

Little Listener

Echoing the joys of learning.



PRESENTED TO
DTILE Spring 2023

PRESENTED BY
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Little Listener

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**How was
school today?**

Fine.

**What did you
do?**

Not much.

This is a conversation many parents go through with their children, no matter how young or old.

We are here to *reconnect* families, through echoing the joys of learning.

Mission

Helping parents and teachers become more active participants in their children's growth

Vision

Allowing families to be more connected

Enhancing bonds between teachers and families

Aiding children in fostering communication skills and means of self expression



Executive Summary

We started with a problem that is all too well known to many parents: trying to get their child to talk to them about their day, just to get variations of 'Nothing', 'I don't remember', and 'Not much' in return.

Whether the child forgot what they did or does not feel like sharing when tired at the end of the day, parents feel out of touch with their children, and the child may not feel supported or heard in their family. Parents want to know what their child experiences in school, whether to find out how they can help them learn if they are struggling or simply figure out what simple joys their child had that day.

Little Listener aims to bridge that gap between child and parent. By providing a way for a child to share what they did as soon as they want to share, any child can get excited to share because they know their parents can listen later. Through Little Listener's recordings, parents can get to know their child's joys in school.

In creating Little Listener, we realized that there were more goals we were achieving in addition to our initial thought of reconnecting families. In giving teachers a chance to listen to their students' thoughts, we would help shape curriculums in ways that would best fit the children of the respective classrooms, allow parents and teachers to enhance their relationship and the mutual goal of the child's development and joy, as well as provide the children with a safe space to communicate and a chance at practicing expressing themselves through a series of short, familiar questions.

We are here to reconnect families, through echoing the joys of learning.

The Current Problem

The problem that we aim to address is that kids do not effectively communicate the activities that they enjoy doing in school.

Hence, parents can feel frustrated trying to ask them different questions to learn about their child's interests, since they want to know what their kids do when they are at school.

Teachers and administrators also don't know what students really enjoy, since they can only base off their own assumptions and observations rather than hearing from students themselves. In classrooms with many students, it is even harder for teachers to be as observant with every child.

How the problem is currently being solved?

Currently, the main way of bridging the communication gap between parents and children is through the teacher.

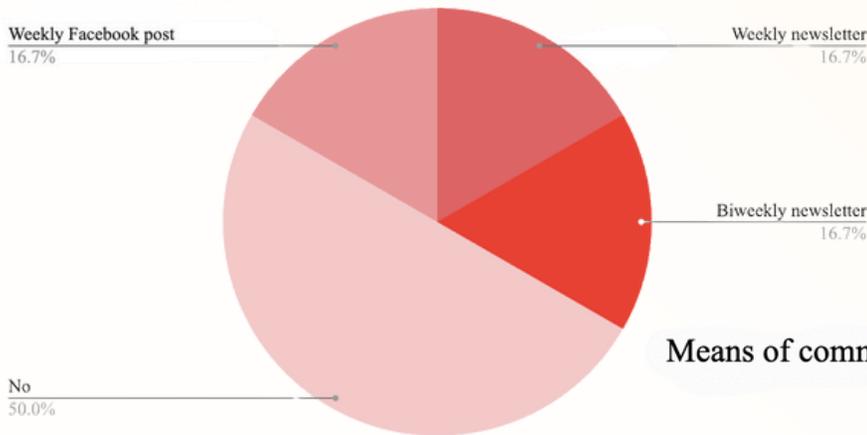
Some institutions emphasize the sending of newsletters and reports. Whether this is before a term starts or after it ends, it provides parents with an overview of the curriculum and may include any other details such as comments and photographs of the children in the school day. However, this can be infrequent. While detailed and important, the timing of these newsletters ranges from weekly to monthly, where the information may not be as useful to parents. Furthermore, the parents rarely get to hear from the children themselves, but rather just the teacher's observations of what happens in the classroom. While this is useful and accurate given the teacher's level of care and experience, the separation between the parent and their child still exists.

Another method is for the teachers to communicate with parents during pick-up time. However, with bigger classrooms and parents simultaneously picking up different children, it can be hard to touch base with each and every family, and may put the child in an awkward situation if there are sensitive details to share in a public place.

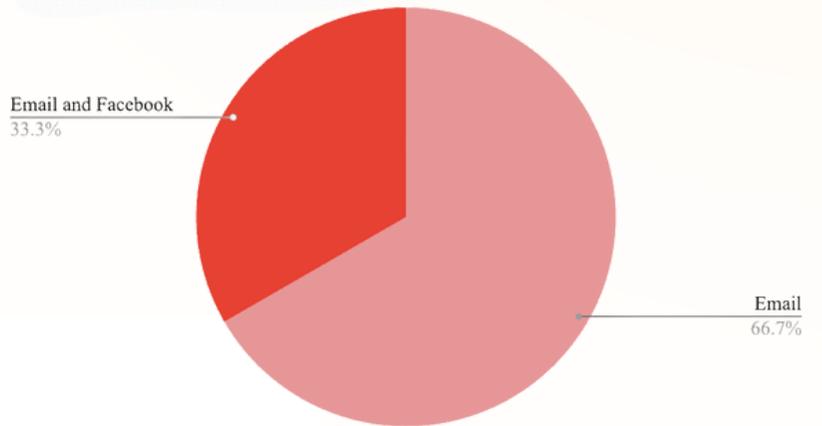
The last method is to have the child communicate directly with families. However, given that the child may be tired, unwilling or uninterested in sharing, or that they can be inaccurate communicators, the level of detail and accuracy ranges from child to child and even from day to day.

Data from teacher's survey on current communication methods with parents

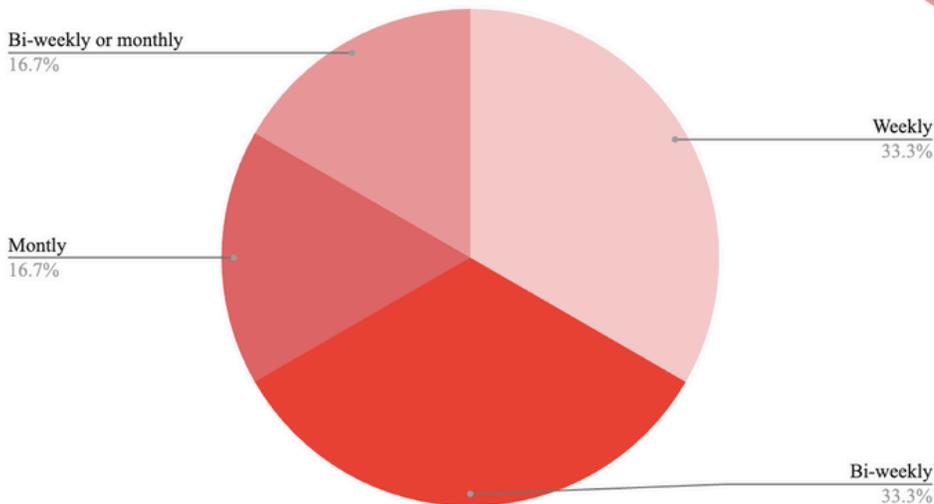
Are classroom logs or communication of a curriculum sent to parents? If so, how often?



Means of communication

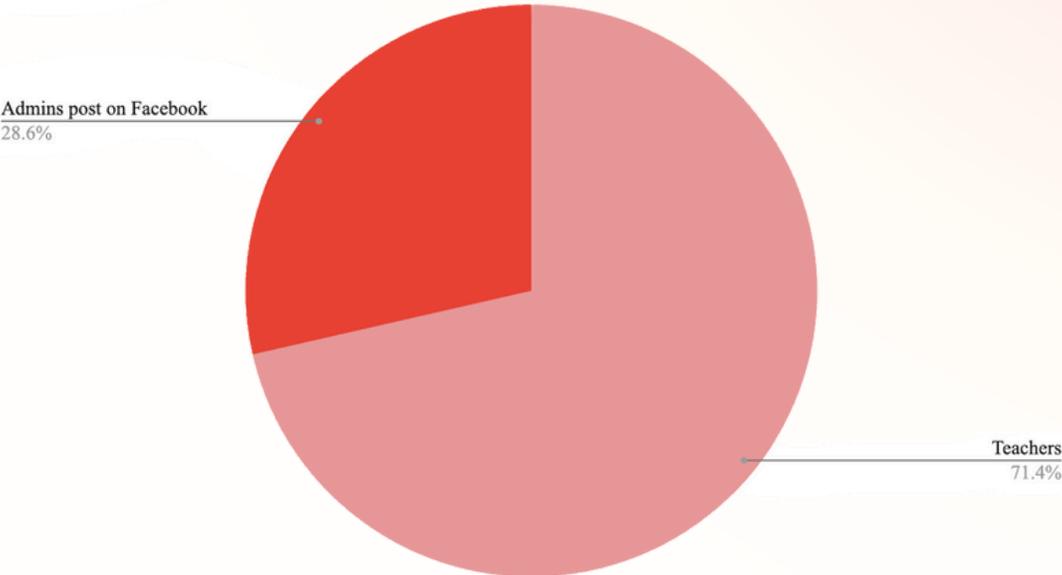


Frequency

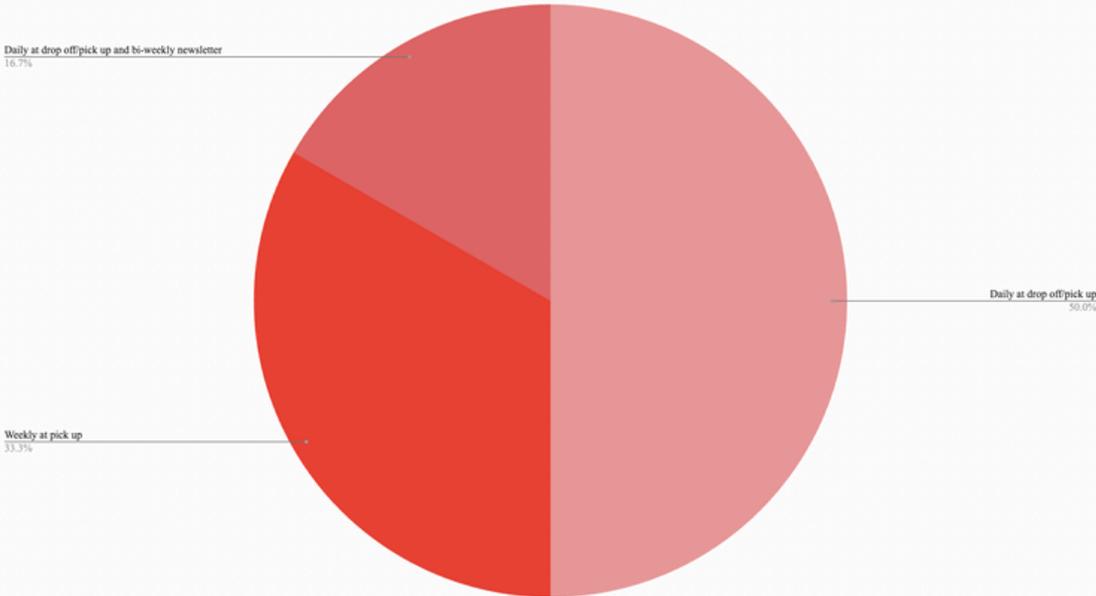


cont.

Who sends these logs?



Do you update parents on the activities their child enjoyed doing? How frequently?



How Little Listener provides a better solution

Instant communication

Direct comments from children

Makes parents feel more connected to their child

Provides teachers with direct feedback

Centers joy and positivity



Why Us

While parents will be receiving the information when the teachers send them out, be it daily, weekly, or bi-weekly, the fact that the child recorded this throughout the day, either during or right after they are partaking in the activity, creates a sense of real-time communication. As we log these messages of happiness at the moment, we are giving the parent the feeling that they are right there with their child in the classroom.

These messages will also be authentic as they are coming directly from the children themselves. While teachers can be very hands-on and observant, the child will still have thoughts that are not clearly shown or communicated.

In hearing directly from their children, the parents will inevitably feel a stronger connection to them. Furthermore, parents can pick up on the types of activities their child regularly enjoys to encourage out-of-school hobbies and passions.

Moreover, teachers can incorporate these responses and adjust the curriculum as deemed needed. This also offers them a chance to see the trends in activities that are popular, or if there is a subject of interest that is beyond the classroom that they could incorporate.

In giving the child a degree of separation from a person, still in a safe environment, Little Listener encourages them to share as much as they desire. Through it, we foster a safe space for communication, and in asking the main question of "What is something fun you did today?", we also encourage the children to center joy and happiness within their day, and within their lives.

Our Program

Our program comes in two main interactive segments.

The student path prompts students with simple questions, asking them to share a fun thing they did that day and who they did it with.

The teacher path allows teachers to access this data that the students have shared to Little Listener, and they can choose to send this home to parents.



VoiceFlow: Child's Path

Overview & Justifications

For the children's path, we emphasized simplicity and clarity in our questions. We believe that Little Listener could be accessible and utilized by a big range of ages, from as young as 6, we wanted questions that were simple enough but also prompted the child to add as much detail as they wish.

Hi there, what is your name?

In asking for the child's name, we are logging this response so the teachers can retrieve the child's log later on and know who is speaking. Once we receive their name, we then bring it up in the next question to enhance familiarity and make Little Listener seem more approachable and personal to each child.

Hi <Name>! What's something fun you did in class today?

Here, we log their response into the fun activity column. In asking such a broad question, we give the child the freedom and flexibility to answer it as they wish. In saying "in class today," we give the child an opportunity to reflect and go through the happy moments they experienced in the day to choose one moment to share. In retrieving this highlight, we can assume that it is the one moment that stood out to the child and therefore means a lot to them. In asking for a fun moment, we hope to enhance positive thinking.

That sounds awesome! Did you do this alone?

By starting with a compliment, we positively reinforce the child sharing their answers with Little Listener, and give them acknowledgment of what they've just shared. In asking this, we are normalizing that fun can be had while the child is playing alone. We are also logging this so that if needed, we can prompt the next question as follows.

Who did you do it with, what is their name?

We found that in specifically stating that we want a name, we avoid typical answers such as "my friend" or "my class." This level of detail will be important for parents and teachers alike in spotting patterns of who the child is connecting with throughout the school year and logging their positive interactions with one another. We hope that this question reveals friendships and enhances relationships that the child is creating throughout their time at school, and make this apparent to teachers who may look to pair children up with someone they either work well with or someone new, but also for aiding parents in organizing out-of-school activities like playdates with other children in the class.

**While we initially had another question about other things the child wanted to share, we decided to keep the child's path short and sweet so as to not bore or confuse children, especially given that younger children will have lower attention spans.*

VoiceFlow: Teacher's Path

Overview & Justifications

For the teacher's path, we emphasized phrasing that made the functionality of Little Listener clear. We allowed multiple paths for how much information the teacher wished to have about children's responses, and we strove to make it clear what expected responses to questions were to aid in the consistent flow of the conversation.

Would you like to know the names of a few students who spoke to Alexa today and their responses?

We ask this question to quickly illustrate the main functionality of the app to the teacher. It also serves to contextualize further questions as responses to Alexa.

<ChildName> , <ChildName>, and <ChildName> have recorded themselves today. Would you like to hear a response from one of them or all of them? Please answer 'all' or 'one'.

From the earlier contextualization, the user knows that these recordings come from interactions between Alexa and children. In a learning setting, we present potential names for the teacher so they can make an informed decision about how many students they want to listen to. Initially, this question would always list all three students' recordings, but we found that response to be long and annoying. By allowing the choice between 'all' or 'one' recording, the teacher can opt for a shorter response if they are interested in a single child. The phrasing also prompts the teacher to respond in a specific way, "all' or 'one'", to ensure a more consistent experience by enabling the voiceflow to have a simpler answer to parse.

Would you like to hear from <ChildName> , <ChildName>, and <ChildName> ? Say 'first', 'second', or 'third' for the corresponding name.

For users who choose the ‘one’ path, we present the names again before presenting them with a choice between them. Early on, we tried capturing the name of the child from the teacher’s response because we felt it would be more natural. However, we found that Voiceflow’s logic in matching names had limitations that made this path frustrating, as users would often have to repeat a name many times before getting it to work at all.

Also, this issue made us realize that this name-matching introduced a bias into the system for more pronounceable names, which could result in children with less-easily pronounced names having greater trouble with the system. The ‘first’, ‘second’, or ‘third’ choice was motivated by these issues, and we found it to be straightforward for users during testing.

Okay! The information is sent. Would you like to hear from the other children? Say 'yes' or 'no'

We presented this question for users who chose initially to listen to only one child and wished to listen to another, whether it might be due to them changing their minds or only wanting to listen to two of the children. Again, you can see our explicit prompting to ensure the response given by the user can be easily parsed for a consistent experience.

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Here you go. This response is in the order of a fun activity they did, who they did it with, and if they had anything else to share! <ChildName> said <Activity>, <Friend> [once for each child]. Say yes if you would like to send this information to the students' parents, say no if you just want it to be stored.

For users that selected 'all' to the 'how many children' question, this response is what they receive. We provide clarity in how the data is presented by describing the format in which we present it. This clarity is important as a child might have provided a nonsensical response, which might occur if they got distracted mid-encounter, so the teacher can attempt to make sense of what the child tried to say by knowing the format of the response.

The question at the end provides the core functionality of the Little Listener system, as the parents can then get sent their child's responses.

**Given that teachers have limited time at the end of their day, we wanted to make this as concise as possible, hence giving them the option of just hearing one child at a time.*

We believe that having teachers review the information before it is sent to parents rather than have that process be automatic is to have a human filter for any silly answers a child may give due to the unexpected nature of the responses some children may give, but also in the case that the child did not articulate clearly and the information may not be useful to parents.

Hazards

The largest hazard we anticipated starting a voice assistant project whose users are mainly children was whether these children would properly interact with Alexa. The core functionality and thus feasibility of the project resided on the ability of these children to be comfortable with using and understanding the system to interact with it properly. Needless to say, understanding this hazard was critical to our project. We thought we would be able to get an early answer through Linh's connection with the classroom of 4-5-year-olds at the Wellesley Child Study Centre. However, access only came with a strict testing process that was only accessible to certain students enrolled in advanced research independent studies and also involved a lengthy consent and approval process, so it was out of our reach for this project. We eventually resolved this hazard with some user testing with older children, ages 10-12, in Usability Test #3 and found that they could properly interact with Alexa. In hindsight, this route of testing was still efficient and valuable since we realized that younger children are still in the early developmental phases of language, diction, and communication. This would have hindered their full interaction abilities with Little Listener as well as our program's ability to fully understand and capture their responses.

Another hazard would be parents' and teachers' acceptance of a recording system in the classroom. Some adults might be uncomfortable allowing technology, let alone a voice prompt system, to constantly near their children. We tried to alleviate this issue by making the self-recording purely voluntary for the children by having it be prompted by the child themselves, and proposing that the final version of this system would not allow access to responses by anyone other than the parents and teachers.

Limitations

While we want to provide a comprehensive account of a child's experience to their parents, there are inherent limitations to how well a child would interact with a voice assistant system. One aspect is the complexity of questions from Little Listener and the depth of answers they can provide in return. We are limited to relatively simple questions whose phrasing a child can understand and be able to construct a quick response to; if a child takes too long to respond, Alexa's waiting period will time out. On the contrary, if we pause too long to wait for an answer or to see if a child is done speaking, we risk the child feeling awkward and lessening the human-interaction component. Another limitation that motivated simple questions was the desire for questions to apply to a broad range of activities to give the child full freedom to share whatever they wish.

Children across different age ranges are also not known for their long attention spans; this lack of attention is part of the problem that Little Listener is trying to solve. So, long conversations with multiple questions give more opportunities for a child to get bored and not wish to share with Alexa. If children start seeing Little Listener as too long to be interesting, they might stop interacting with it altogether or leave halfway through a conversation.

One additional limitation we faced was the flexibility of Voiceflow itself. Ideally, we'd have Little Listener respond with an additional question concerning the specific activity that the child shared. This would increase interactivity with the child, and prompt the child to share more for their parents to hear later. However, parsing an activity down to its generic meaning is outside the scope of VoiceFlow; even a simple activity such as 'reading' can be presented by a child in such a multitude of ways that enumerating them is futile.

Usability Testing #1 and #2

What did we learn?

Our first round of usability testing exposed a number of problems with our initial user interface while also providing insight into what users expect from a voice assistant. These insights came both from observing how users treated the Alexa, as well as from data collected from our pre-questionnaire and post-questionnaire.

Unclear Prompting

With our first round of testing, we learned that users' responses were very sensitive to how they were prompted. For example, one interaction was trying to get the user to respond with a friend they did the activity with. We initially prompted them with "Did you do this alone or with a friend?" and expected them to either answer 'alone' or the name of the friend. However, our initial users would respond 'with a friend', exposing how our prompt misled their answer.

This instance was easily resolved with an additional prompt after actually capturing the name, and alerted us to how well-crafted our questions would have to be, especially to guide children to respond correctly.

Verbose Responses

In our path for the teacher, Little Listener would list a series of child responses for the teacher to view and subsequently send to parents. Early on in our tests, we realized that child responses could be quite long. These long responses would make the teacher list a long and confusing output for the teacher, with Alexa giving an output for almost 30 seconds.

To resolve this issue, we included an alternate path for the teacher to choose only one child's response to listen in on. The teacher could now choose to listen to an array of responses or just one.

Emotional Tone

In our initial implementation, we included a lot of positive feedback for kids when they share different aspects of their activity. When we tested some users, they shared negative experiences that made the positive feedback seem patronizing or even mocking. We identified this as a consequence of a lot of our early testing being on college students rather than kids, so these negative responses would not be common among kids. However, we did tone down some of the overly positive languages to not make it too strange for a child to share a more negative experience they want their parent to hear.

Usability Testing #3

What did we learn?

This last round of usability testing went very smoothly for both the teachers and students. All three children we tested on, ages 10 through 12, and the two teachers all understood and interacted with the Alexa as intended. We got very good feedback from the children in terms of question simplicity and ease of usage, and good responses from teachers regarding seeing the product in a real life setting.

Familiarity

In one of our usability tests of this round, one child hesitated at the question of "Who did you do it with? What was their name?" and instead of following the prompt and giving a name, she responded with "My friends." While she understood the questions, she did not reply to the second part, giving a name. We believe that giving children more time and experience to trial with the program will result in more accurate responses.

To emphasize this observation, one of the teachers expressed in the Post-Testing Form that they, too, would have liked more experience with the program to test out all the paths; they also saw that giving children more exposure and building familiarity with both the Alexa and the program would result in more accurate answers, more willingness to share, and enhance the feeling of comfort -- as if the Alexa could be a friend they could confide in.

Pausing

For some questions prompted by Little Listener, there is a pause between the last instruction and the sentence "Please just say yes or no." As we learned in prior rounds of testing, this sentence indicating the user should just say yes or no and not any permutations of agreement and disagreement was necessary for the program, as we could not account for all the possible answers a user could give -- especially with the time constraints. However, this pause felt awkward at times and made the user want to respond immediately, even before the question was finished. This happened in one of our usability tests this round with the teacher, and while it was not picked up by the Alexa and did not interfere with the flow of the program, we would ideally keep this in mind and make adjustments where the user is prompted to give a certain answer (eg. one word 'yes' or 'no') without there being too long a pause to indicate the question is finished.

In one of the tests with the children in this round, Little Listener cut her off a little earlier than she was done talking because of a slight pause. While we don't want the program to do that, we would ideally seek a solution that waits for a little longer of a pause -- but not too long so we can avoid any background sounds or make the program seem less human-like and become more awkward with long pausing.

Emotional Tone

As expressed by the children we tested on, they wished that the program sounded more enthusiastic and friendly to truly enable them to be confident and comfortable in opening up to the program. In both making Little Listener sound more realistic, we would, as aforementioned, work on pausing and phrasing of the questions.

As pointed out by the teachers, the program surpasses our primary goal of connecting parents to their children, and students to their teachers -- it could also enhance parent-teacher communication and show teachers more than what their students enjoyed in the classroom.

Parent-Teacher Communication

Since children can be inaccurate communicators, forgetful, or uninterested in sharing or repeating what they did in a day, the program bridges this communication gap for parents. In addition, parents are able to have more insight into the activities in the classroom and can have more to bring up to teachers regarding their child's learning experience and the overall curriculum.

To this point, one of the teachers indicated that for the teacher's path, she would have loved to see another section where teachers could add a comment or two about the child or any observations the teaching staff made that day. This will give more dimension to the answers the children are sending home, and elaborate any details for the parents -- henceforth strengthening parent-teacher relationships, where the child will benefit the most.

While not every teacher will want to nor have the time and energy to check in on these answers daily, this program will be best of aid to busy classrooms with a disproportionate ratio of students to teacher, or in places where teachers have shifted throughout the day and therefore cannot have an accurate and fully comprehensive view of all the activities a child partakes in throughout the school day.

Tracking Progress

In addition to our initial goal, the teachers commented that through Little Listener, teachers can build a log of the child's progress with speech and communication over the course of the academic year.

From elements like sentence structure, expansion of vocabulary, and expressive tone and language, they can track the child's learning and development in a means where the child is most comfortable -- unlike a testing environment.

Furthermore, in capturing diction and pronunciation, they can work with different children on ways to meet their learning goals, and even send the information out to a speech therapist if a child has a speech impediment. Having Little Listener in the classroom, therefore, provides children a safe space where they can not only share their thoughts, center joy, and communicate their excitement, but it fosters a safe space for them to progress with learning and speech development as well.



Looking Ahead

For future developments, we can consider finding coding methods to improve our speech prompt recognition in the Alexa skill. One suggestion is that the algorithm can recognize a specific phrase in the answer, such as recognizing the word “student” in the response “I am a student.”

Another issue we faced was that similar responses of “yeah”, “yes”, “yep”, “affirmative”, and “I confirm” were not recognized. We could potentially code with sentiment analysis to have the system recognize if the emotional tone of the message is positive, negative, or neutral, and take these positive responses to all go down the same path of affirmative responses, and would do the same for negative responses.

We also hope to do more user testing with children. We did not get to do as much testing as we wanted, so we do not have a complete understanding of how children would respond to our prompts. In doing more testing, we could better understand how they would interpret our prompts and respond.

Overall Comments

While we knew that we ought to test our target demographic, it became pretty clear after our first round of usability testing on college students that optimizing our system for their engagement was not what we should be designing for. Thus, beyond basic functionality, our system needed to be tested on people from its actual target user base.

Throughout the project, communication went well and we effectively held each other accountable for the completion of assigned tasks. For example, one round of testing necessitated that Nick test people from Rebecca's dorm without her present, or that Linh was to test children through Zoom given they were back in South East Asia. Also, every team member was and continued to be engaged with the core premise of Little Listener from the start, so everyone made creative improvements to VoiceFlow and testing throughout the project's lifetime.

In the end, we successfully crafted a working prototype of Little Listener using the D-TILE design process. Throughout several rounds of user testing and ideation, we refined Little Listener to work for two different target users. And using these processes, we designed a product for an important problem that a voice assistant is uniquely posed to solve.

Appendix

Why Name, Logo, Colors?

We chose this name because our target audience is children and our product is a conversation helper. Hence, “Little Listener.” With “Listener” in the name, we hope to enhance the communication feature and let the child know that we are here to listen to whatever they have to share.

Our logo shows one person touching a circle that spreads into three other people. The idea behind this was that one person would resemble the teachers, and as they are using Little Listener on Alexa – hence touching the circle, they would be able to access the information to different students that have talked to Little Listener throughout the day. While our primary goal is to reconnect families, the actual application is primarily between teachers and students; thus, we wanted to resemble the usage and functionality of the program itself.

As for our colors, we chose a less saturated gradient from yellow to pink. We started with yellow to embody our goal of helping children and the adults in their lives center joy and positivity, and reflect the main question we ask the children about something fun they did that day. The soft transition to pink gives a calming and welcoming effect, echoing our goal to make the program feel comfortable and approachable to children.

Previous Ideas for Project

- Automated Pomodoro timer to help college students focus on specific educational tasks
- Mental health therapy resource, similar to MIT LeanOnMe chat feature but with Alexa instead of a real person
- Mood tracker over time and mood diary
- Daily log of fun stories throughout the day (can be similar to BeReal)
- Clothing store fitting booth to ask an associate for help or give feedback
- Interview practice
- CV review
- Negotiation helper
- Gift chooser
- Dating sim with activities and conversation starter
- Conversation simulator
- Coffee chats / networking helper
- Passive-aggressive reminders for a roommate
- Class schedule planning

Why we chose our project:

We believe that developing a product to help parents know about their children's daily activities is not only highly useful but also an essential solution. While our other options like the conversation simulator have alternative solutions online, we aimed to select a unique option that seamlessly integrates with voice systems. Our innovative idea holds immense potential and can significantly enhance the classroom experience, providing both educational value and entertainment for users.

AirTable API

	A Names	A Activity	A Friend	A Other
1	Linh	I danced	Alone	Nothing else
2	Nick	I played with legos	with Rebecca	I also did a puzzle
3	Rebecca	I read a book	Alone	I also played with Legos with Nick
4	Nicole	Drawing	With a friend	I had a great dinner
5	Simone	I did a Spanish presentation with my friend!	My friend Louisa	I practiced conjugating verbs in Spanish
6	Monica	i made paper cranes	alone	i had fun in class today
7	Ananya	We learned about climate change in my world poli...	My whole world politics class, which is 17 people	I also had fun during my lunch hour with my friends Li...
8	Turtles	we learned about C---- gradient method	the whole class. it was a lecture	you optimize the vector to be a solution of Ax=b
9	Linh	I read a book	Nick and Rebecca	No
10	Monica	i learned about cool stuff!!!!	with my friend, neatina!	i thought my teacher was very nice today
11	Nick	play ping pong	put the friend	not much
12	Andrew	I read books	alone	the book was about whales
13	Aneesh	I impeach the US president	with many friends	I think you're really cool
14	Miles	I worked on my final project with my final project t...	no that's my final project team	I'm really tired
15	Max	it was a Sunday today	I did it with my roommate nick	I'm really tired
16	Charles	uhhht I learned	alone	I'm really tired
17	No	I watched a presentation of someone's final project	my class	I'm really tired
18	hi I'm Zoey	I really enjoyed	all	I'm really tired
19	Ben	i played with playdoh	alone	0
20	Ha	I solved some math problems	my friends	0
21	Aliana	I won a kahoot	teacher	0
22	Sunny	oh I played chess	no	0

The first three responses are test responses we created to test AirTable's ability to add and retrieve logs when using Voiceflow and the Alexa App. Note that starting from the 19th response, we decided to remove the 'other' question in an effort to make the questions as simple as possible for our target demographic – this explains the 0 in place of null answers.

We found that setting up an API connection between Airtable and VoiceFlow for integration with Amazon Alexa was really valuable to our intended purposes for Little Listener. While it took a few hours to set up, the benefits that allow the teachers to access the children's answers later on make it worth all the effort.

AirTable API & VoiceFlow

API ...

POST ▼ <https://api.airtable.com/v0/appUIW5B15YyPMI8L/Sheet1>

Headers +

Authorization -

Bearer keyMrJyHM4I8azWsy

content-type -

application/json

Parameters +

Body -

Form Data URL Encoded Raw

```

1  {
2  "records": [
3    {
4      "fields": {
5        "Names": "{childsName}",
6        "Activity": "{funActivity}",
7        "Friend": "{friend}",
8        "Other": "{other}"
9      }
10   }
11 ],
12 "typecast": true
13 }
```

We save each of the child's answers as variables: their name, the fun activity, alone or with a friend, and friend's name if applicable. These are then posted to the AirTable and a log for a child is created.

AirTable API & VoiceFlow

Return Students' Responses

Here you go. This response is in the order of a fun activity they did, who they did it with, and if they had anything else to share!

{nameOne} said: {funActivityA} ,
{friendA} ,

{nameTwo} said: {funActivityB},
{friendB},

{nameThree} said: {funActivityC},
{friendC}

Say yes if you would like to send this information to the students' parents, say no if you just want it to be stored

 No

Yes

Since we saved the child's previous answers and they are also logged in the AirTable, we can easily retrieve them for the Teacher's path for any child. For the example, we used 3 children.

ChatGPT

Our Input	ChatGPT Responses
<p>give me good names for an alexa app that helps kids and parents connect by allowing kids to record what they are doing in class for parents to listen to later.</p>	<p>Classroom Chronicles Kidz Konnect School Snapshot Class Communique Parent-Teacher Playbook School Day Savvy Learning Link-Up Class Capture School Scoop KidzCast</p>
<p>more please</p>	<p>Parent Portal Class Clarity School Soundbites Class Castaway Parent-Child Connection Student Spotlight School Scrapbook Class Communique Classroom Connection Study Streamline</p>
<p>would you think of more names like school scoop?</p>	<p>Education Exclusive School Buzz Learning Lowdown Class Chronicle Student Stories</p>

(from above)

School Spotlight
Class Coverage
Academic Annals
Campus Confidential
Education Expose
Lesson Log
Campus Chronicles
Education Eye
Class Clippings
Study Scoop
School Summary
Classroom Currents
Academic Affairs
Education Express
Learning Lineup

less emphasis on making both
words start with the same
letter

ClassCast
StudentSpeak
SchoolShare
LessonLink
CampusConnect
EducationEcho
ClassChronicle
LearningLog
SchoolStream
ParentPilot
EducationEavesdrop
StudyStory
AcademicArchive
ClassroomChronicle
SchoolScribe
StudentStream
EducationInsight

give me good names for an alexa app that helps kids and parents connect by allowing kids to record what they are doing in class for parents to listen to later. can you make it begin with 'little'?

Little Listener
Little Learner
Little Recorder
Little Classroom
Little Notes
Little Update
Little Communicator
Little Insight
Little Progress
Little Minds
Little Memories
Little Recordings
Little Reports
Little Connection
Little Recollections
Little Steps
Little Voices
Little Chronicles
Little Soundbites
Little Classroom Companion

As shown above, we were given a lot of names when we put in the description of our program. Initially, we had come up with KidConnect but decided to look for alternative options because we did not feel like this fully encapsulated the main goal of our product. Although the name did show that it was targeted towards children the "Connect" was not clear in how it worked, specifically to listen to children and be a conversation helper. We chose Little Listener because it sounds very cute and approachable, but were fully committed to it after hearing very good feedback about the name from our Usability Testing iteration 3 with Aliana, a 12-year-old who showed great interest in the name.

Her reaction can be seen in our usability testing video linked in the next few pages.

Our Input	ChatGPT Responses	Improved Response
<p><i>Make this paragraph clearer and more convincing:</i></p> <p>We believe that the idea of a product to help parents know what their kids did throughout their day would be very useful and is a very needed option. Many of our other options, such as the conversation simulator have alternative options online that people can use. We also wanted to pick an option that would be suitable to use on a voice system, and is a new idea that has a great reach. We believe that our idea would make a great addition to the classroom and is very fun to use!</p>	<p>We strongly believe that developing a product to provide parents with comprehensive insights into their children's daily activities is not only highly useful but also an essential solution. While other options like the conversation simulator can be found online as alternatives, we aimed to select a unique option that seamlessly integrates with voice systems and offers extensive accessibility. Our innovative idea holds immense potential and can significantly enhance the classroom experience, providing both educational value and entertainment for users.</p>	<p>We believe that developing a product to help parents know about their children's daily activities is not only highly useful but also an essential solution. While our other options like the conversation simulator have alternative solutions online, we aimed to select a unique option that seamlessly integrates with voice systems. Our innovative idea holds immense potential and can significantly enhance the classroom experience, providing both educational value and entertainment for users.</p>

Usability Testing: Videos & Write-ups



[HTTPS://T.LY/USABILITYTESTING](https://t.ly/usabilitytesting)

Survey Responses & Questions:

[HTTPS://T.LY/SURVEYANSWERS](https://t.ly/surveyanswers)



Timber

Project Info

Parents are curious about what their kids do during the day when they're not around and what interests them. Since kids are poor communicators or may have difficulty remembering, this project will help parents know what their kids do during the day. It will be implemented in a classroom setting, and kids can interact with it throughout the day, telling it what activities they've done and what they are interested in. It will record a log/or a voice recording that the teachers/parents can view, especially of their interest in activities. This can also be kept as an audio memory book for the parents to listen to later.

Problem Definition

Parents currently ask their kids many questions to try to figure out what their day was like.

The reason we need to make a change is because kids are not often very good at remembering or communicating, so parents cannot properly understand what activities they've done during their day or what they are interested in.

Therefore, we will create a solution that enables Parents to better understand what their kids are interested in and what activities they've participated in throughout the day.

Needs

What needs must the solution satisfy?

parents need to know what activities their kids participated in

parents need to know what their kids are interested in / have been enjoying

parents can easily see a summary of their kids' activities throughout the day

parents can also view records of past activities and interests of their kids

can create long-term reports and data for analysis

can show detailed analytics on kids' activities and interests

parents can approve/disapprove of activities that their kids are in

can give reminders for recurring activities

can give real-time notifications and alerts if children doing actions/activities that are inappropriate or dangerous

parents can easily respond to kids and help if needed

Assumptions

What are the assumptions about the status quo that we could challenge?

kids can communicate their interests

kids can't remember what activities they've participated in at the end of the day

cost-effective

easy to use and understand by both parents and children

can be customized for each parent/kid

kids are comfortable conversing with an AI

parents and administrators are comfortable and want such a product

Hazards & Boundaries

Hazard/Boundary	Type	Likelihood	Severity	Expected Impact	Mitigation Strategy	Cost Effectiveness
app incorrectly identifies children and gives wrong sound bites to parents	Operation	31	21	7	have the alexa app repeat if confidence of name is low	80
parents become annoyed when their kids don't share using device	Operation	38	11	4	try to have a conversation about privacy with the parents	81
the solution is hard to understand and use for parents who may not be tech-savvy.	Execution	78	48	37	create clear tutorial for parents to explains the app	75
information could possibly be not secure -- other people could hack into it	Externalities	10	85	9	use encryption on the voice data and two factor authentication	35
parents become overbearing with teachers when their child doesn't like an activity	Operation	49	59	29	train teachers to help deal with potential confrontation	60
kid says something bad about the teacher and teacher is able to access the app and hear it	Operation	13	88	11	deny teacher access to the system if the child requests that	98

Intellectual Objectives

Intellectual Objective	Success Criteria
enable kids to share information about their day with their parents	positive change in the amount of information that the parents hear from their kids
enable parents to help kids if they share specific struggles they have during the day	positive changes implemented by parents in response to the info
allow parents to discover common interest with kids	Reported discover of previously unknown shared interests
allow parents to give feedback to teachers based on their child's responses	actionable feedback given from parents to teachers
preserve children's privacy from teachers	not allowing private information to be shared to teacher without consent

Emotional Objectives

Emotional Objective	Success Criteria
parents feel happier because they know more about their kids days	poll parents on feelings about the info they get from app
kids feel happier because they share more about their days with parents	poll kids after talking more with their parents about their days
Parents and kids feel better connected	Polling
teachers feel like their in class activities are more appreciated	Polling
teachers don't feel like their space is being invaded by helicopter parents	polling teachers
kids feel safer by having a place to share their feelings and be heard by parents in the middle of the day	polling kids

Concept Generation

Concept	Notes
child can voice prompt and record responses during the day for parents to hear later	Child prompts when they have something they want to share
alexa can prompt child in class to ask how they feel and record answer for later	Might interrupt class or kids
Alexa is in a separate room for child recording	Risk of leaving child alone
Alexa is in open classroom (middle)	Interference from other kids might hinder app
Designated area in classroom (separate space) for alexa	Lower risk of leaving child and lower interference
Automated reports	Parents can receive weekly or monthly reports that summarize their kids' activities, interests, and progress.
Real-time notifications	Parents can receive real-time notifications when their kids engage in certain activities or express interest in particular topics.
Real-time notifications	Parents can receive real-time notifications when their kids engage in certain activities or express interest in particular topics.
Digital logbook	Parents can view and track their kids' activities and interests via an online logbook that is accessible from any device.
Interests library	Parents can access an online library of activities and interests that their kids can explore and engage in.
Educational resources	Parents can access a curated selection of educational resources, such as videos, books, and articles, to help their kids learn more about the topics they're interested in.

Success Criteria

Criteria	Weight	Notes
safety	35	☑ information is secure and safe
convenience	95	☑ easy to use for child
background noise (less)	100	☑ alexa can't accurately hear child's response if there is background noise
usefulness	80	☑ information provided is useful / desirable
understandable	75	☑ parents can easily understand the alexa reports
privacy	90	☑ child feels comfortable in sharing the information in privacy
disruption to class	95	☑ talking to class can interrupt the class
inconvenience to teachers	100	☑ may need more teachers to supervise

Concept Downselection

Concept	background		noise (less)		usefulness		understandable		privacy		disruption to class		inconvenience to teachers		Score
	safety	convenience													
child can voice prompt and record	50	90	50	50	50	50	50	50	50	60	50	50	50	383	
alexa can prompt child in class to	50	70	50	50	50	50	50	50	50	75	50	50	50	378	
Alexa is in separate room for child	50	60	100	50	50	50	100	90	80					508	
Alexa is in open classroom (middle)	50	80	60	50	50	50	60	60	90					432	
Designated area in classroom (separate	50	70	70	50	50	50	75	70	85					451	
Automated reports	85	90	50	80	90	50	50	50	50					439	
Real-time notifications	65	75	50	85	75	50	50	50	50					411	
Digital logbook	50	100	50	90	95	50	50	50	50					448	
Interests library	60	80	50	85	80	50	50	50	50					418	
Educational resources	80	70	50	90	70	50	50	50	50					412	

Uncertainty Identification & Reduction

Element of Possible Uncertainty	Notes	Importance to Solution	Uncertainty	Risk
How involved will helicopter parents get when they receive more information from children?	Could be detrimental to both kids and teachers if parents are too overbearing.	26	31	806
Will kids like to interrupt others when using the Alexa?	Could be very detrimental to quality of sound bites.	78	37	2886
Will kids like to go up to the Alexa and use it during the day?	Key component of use of device	98	23	2254
How well will kids use the Alexa?	If kids can't learn to be close and speak clearly, device won't work well.	90	7	630
Will parents object to their kids using the Alexa?	Maybe parents are concerned about privacy/technology.	27	21	567
Will not tech-savvy parents not know how to use the technology?	Add additional details here	20	35	700

Element of Possible Uncertainty	Method to Reduce Uncertainty	Conclusions	Risk
How involved will helicopter parents get when they receive more information from children?	Give teachers training to deal with overbearing parents. Instruct in tutorial to not mess with	Add results & key insights	Acceptable
Will kids like to interrupt others when using the Alexa?	Teach kids to respect each other when using the alexa, maybe have alexa respond when too many voices are heard	Add results & key insights	Unknown
Will kids like to go up to the Alexa and use it during the day?	Remind kids of the ability to use the alexa.	Add results & key insights	Acceptable
How well will kids use the Alexa?	Teach kids how to properly speak into the alexa to give better data.	Add results & key insights	Unknown
Will parents object to their kids using the Alexa?	Detail the steps we are taking to ensure the privacy of the data for the kids. Implement an option for the Alexa to not respond to the kid if the	Add results & key insights	Acceptable
Will not tech-savvy parents not know how to use the technology?	Have a comprehensive tutorial for how to use the product.	Add results & key insights	Unknown

K-Scripts: Student Path

Student:

Who	Observable Actions	Unobservable Actions
Child	Alexa, open "Little Listener"	Wants to talk
Alexa	Hello! Are you a student or a teacher? Please just say 'student' or 'teacher'	Opens new log for child. Starts audio recording
Child	Student	
Alexa	Hi there! What's your name?	
Child	Lisa	
Alexa	Hi Lisa! What's something fun you did in class today?	Adds name to log
Child	I really liked reading about butterflies, and uhm, the butterfly puzzle was really fun too!	
Alexa	That sounds awesome! Did you do this alone, yes or no?	Adds details under Question 1
Child	No	
Alexa	Who did you do it with, what is their name?	
Child	Robert	Adds partner's name
Alexa	Sounds like a wonderful day! Thank you for sharing!	

K-Scripts: Teacher Path

Teacher:

Who	Observable Actions	Unobservable Actions
Teacher	Alexa, open "Little Listener"	Wants to talk
Alexa	Hello! Are you a student or a teacher? Please just say 'student' or 'teacher'	<u>Opens new log for teacher.</u> <u>Starts audio recording</u>
Teacher	Teacher	
Alexa	Would you like to know the names of a few students who spoke to Alexa today and their responses?	
Teacher	Yes	
Alexa	Lynn, Ben, and Monica have recorded themselves today. Would you like to hear a response from one of them or all of them? Please answer "all" or "one"	Pulls from API table
Teacher	One	
Alexa	Would you like to hear from Lynn, Ben, or Monica? Say "first", "second", or "third" for the corresponding name	
Teacher	First	
Alexa	Lynn said I read a book with Nick and Rebecca	
Alexa	Would you like to send this data from Lynn to their <u>parent</u> using the number on file for them? Say "yes" or "no"	
Teacher	Yes	
Alexa	Okay! The information is sent. Would you like to hear from the other children? Say "yes" or "no"	Sends information to the parent's number that's already saved on file
Teacher	No	
Alexa	Okay! Thank you and goodbye.	

