Lucas Lappe
Partner: Caroline Pitner
Ron Eglash & Denver Tang
Studio 5
October 15, 2012

# RESPONSE DEVICE REPORT

Hypothesis

The focus of our project are the parts of speech. The response device we created was both a test of our design and a test of the children's knowledge of the subject matter. I predict the children will struggle with the concept of categorizing words by parts of speech, but will enjoy the music and the tactile process of our device.

Concept

After our first visit at the school we noticed how poor the children's language skills were. It became our goal to create a learning product around to teach the children grammar. Something the kids talked about constantly was music and Apple products, so we wanted to incorporate music into an app. Our concept, which is still in its infancy, is an app where the children will categorize individual words from song lyrics into their appropriate parts of speech. The song will be playing in the background and if the children take to long to categorize a word the song will slow and eventually stop. We built a response device to help with the creation of the app.

The Device

Our response device is designed to give us insight into how we should further the user interface of the app. We used a 8"X11" piece of ferrous metal as a base for the magnetic words. The shape and size is similar to that of an iPad. Each word of the lyrics should be moved and placed below or near its corresponding part of speech.
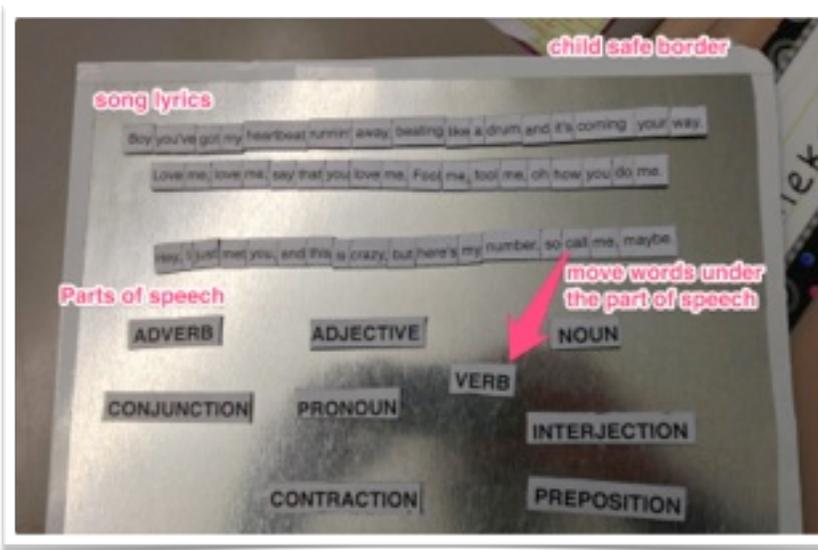
With the complications resulting from contractions a separate section was created to avoid confusion.

We chose 3 songs that we found to be extremely popular among the kids. The songs were "Call Me Maybe" by Carly Rae Jepsen, Super Base by Nicki Minaj and Drummer Boy by Justin Bieber. It was difficult to find lyrics from the children's favorite artists that both made sense and were free of expletives.

In The Classroom

Once seated with the children we asked each group about the parts of speech. Some children were very confident with their understanding while other did not know what we meant by "parts of speech." When we asked them for more details only approximately 25% knew any of the parts of speech, and together no group

was able to name all 8 parts. We anticipated this fact, so we created a cheat sheet to ensure the kids would stay within the zone of proximal development and to ensure the experiment was consistent between the groups. The sheet had the definitions and examples for each part of speech.

After talking with the children we gave each group of two our device and asked them to categorize each word with its part of speech. We gave them no further direction and observed how the used the device. Some of the teams brought the parts of speech to the lyrics, but soon reversed their tactic and brought the lyrics to the parts of speech. When they struggled or asked for help I directed them to the cheat sheet or to move onto the next lyric.

Approximately 60% of the teams spent all 15 minutes working towards what we saw as the intended use of our device(A). The remainder of the teams either stopped completely, began using the words to write their own comical phrases(B) or just made a mess of the letters(C).
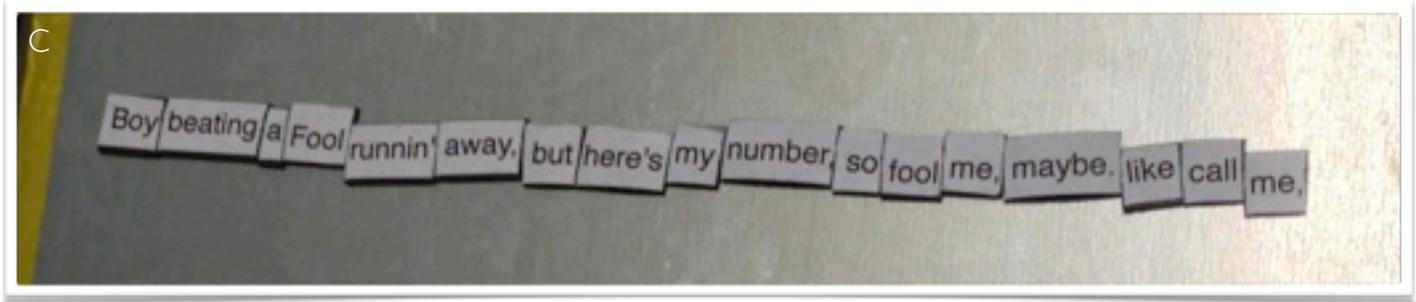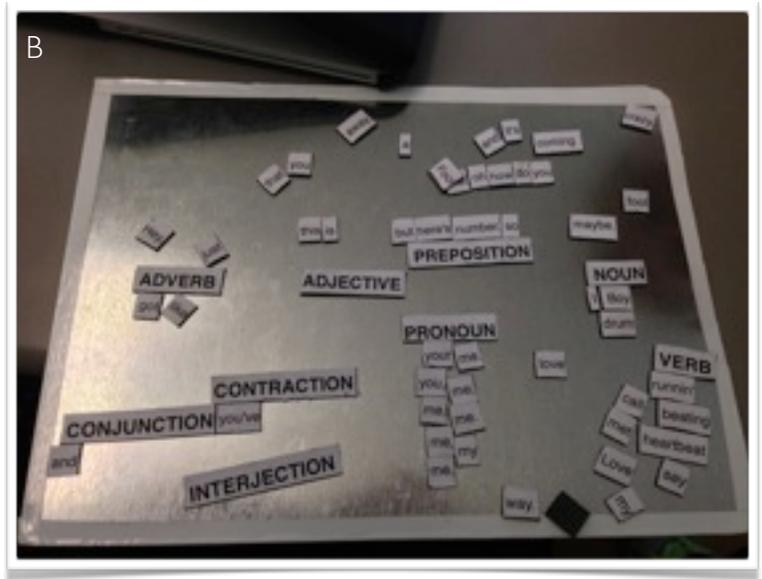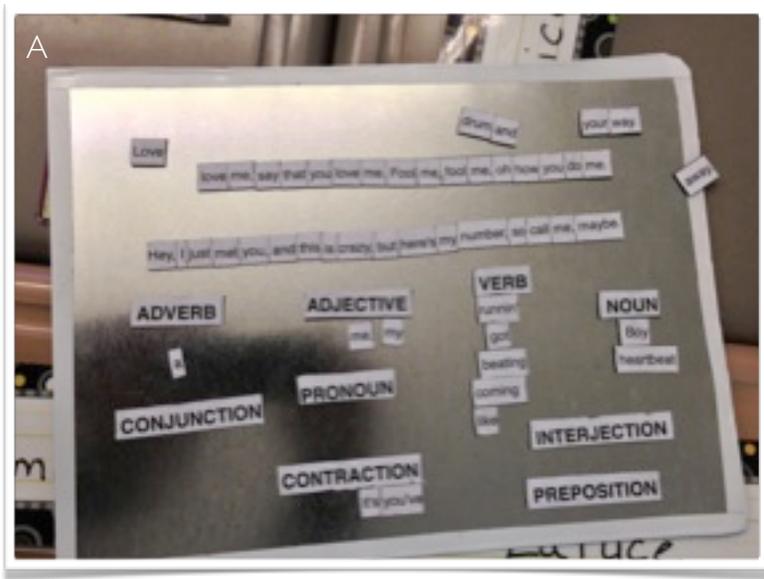
Conclusion

In just one hour of working with the children many questions were answered, but even more questions arose. My hypothesis was supported by the experiment. The kids did struggle heavily with the material and did enjoy the music. It is hard to determine from our experiment exactly why the children did not know the material. It may have been too long since they reviewed the concepts, disinterest in the topic or a variety of other causes. We have found a material that is vital

in the children's education, but through our experiment we have shown they have not properly learned it, nor do they understand its value.

The visit gave us insight into the children's understanding of the material. After observing the struggles the children faced with 9 possible categories for each lyric we must redefine the task. It was obvious that our device placed the children to far from the zone of proximal development to gain mastery or even furthering their understanding of the material.

The response device was our first exploration into the user interface of our final product. Our original concept was to have the children bring the lyric to the part of speech, but after seeing them do the reverse with the device we must evaluate and decide if that is a more intuitive interface. We hope the device we brought to the school will be our last analog device we show the kids. We are starting the development our first iOS app which we look forward to showing the kids on our next visit.