1. Full citation

2. Abstract
A five-month exploratory study was conducted with iOS mobile devices in two Toronto area schools with students in grades 7 through 12. Both classrooms were identified as Special Education classes by the Ontario Ministry of Education, and each student was identified as having exceptionalities requiring additional support and differentiation within the curriculum to support their success. Participants used MyVoice, a mobile application that is customizable through a website, which allows users to input vocabulary words and link words with pictures. The application can also be used to speak on behalf of users. Based on findings that technology perceived to be ‘fun’ by students has the potential to improve motivation in learning contexts, we aimed to (i) assess the degree to which the use of iOS devices and the MyVoice application affects attention and motivation levels for students with special needs, and (ii) identify factors that had the greatest influence on the integration of the technologies with existing curricula. Results indicated a strong potential for successfully integrating mobile technology within special needs classrooms, with a high degree of student support for using mobile devices to enhance classroom experiences. The results also highlighted the challenges of incorporating these technologies into curriculum in terms of practicality, teacher comfort, and the limitations of the device. We find that the differentiation enabled by the multi-modal features of the application and device has positive outcomes on student perception of success, and that increased self-confidence in areas of the curriculum fostered a more robust sense of community among special needs students. We conclude with study implications for information processing theory.

3. Summary (In your own words, that make sense when skimmed)
a. **Purpose of study** (problem statement and/or research question)
This study aimed to assess the degree to which using iOS devices with the MyVoice application affect attention and motivation levels with special needs, and also to identify factors that has the greatest influence on the integration of the technologies with existing curricula.
b. **Framework** (conceptual or theoretical framework guiding inquiry) Have students utilize MyVoice to improve communication skills and analyze attention and motivation. The study uses an “action-research” framework.

c. **Population and sample** (size, inclusion/exclusion criteria, representativeness, single/multi-institutional, cross-sectional or longitudinal)
   - Two Toronto area public schools
   - Grades 7-12 special education classes
   - 25 students aged 12-21

d. **Overview of methods** (type of analyses, statistical tests, valid)
   The research design was consistent with action-research methodology, where researchers and participants share in the evolution and adoption of the research design which allows for greater flexibility.

   aims to gather qualitative & quantitative data:
   - Demographic profile data of students
   - Data from interviews with two teachers from different schools
   - Data from interviews with students
   - Observations
   - Data automatically logged and transmitted from the devices

e. **Variables** (or broad topics/sources of variance for qualitative studies)
   i. Control/Background variables- students with disabilities
   ii. Independent/Predictor- MyVoice app
   iii. Outcome/Criterion/Dependent variables- implementation in classroom; teacher and student satisfaction

f. **Findings/Results** (not everything, but the most important and/or surprising)
   - use of the iOS devices by the special needs students appeared to afford them with feelings of importance within the school, boosted their self-confidence, and fostered a sense of community for this group based on peer-assisted learning
   - thrive on their desire and motivation to learn
   - challenge for teachers to integrate the device into their daily routine
   - too difficult to perform the multiple tasks
   - Students did not use the application to its full potential

g. **Implications** (for research, policy, and/or practice) Teachers need formalized training on how to incorporate mobile devices into curricula; devices are beneficial to students when used correctly. Apps can be useful for student with special needs, but they can’t be the only form of support that they use.

4. **Critiques & Limitations** (In your own words, that make sense when skimmed)
h. **Conceptual** (definitions, frameworks, problematizing) This study was conducted with special needs classrooms, not specifically with students with autism. Further, it did not take into account students in inclusive environments, only those in special needs classrooms. Using ipods might be a challenge for those with motor skills challenges.

i. **Data** (sample, missing data, instrumentation, variable/scale selection) based on results from Canada, no exact number of population size; the sample is not random at all thus, the data will not be generalizable

j. **Analysis** (statistical procedures, poor validity/reliability, untested assumptions) little statistic information included in results; exploratory study

k. **Interpretation** (consideration of alternate explanations, logic of argumentation) while the teachers say that the app has useful properties, they also note the limitations that they then have to teach to the app

l. **Application** (transferability, feasibility/practicality, method for implementation)
   - application of mobile devices in classrooms is feasible and practical if issues described by this study are addressed; the study found that mobile devices were appealing and motivating which was the original goal
   - The instruments used for this study are not clear (interview protocols, etc), so the study would be difficult to replicate. Findings are not transferable.

5. **Follow-Up**

m. **Little Questions** (clarifying questions about substance, confusing sections)
   - elaborate on what the app MyVoice was designed to do and if it was implemented properly
   - why this app in particular? Also, as apps come and go so quickly, is this one even still available?

n. **Big Questions** (big-picture questions/issues/ideas prompted by study) how would this study transfer to just the ASD population? How would these applications be received outside of the classroom environment? What does this mean for students with ASD in inclusive environments, considering the study was only done with those in special needs classrooms?

o. **Next Steps** (areas for further research, need for intervention, policy suggestions) use these results to design a curriculum using mobile devices, teacher training use mobile devises, find funding

p. **Other Resources** (important references, instruments, datasets for subsequent use) the app My Voice