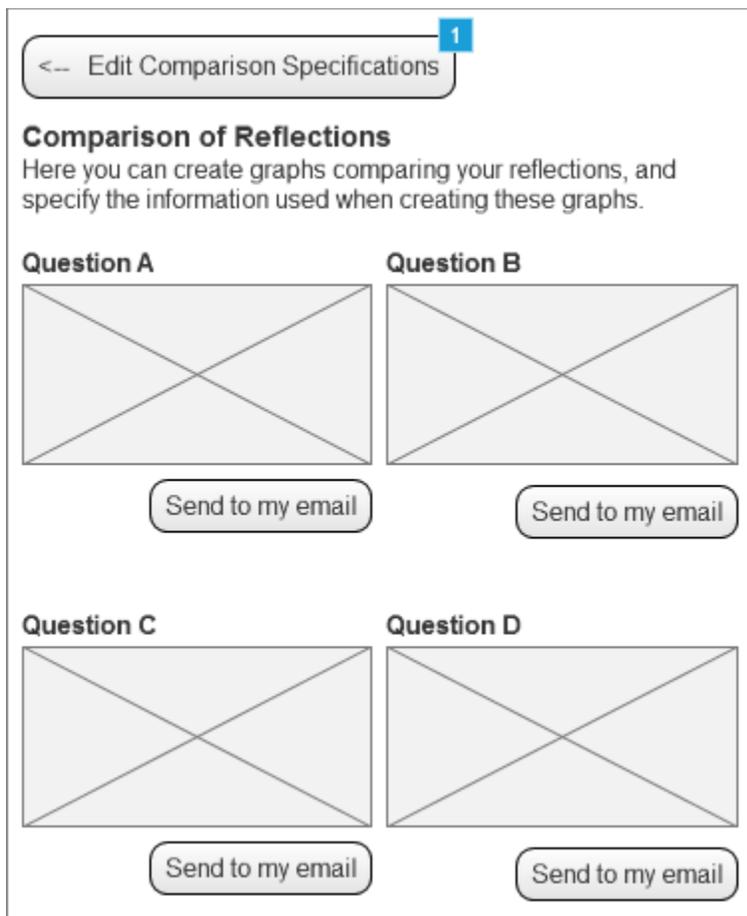
Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window
2	Whole Class	OnSelected: Case 1: Set is selected of Angela Vaughn equal to "true", and is selected of Gabriella Trombley equal to "true", and is selected of Sam Lewis equal to "true" OnUnselected: Case 1: Set is selected of Angela Vaughn equal to "false", and is selected of Gabriella Trombley equal to "false", and is selected of Sam Lewis equal to "false"

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window

Comparison of reflections 2

User Interface

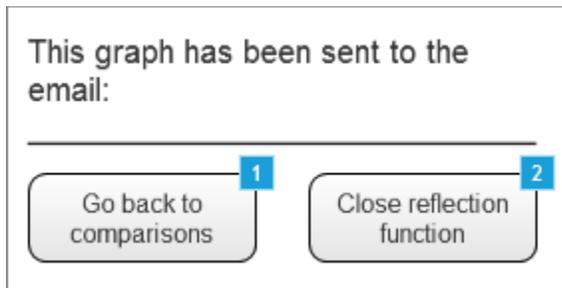


Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections in Popup Window

Email confirmation

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Comparison of reflections 2 in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Reflect on teaching practices in Popup Window

Set reminder reflect

User Interface

Set reminder

Set reminder to:

Additional notes:

Time of reminder:

5	56	
6	57	
7	58	
8	59	AM
9	00	PM
10	01	
11	02	

June	14	2011
July	15	2012
August	16	2013
September	17	2014
October	18	2015
November	19	2016
December	20	2017

Repeat:

Never

times

Every **Seconds** until...

5	56	
6	57	
7	58	
8	59	AM
9	00	PM
10	01	
11	02	

June	14	2011
July	15	2012
August	16	2013
September	17	2014
October	18	2015
November	19	2016
December	20	2017

¹

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

Class Information

User Interface

Ms. Trombley's first grade class

[My Profile](#)

Class Information

[Edit Class Information](#)

Name: Ms. Trombley's first grade class
Time class is in session: 8:45AM - 3:25PM
Dates class is in session: 9/1/15 - 6/21/16

Class Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
8:45 - 9:15	8:45 - 9:15	8:45 - 9:15	8:45 - 9:15	8:45 - 9:15
Morning Work/Check In				
9:15 - 9:45	9:15 - 9:45	9:15 - 9:45	9:15 - 9:45	9:15 - 9:45
Morning Meeting				
9:45 - 10:00	9:45 - 10:00	9:45 - 10:00	9:45 - 10:00	9:45 - 10:00
Snack	Snack	Snack	Snack	Snack
10:00 - 10:45	10:00 - 10:45	10:00 - 10:45	10:00 - 10:45	10:00 - 10:45
Quiet Reading				
10:45 - 11:15	10:45 - 11:15	10:45 - 11:15	10:45 - 11:15	10:45 - 11:15
Math Groups				
11:15 - 12:15	11:15 - 12:15	11:15 - 12:15	11:15 - 12:15	11:15 - 12:15
Special: Art				
12:15 - 12:45	12:15 - 12:45	12:15 - 12:45	12:15 - 12:45	12:15 - 12:45
Lunch/Recess	Lunch/Recess	Lunch/Recess	Lunch/Recess	Lunch/Recess
12:45 - 1:30	12:45 - 1:30	12:45 - 1:30	12:45 - 1:30	12:45 - 1:30
Science Project work				
1:30 - 2:00	1:30 - 2:00	1:30 - 2:00	1:30 - 2:00	1:30 - 2:00
Assembly	Assembly	Assembly	Assembly	Assembly
2:00 - 2:45	2:00 - 2:45	2:00 - 2:45	2:00 - 2:45	2:00 - 2:45
Social Studies Workbook				
2:45 - 3:15	2:45 - 3:15	2:45 - 3:15	2:45 - 3:15	2:45 - 3:15
Free Choice				
3:15 - 3:30	3:15 - 3:30	3:15 - 3:30	3:15 - 3:30	3:15 - 3:30
Packing Up				

[Email Schedule](#)

Class List:
Lewis, Samuel
Trombley, Gabriella
Vaughn, Angela

Record Behavior	Current Behavior Management Systems	Analyze Behavior Data	Teaching Resources	Class Information
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Widget Table

Footnote	Name	Interactions
1	Hot spot Monday	OnClick: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday OnLoad: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday
2	Hot spot Tuesday	OnClick: Case 1: Hide Gray Tuesday Show Gray Monday, Gray Wednesday, Gray Thursday, Gray Friday
3	Hot spot Wednesday	OnClick: Case 1: Hide Gray Wednesday Show Gray Monday, Gray Tuesday, Gray Thursday, Gray Friday
4	Hot spot Thursday	OnClick: Case 1: Hide Gray Thursday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Friday
5	Hot spot Friday	OnClick: Case 1: Hide Gray Friday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Thursday
6	Gray Tuesday	OnLoad: Case 1: Hide This
7	Gray Wednesday	OnLoad: Case 1: Hide This
8	Gray Thursday	OnLoad: Case 1: Hide This
9	Gray Friday	OnLoad: Case 1: Hide This

Footnote	Name	Interactions
10	My Profile	OnClick: Case 1: Open Class information edit in Current Window
11	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
12	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
13	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
14	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
15	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window
16	My Profile	OnClick: Case 1: Open Enter emails to send in Popup Window
17		OnClick: Case 1: Open Enter emails to send in Popup Window

Class information edit

User Interface

Ms. Trombley's first grade class
My Profile

Class Information
Done Editing

Name:

Time class is in session:

Dates class is in session:

Current Activities in Schedule: + Add new activity

Morning Work/Check in	M, Tu, W, Th, F	8:45AM -
Morning Meeting	M, Tu, W, Th, F	9:15AM -
Snack	M, Tu, W, Th, F	9:45AM -
Quiet Reading	M, W, F	10:00AM -
Literacy Workshop	Tu, Th	10:00AM -
Math Groups	M, F	10:45AM -
Math Lesson/Workbooks	Tu, W, Th	10:45AM -
Special: Art	M	11:15AM -
Special: Gym	Tu, Th	11:15AM -
Special: Computer Lab	W	11:15AM -

Class List: + Add new student

Click on a student to access their personal information.

-
-
-

Record Behavior

Current Behavior Management Systems

Analyze Behavior Data

Teaching Resources

Class Information

Widget Table

Footnote	Name	Interactions
1		OnClick: Case 1: Open Activity Information in Popup Window
2	My Profile	OnClick: Case 1: Open Class Information in Current Window

Footnote	Name	Interactions
3	My Profile	OnClick: Case 1: Open Add new student popup in Popup Window
4	My Profile	OnClick: Case 1: Open Add new activity information in Popup Window
5	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
6	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
7	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
8	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
9	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window
10	My Profile	OnClick: Case 1: Open Student information: Sam in Popup Window
11	My Profile	OnClick: Case 1: Open Student information: Gabriella in Popup Window
12	My Profile	OnClick: Case 1: Open Student information: Angela in Popup Window

Confirmation delete student

User Interface

Are you sure you want to delete _____ from your class?

2 No, go back to _____'s profile

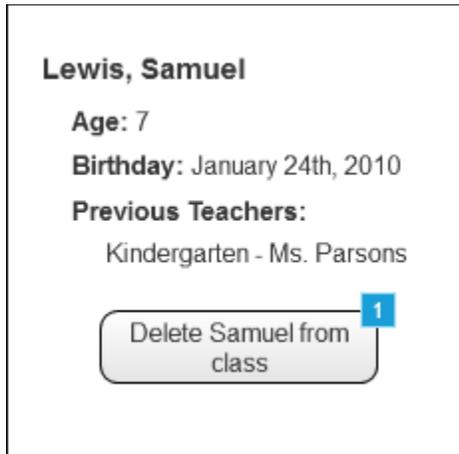
1 Yes, delete _____

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2	My Profile	OnClick: Case 1: Close Current Window

Student information: Sam

User Interface

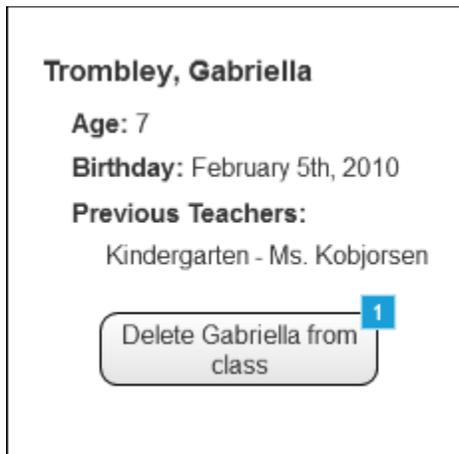


Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation delete student in Popup Window

Student information: Gabriella

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation delete student in Popup Window

Student information: Angela

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation delete student in Popup Window

Enter emails to send

User Interface

Enter the dates for which you would like the schedule sent:

June	14	2011		June	14	2011
July	15	2012		July	15	2012
August	16	2013		August	16	2013
September	17	2014	- to -	September	17	2014
October	18	2015		October	18	2015
November	19	2016		November	19	2016
December	20	2017		December	20	2017

Enter emails to which you would like the schedule sent
Separate email addresses by a semi-colon

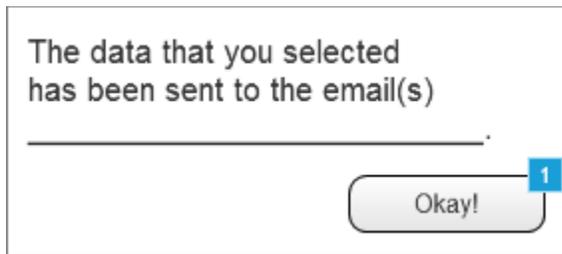
1

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of emails sent in Popup Window

Confirmation of emails sent

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

Activity Information

User Interface

Activity Information

5 4


Name:

Days of Activity:

M
 Tu
 W 2
 Th
 F 3

Time of Activity:

5	57
6	57
7	58
8	59 AM
9	00 PM
10	01
11	02

- to -

5	57
6	57
7	58
8	59 AM
9	00 PM
10	01
11	02

6 Delete Activity

1 Save Changes

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window
2		OnLoad: Case 1: Set is selected of This equal to "true"
3		OnLoad: Case 1: Set is selected of This equal to "true"
4	My Profile	OnClick: Case 1: Open Reminder go to activity in Popup Window
5		OnClick: Case 1: Open Reminder go to activity in Popup Window
6	My Profile	OnClick: Case 1: Close Current Window

Reminder go to activity

User Interface

Set reminder

Set reminder to:

Additional notes:

Time of reminder:

5	56		June	14	2011
6	57		July	15	2012
7	58		August	16	2013
8	59	AM	September	17	2014
9	00	PM	October	18	2015
10	01		November	19	2016
11	02		December	20	2017

Repeat:

Never

times

Every **Seconds** until...

5	56		June	14	2011
6	57		July	15	2012
7	58		August	16	2013
8	59	AM	September	17	2014
9	00	PM	October	18	2015
10	01		November	19	2016
11	02		December	20	2017

¹

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window

Add new student popup

User Interface

Add New Student

1

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add New student with droplist in Popup Window

Add new student with droplist

User Interface

Add New Student

The following students match your search. Select one to add them to your class list, then press the 'add' button.

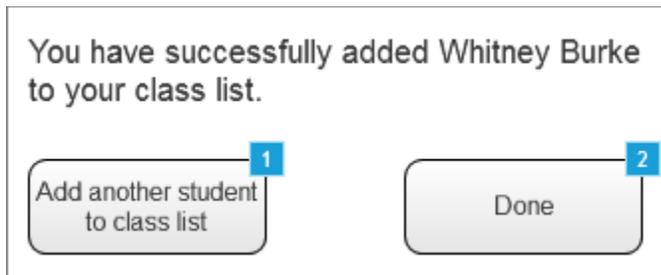
1 2

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new student popup in Popup Window
2	My Profile	OnClick: Case 1 (If selected option of students found equals Burke, Whitney): Close Current Window Open Confirmation of added student in Popup Window

Confirmation of added student

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new student popup in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window Open Class Information 2 in Current Window

Add new activity information

User Interface

Add New Activity

Name of activity:

Days of Activity:
 M Tu W Th F

Time of Activity:

<table style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">5</td><td style="text-align: center;">58</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">57</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">58</td></tr> <tr style="border-top: 1px solid gray;"><td style="text-align: center;">8</td><td style="text-align: center;">59 AM</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">00 PM</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">01</td></tr> <tr><td style="text-align: center;">11</td><td style="text-align: center;">02</td></tr> </table>	5	58	6	57	7	58	8	59 AM	9	00 PM	10	01	11	02	- to -	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">5</td><td style="text-align: center;">58</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">57</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">58</td></tr> <tr style="border-top: 1px solid gray;"><td style="text-align: center;">8</td><td style="text-align: center;">59 AM</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">00 PM</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">01</td></tr> <tr><td style="text-align: center;">11</td><td style="text-align: center;">02</td></tr> </table>	5	58	6	57	7	58	8	59 AM	9	00 PM	10	01	11	02
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7	58																													
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5	58																													
6	57																													
7	58																													
8	59 AM																													
9	00 PM																													
10	01																													
11	02																													

Date range during which the activity will occur:

<table style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">June</td><td style="text-align: center;">14</td><td style="text-align: center;">2011</td></tr> <tr><td style="text-align: center;">July</td><td style="text-align: center;">15</td><td style="text-align: center;">2012</td></tr> <tr><td style="text-align: center;">August</td><td style="text-align: center;">16</td><td style="text-align: center;">2013</td></tr> <tr style="border-top: 1px solid gray;"><td style="text-align: center;">September</td><td style="text-align: center;">17</td><td style="text-align: center;">2014</td></tr> <tr><td style="text-align: center;">October</td><td style="text-align: center;">18</td><td style="text-align: center;">2015</td></tr> <tr><td style="text-align: center;">November</td><td style="text-align: center;">19</td><td style="text-align: center;">2016</td></tr> <tr><td style="text-align: center;">December</td><td style="text-align: center;">20</td><td style="text-align: center;">2017</td></tr> </table>	June	14	2011	July	15	2012	August	16	2013	September	17	2014	October	18	2015	November	19	2016	December	20	2017	- to -	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">June</td><td style="text-align: center;">14</td><td style="text-align: center;">2011</td></tr> <tr><td style="text-align: center;">July</td><td style="text-align: center;">15</td><td style="text-align: center;">2012</td></tr> <tr><td style="text-align: center;">August</td><td style="text-align: center;">16</td><td style="text-align: center;">2013</td></tr> <tr style="border-top: 1px solid gray;"><td style="text-align: center;">September</td><td style="text-align: center;">17</td><td style="text-align: center;">2014</td></tr> <tr><td style="text-align: center;">October</td><td style="text-align: center;">18</td><td style="text-align: center;">2015</td></tr> <tr><td style="text-align: center;">November</td><td style="text-align: center;">19</td><td style="text-align: center;">2016</td></tr> <tr><td style="text-align: center;">December</td><td style="text-align: center;">20</td><td style="text-align: center;">2017</td></tr> </table>	June	14	2011	July	15	2012	August	16	2013	September	17	2014	October	18	2015	November	19	2016	December	20	2017
June	14	2011																																										
July	15	2012																																										
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June	14	2011																																										
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October	18	2015																																										
November	19	2016																																										
December	20	2017																																										

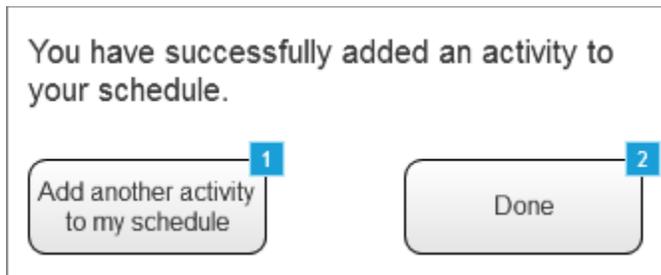
Add activity to schedule
1

Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Confirmation of added activity in Popup Window

Confirmation of added activity

User Interface



Widget Table

Footnote	Name	Interactions
1	My Profile	OnClick: Case 1: Close Current Window Open Add new activity information in Popup Window
2	My Profile	OnClick: Case 1: Close Current Window

Class Information 2

User Interface

Ms. Trombley's first grade class

My Profile

Class Information

Edit Class Information¹⁰

Name: Ms. Trombley's first grade class
Time class is in session: 8:45AM - 3:25PM
Dates class is in session: 9/1/15 - 6/21/16
Class Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
8:45 - 9:15	Morning Work/Check In			
9:15 - 9:45	Morning Meeting			
9:45 - 10:00	Snack			
10:00 - 10:45	Quiet Reading			
10:45 - 11:15	Math Groups			
11:15 - 12:15	Special: Art			
12:15 - 12:45	Lunch/Recess			
12:45 - 1:30	Science Project work			
1:30 - 2:00	Assembly			
2:00 - 2:45	Social Studies Workbook			
2:45 - 3:15	Free Choice			
3:15 - 3:30	Packing Up			

Class List:
Burke, Whitney
Lewis, Samuel
Trombley, Gabriella
Vaughn, Angela

Record Behavior	Current Behavior Management Systems	Analyze Behavior Data	Teaching Resources	Class Information
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Widget Table

Footnote	Name	Interactions
1	Hot spot Monday	OnClick: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday OnLoad: Case 1: Hide Gray Monday Show Gray Tuesday, Gray Wednesday, Gray Thursday, Gray Friday
2	Hot spot Tuesday	OnClick: Case 1: Hide Gray Tuesday Show Gray Monday, Gray Wednesday, Gray Thursday, Gray Friday
3	Hot spot Wednesday	OnClick: Case 1: Hide Gray Wednesday Show Gray Monday, Gray Tuesday, Gray Thursday, Gray Friday
4	Hot spot Thursday	OnClick: Case 1: Hide Gray Thursday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Friday
5	Hot spot Friday	OnClick: Case 1: Hide Gray Friday Show Gray Monday, Gray Tuesday, Gray Wednesday, Gray Thursday
6	Gray Tuesday	OnLoad: Case 1: Hide This
7	Gray Wednesday	OnLoad: Case 1: Hide This
8	Gray Thursday	OnLoad: Case 1: Hide This
9	Gray Friday	OnLoad: Case 1: Hide This

Footnote	Name	Interactions
10	My Profile	OnClick: Case 1: Open Class information edit in Current Window
11	Record behavior hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Link in Parent Frame
12	behavior management systems hot spot	OnClick: Case 1: Show/Hide Widget Show Class information box, teaching resources box, History of behaviors box Open Current Behavior Management Systems in Current Window
13	history of behaviors hot spot	OnClick: Case 1: Hide History of behaviors box Show teaching resources box, Class information box Open History of Behaviors in Current Window
14	teaching resources hot spot	OnClick: Case 1: Hide teaching resources box Show Class information box, History of behaviors box Open Teaching Resources in Current Window
15	class information hot spot	OnClick: Case 1: Hide Class information box Show teaching resources box, History of behaviors box Open Class Information in Current Window