



sing to say™

Compassion and creativity with the power of music

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sing to say™



TRACK IT

SETTINGS

Sing to Say is an assistive technology made for the iPad that uses music and animation to facilitate the acquisition of language for children with autism.

EARLY INTERVENTION

Research indicates that music and language are acquired in different parts of the brain.

For children with autism, the language centers are impaired but the music centers are usually not.

Many children with autism sing what they cannot say.

Sing to Say uses music to bridge to the language centers.





MODULES FOR LEARNING

We are building vocabulary
and music is the teacher

Learn It

Check It

Sing It

My Songs

LEARN IT



In the receptive module, we pair words with music, lyrics and animation.

CHECK IT



In **Check It** we test for understanding and retention using distractors.

SING IT



In the expressive module we use the learned vocabulary to enhance expressive language. Children can save their songs to **My Songs**.

MY SONGS



In **My Songs** children can review the songs they've saved or rehearse them.



ENGAGEMENT

Music

Lyrics

Animation

MUSIC

We created songs based on popular music styles.

Great attention is paid to the vocal performances.

Listen to examples here:
www.singtosay.com/music



MUSIC

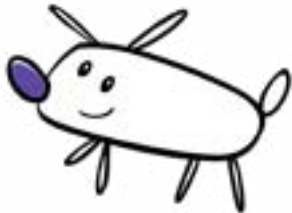
Our songs have simple, frequently repeated words.

The songs are well-paced, clear and articulate.



LYRICS

We crafted lyrics that focus on the keyword and emulate how children naturally use those words.



dog

"A pet, furry, bark and play... dog!"

ANIMATION

Sing to Say is hosted by The Minimops™.



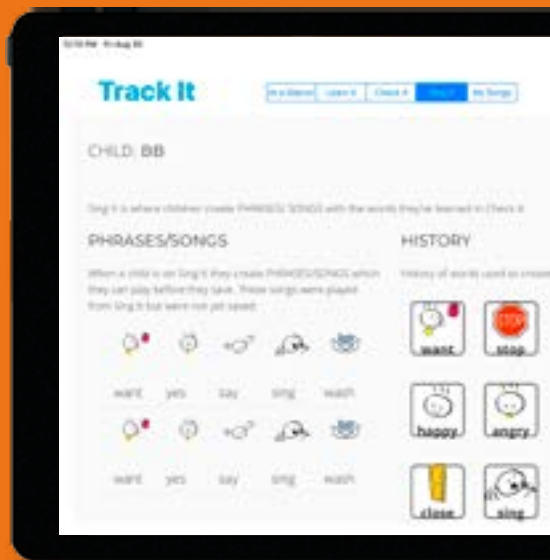
Previously
viewed at:



tvokids



MEASURING PROGRESS

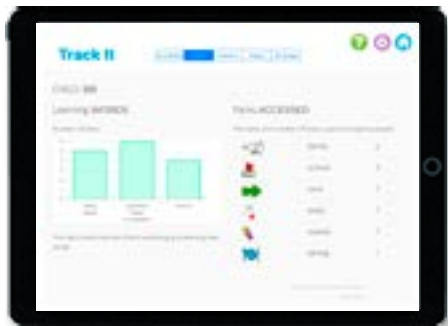


Tracking

Data

Customization

TRACKING



Track It provides feedback regarding all facets of the learning process within the application. There are hundreds of data points for each of the 4 modules. Users customize their view to suit their needs.

DATA

Designed for Parents, Clinicians and Educators

// *We love data and its objective and you can show parents and educators how they're moving through it (Sing to Say), that's great. I really liked how it shows what modules the child is accessing, that was a great feature!* //

- Boston Speech Language Pathologist

Fully compliant with privacy laws (COPPA) and Ethics Board Regulations.
All data is collected with written permission from the parent.

CUSTOMIZATION

Examples of upcoming personalization features:

- Touch sensitivity
- Modification of Theme Packs
- Masking
- The number of distractors



Size of icons



Text/no text

RESEARCH AND TESTING



Research

Prototype

Testing

RESEARCH HISTORY

Prior to designing the application, the Sing to Say team conducted a year of research on the **effects of music in learning language** for children with autism.

In partnership with Centennial College (Toronto Canada), the Applied Research and Innovation Center and two grants from Natural Sciences and Engineering Research Council of Canada (NSERC), we conducted a competitive review and produced our first **prototype**.



Formative research on the prototype included focus groups with educators and therapists and user testing with children, parents and educators in **partnership with the Toronto District School Board.**



Sing to Say and the Centennial College research team

Principal Investigator Debbie Gordon (center)
Researchers: Jayapriya Narayanan, Heather Ryan, Nazerah Shaikh, Kristina Mena, Jaymit Vyas, Lara Neumann, Sukhjit Matharu, Patricia Palma

LITERATURE REVIEW

Area of Inquiry I:

The autistic brain and the benefits—and its ability—to process music

Area of Inquiry II:

Music's emotional connection with children can provide pathways to learning

Area of Inquiry III:

Fun, entertaining curriculum that engages, improves student outcomes with neuro-typical students and students with autism

Area of Inquiry IV:

Musical rhythm's relation to the autistic and neuro-typical brains

Area of Inquiry V:

Digital devices preferred as learning system for communication instruction

www.singtosay.com/litreview

CURRENT TESTING

From lessons learned in the first round of testing and in partnership with the Berklee Institute for Arts Education and Special Needs, we created the current version of the application.

We engaged a research company to conduct qualitative testing under controlled conditions with 8 children aged 2 ½ to 9 years old from 7 families in Boston and the Greater Toronto Area.

We also conducted informal interviews with 25 Speech Language Pathologists, Occupational Therapists and Applied Behavior Analysts and Educators from the same areas.

APPROVAL CERTIFICATION

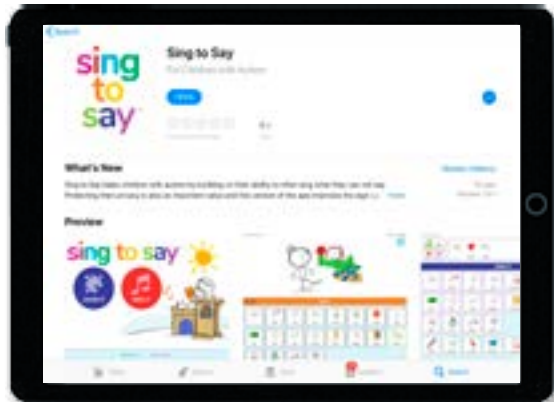
Ethics Board Approval and Privacy Certification



Currently undergoing certification for compliance with the Children's Online Privacy & Protection Act (COPPA) with FTC approved COPPA safe harbor PRIVO. Once complete, Sing to Say will display the Kid's Privacy Assured Seal which confirms it meets required privacy standards.

Approved for research in the US, Canada and the UK by the Community Research Ethics Board.

RELEASED IN APP STORE



Research and
Testing



Please download the app and let us know what you think.
<https://apps.apple.com/ca/app/sing-to-say/id1467206778>

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PARENT TESTIMONIALS



PARENT TESTIMONIALS

// *I think this (Sing to Say) is quite amazing... Just the pictures and the music...I've never seen an app like this. For me this is wonderful. This is something that I think a lot of kids could benefit from. Especially with incorporating the music into it as well...because there are a lot of kids - especially special needs children, who absolutely love music... so this is going to be a positive thing for them* //

- Renee, parent to a 5-year old child with autism who is nonverbal

“ For her, it’s (Sing to Say) been a springboard to language. She gone from zero vocabulary - it has definitely increased her vocabulary. I didn’t think she was going to get all the words and then, you know, start saying complete sentences. This app is amazing... for “V” to go from nothing to this....really, it’s huge strides. And I don’t think “V” would have come this far if the music wasn’t involved. The music for her in particular is fabulous so I think you guys are amazing. I’m so excited about this app (Sing to Say) and when I get the chance I tell everybody and anybody!! ”

- Maureen – parent to 3 ½-year old twins with autism.
Her daughter “V” is non-verbal

TESTIMONIALS

// It (Sing to Say) makes the augmented communication come alive. It's a language board that isn't static. You hit the button and it animates. There's definitely something about the animation... it triggers a response that's very powerful. It's really remarkable the app with the musicit taps into complicated pathways in his body. I knew we were onto something and really, I wanted something that might help my grandson find his voice. //

- Charlie, grandfather to 3 ½ child
with ASD and a diagnosed speech impairment



ACKNOWLEDGEMENTS

Research Partner

Special Consultants

RESEARCH PARTNER

Berklee Institute for Arts Education and Special Needs



Dr. Rhoda Bernard,
Managing Director

Dr. Jennifer Zuk,
Music cognition researcher
and clinical speech-language
pathologist

Nadia Castagna, MMED,
Music educator specializing
in education for students
with autism



SPECIAL CONSULTANTS



Lisa Pierce-Goldstein, M.S. CCC-SLP, Speech language pathologist for Boston Public Schools, New York Public Schools, guest lecturer at Berklee Institute for Arts Education and Special Needs. Lisa is a classically trained singer and graduate of the Yale School of Music.

Sharon McCarry, Founder and President and Executive Director of the Place Coco Foundation and The Little Red Playhouse, pre-academic program for children with autism.



SPECIAL CONSULTANTS



Charles J. Washburn,
Vice President of Seven Hills
Foundation and COO of VSA
Massachusetts (retired).

Bill Litshauer, Sing to Say Board
of Advisors, Senior Vice President,
Programs at Earth Rangers - currently
the largest youth conservation
membership group in the world.



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WHAT WE STAND FOR



Our Vision

Our Method

Next Steps

OUR VISION

Our goal is to tap the communication potential of every nonverbal child by blending compassion and creativity with the power of music.

We pursue every avenue to capture the curiosity, interests and energy of children and engage them on a journey of language.

We stand for a fun and entertaining communication system that's respectful of a child's need for a multi-sensory learning environment.

We stand for the advocacy-oriented parents who are searching for solutions to help their children acquire critical communication skills.

OUR METHOD

We work with educators, clinicians and parents to develop a tool that builds on the best practices of current communication systems but expands on them by adding music and a detailed tracking system to best measure results.

Our premise is that short songs with engaging animation will enhance receptive and expressive language and provide a path for non-verbal children to become capable of independent speech.

NEXT STEPS

We are collaborating with our advisory team and the Berklee Institute for Arts Education and Special Needs on the next stage of development to realize the full potential of the application in the coming year.

Our next step is to prove we have achieved our goals. Through our partnerships we will conduct quantitative research on the effectiveness of Sing to Say as a tool for learning language.

We invite you join us or let us know what you think. We are interested in feedback from the community. You will find the Beta version in the Apple App Store at :

<https://apps.apple.com/ca/app/sing-to-say/id1467206778>

FOUNDERS & PARTNERS

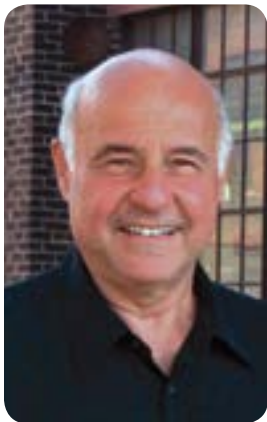


Founders

Co-Creators

Partners

FOUNDERS & CO-CREATORS



Neil Smolar: CEO, Executive Producer, Music Concept. Prior to Sing to Say, Neil founded digital media company NDi Media, a producer of interactive content for children. Partnerships with National Geographic, Discovery, Scholastic, PBS, BBC Kids, Corus, American Greetings and CBC.

Composer for film and jazz performer. Neil is a McGill University (B.SC.) alumnus and a graduate of the Berklee College of Music (Jazz Composition and Arranging)

FOUNDERS & CO-CREATORS

Stacie Carroll: Co-founder and Associate Producer, Pedagogy.

Special needs educator the Toronto District School Board. Ground-breaking work using interactive technologies. Featured in interview by Leslie Stahl on 60 Minutes and CBC's The National. Member of the Geneva Center for Autism, and she won the Prime Minister's Award for Teaching Excellence and the Teacher of the Year Award from the Council for Exceptional Children.



PARTNERS

**Doug Thompson
and Brock Morley:
Directors of Technology
& Partners.**

Development of the
Sing to Say platforms
and strategies.



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SETTINGS

We are interested in feedback from the community.

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Let us know what you think.

Neil Smolar, CEO

neil@singtosay.com

(00) 1-514-919-5979

Skype: neil.smolar

www.singtosay.com

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