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ONLINE PARENT TRAINING

Case Study: Online Parent ABA Training and Expressive Language in a Toddler Diagnosed with Autism

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Abstract

The following case study presents improvements in expressive language samples and standardized language scores in a toddler newly diagnosed with autism. The pre- and post- language samples were collected by the toddler's mother as part of the Turn Autism Around® online training program. The toddler emitted 2 words at baseline during a 1-hour time sample and 180 words, some in 2-3 phrases, 33 days later at the completion of the online modules. Because of the COVID-19 pandemic and subsequent states' stay-at-home orders after the toddler was diagnosed, parent-led treatment based on the online course was delivered and no other therapy was available during the study period. Standardized language scores two months before the study and immediately following the study supported the expressive language gains.

Keywords: autism, applied behavior analysis, verbal behavior, toddler, parent training



Case Study:

Online Parent ABA Training and Expressive Language in a Toddler Diagnosed with Autism

Applied Behavior Analysis (ABA) remains the most evidence-based treatment for young children diagnosed with autism. But with the rate of autism continuing to climb to 1 in 44 as of 2021 (Centers for Disease Control and Prevention [2022, January 11]. Data and Statistics on Autism Spectrum Disorder: <https://www.cdc.gov/ncbddd/autism/data.html>), waiting lists for evaluations, diagnosis and treatment are several months long in many areas throughout the US. Recent research indicates that children with early delays and signs of autism cannot afford to wait; parents need to be trained as soon as their infants or toddlers start showing communication and social delays (Klin et al., 2020). Speech, behavioral disorders, and intellectual disabilities that often accompany autism can be prevented or remediated with early treatment (Klin et al., 2020).

The American Academy of Pediatrics (AAP) clinical recommendations and guidelines published in *Pediatrics* (2019) also suggest the following: there is no reason to wait for a diagnosis, treatment should start at the earliest signs; the use of behavioral interventions is supported; many children with autism have co-occurring conditions including sleep, feeding, and language disorders that can and should be treated; and parent involvement and action are key to the best outcomes.

When infants and toddlers start showing social and communication delays such as lack of babbling back and forth or using words, failure to point to get attention, or having excessive tantrums around eating or sleeping, their parents need to be taught what to do. If months or years go by from the first signs of autism until diagnosis and ABA treatment is initiated, the best window of time to remediate these early signs of autism is lost.

While parents wait for autism evaluations, they often are not aware of the need for information about ABA. Instead it is most common for infant and toddlers in the United States to receive one hour of speech-language therapy, one hour of occupational therapy, and one hour of teacher time per week under the Individuals with Disabilities Act Part C (for those under the age of 3). Therefore, the verbal behavior-based Turn Autism Around® online course was created to address the need for parent education. The 60-day course focuses on parents and professionals of young children (1 to 5 years of age) with autism or signs of autism.

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Without interventions based on the science of ABA, young children with or without an autism diagnosis often do not make rapid improvements and many regress further. There are also cases of sub threshold autism that “look” like autism in toddlers but turn out to be ADHD or speech delays after treatment (Klin et al., 2020).

With or without a diagnosis of autism, an infant or toddler who begins to show any early signs of autism would benefit from their parent learning how to enhance the parent-child dyad of back-and-forth babbling, communication, eye contact, and imitation. Early parent intervention is a promising method for changing the trajectory and outcomes for any child with delays.

The Turn Autism Around® online course consists of multiple components. For example, getting started materials include a recommendation for the parent to obtain a language sample before beginning the online modules and also to complete a language sample at the conclusion of the course. The language samples as well as the Turn Autism Around® one-page assessment and planning form are not turned in or posted. There is no individual coaching or video/document feedback at this time.

After the assessment and plan is done by the parent, the parent learns how to conduct 15-minute intensive teaching sessions using early learner materials such as Potato Head®, inset puzzles, cause and effect toys, a shoebox and pictures of familiar people. Both at the short table sessions as well as throughout the day, parents are instructed to hold up items and pictures to their mouths while using the “one-word x 3 strategy” which is a stimulus-stimulus pairing procedure.

In addition to using pairing strategies to prevent and reduce problem behaviors, and use strategies outlined in the first author’s books, *The Verbal Behavior Approach* (2007) and *Turn Autism Around: An Action Guide for Parents of Young Children with Early Signs of Autism* (2021). While simple terminology is used as much as possible throughout the course lessons, several ABA techniques are used to increase expressive language specifically mands, tacts, and echoics. Shaping, chaining, reinforcement, multiple control, errorless teaching strategies and transfer procedures (Barbera & Kubina, 2005) are all incorporated. In addition, the Turn Autism Around® toddler course includes content to help children wean from pacifiers or bottles, and improve eating, sleeping and potty training.

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And last, members also have 60-days of access to a Facebook® community and 1-hour group monthly question and answer calls. While some early intervention professionals, fathers, and grandparents have taken the course, most participants over the past three years have been mothers of young children with autism or signs of autism.

With the emergency declaration and states' stay-at-home orders in the spring of 2020, many families who were in the queue for evaluations or treatment were suddenly left with no services which created both challenges and a unique opportunity for research. The following retrospective case study evaluated the following research question: To what extent does the Turn Autism Around® online course and parent-directed intervention impact expressive language in a toddler diagnosed with autism?

Method

Participant

The participant was Elena, a two-year-old (DOB 2/22/18). Elena began showing speech delay and toe walking at 18 months of age. She was referred for a standardized speech evaluation which was completed at 23 months of age. Elena was then diagnosed with autism spectrum disorder by a Pediatric Neurologist just one week before her 2nd birthday. The plan was for Elena to begin clinic-based ABA services, but early intervention and ABA services became abruptly unavailable; a national emergency was declared due to COVID-19 on March 13, 2020 and soon many states issued stay at home or shelter in place orders.

Setting

The setting was Elena's home. She lived in a suburban neighborhood in Michigan with both parents and baby sister. Her mother was a high school history teacher but was not working outside the home (or virtually) at the time of the study. Because of stay-at-home orders, Elena and her infant sister did not leave the house during the 2-month period and there was no outside therapy during the study. The lack of services prompted Elena's mother to seek out programs. She found the Turn Autism Around® online course on 3/25/20 when her toddler was 25 months of age and completed the online modules within her home.



Dependent Variable

The dependent variable was Elena's expressive language scores based on pre-and post-language samples collected by her mother as part of the online course as well as two independent standardized speech evaluations completed one month before and after the study period.

Independent Variable

The independent variable was a parent-led ABA intervention based on the Turn Autism Around® 60-day online course. Parents were taught how to assess, plan, teach, and take data so that they can help their child increase communication, reduce problem behavior and help address eating, sleeping, and toileting problems. The active components for teaching included gathering and pairing early learner materials, joint attention, manding, tacting, imitation, matching, and building instructional control. Unlike standard discrete trial instructions, the Turn Autism Around® table time sessions focused on using natural environment teaching, pairing and multiple control procedures.

Design

The research design was a case study with pre- and post-measures. Case studies cannot offer generalizable information, but they do offer preliminary data, provide insights that may spark future research, and can offer evaluative information for a program (McLeod, 2019).

Procedures

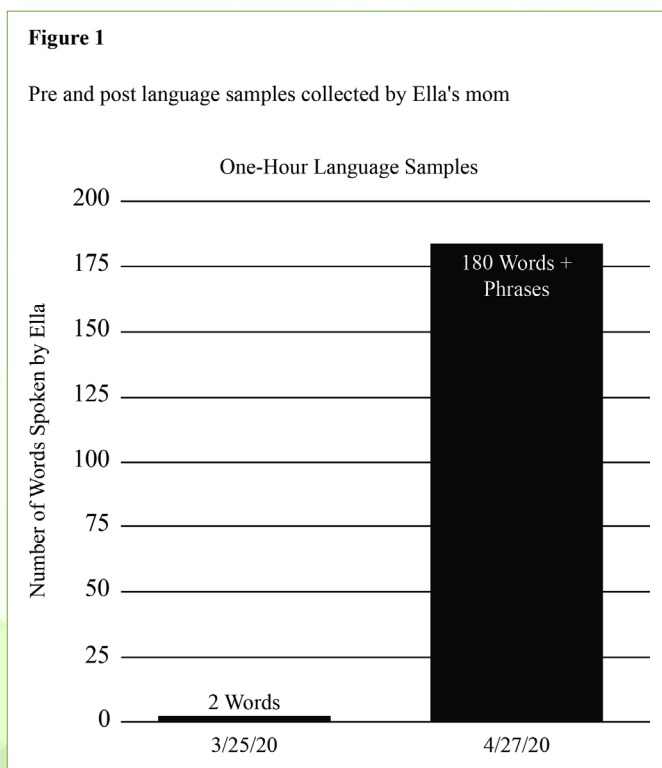
Baseline and Post Language Samples and Videos

Within the "Getting Started" section of the Turn Autism Around® online course, parents are directed to take a baseline language sample before proceeding to Module 1. Parents set a timer for 1 hour and write down all sounds, words, or phrases the child emits. Parents are also directed to take baseline videos of their child in an alone condition for 1-2 minutes and with an adult trying to engage him or her on the floor or at a table for 1-2 minutes. The baseline product was an Excel sheet where Elena's mom entered any words or sounds heard within a 1-hour timeframe. At the end of the 60-day course, parents are directed to repeat the language sample and record two more videos of the alone and engaged time frames. Elena's mom produced the posttest data.

Intervention

The Turn Autism Around® Online Course consisted of six modules for a 60-day access period. Each module contained activities such as one-page assessment and plan with videos showing how to complete both forms. Parents are directed to gather specific materials, and to use multiple control procedures, and the “One Word x 3” strategy throughout the day. They are taught how to assess, prevent and react to problem behaviors by using positive and child-friendly strategies such as the “Sh and Give” procedure. Once the parents’ have an assessment and plan completed, they are taught to use the early learner materials and activities within table time sessions for up to 15-minute sessions/day. The intensive teaching sessions use multiple control procedures to increase active engagement and responding. Parents are also taught how to use these procedures away from the table so the child can generalize their skills. The program is self-study and self-paced. There is also a closed Facebook group community where participants can post questions if they have difficulty understanding or applying the ABA and Verbal Behavior course content.

Results



Language Samples

Elena’s mom completed the baseline one-hour language sample on 3/25/20 which was the same day she joined the online course. The bar graph in Figure 1 displays the two words Elena produced (“mom” and “doggy”) which were documented on an excel sheet. While the course included 60-days of access, Elena’s mom finished the modules in 33 days and completed the post course one-hour sample on 4/27/20 when Elena was 26 months of age.

During the one-hour language sample post-course Elena’s mom recorded 180 words and phrases on the excel sheet also displayed on Figure 1. In addition to producing many more single words and word approximations, Elena demonstrated more advanced language as noted by her mother on the excel sheet including using possessive/plurals (mommy’s shoes), manding for information (“where’d it go?”), using adjectives (“big stick”), and contractions/pronoun (“that’s me”).

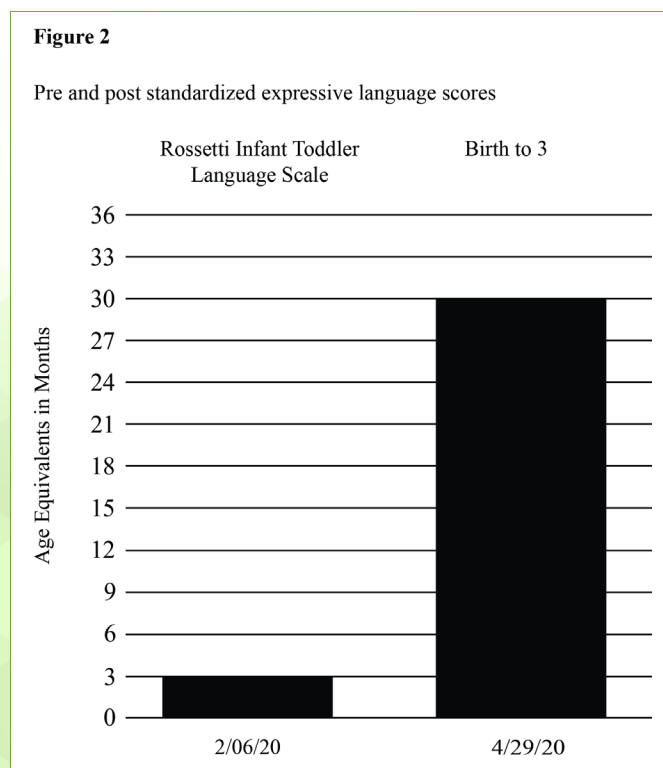
Standardized Speech Evaluations

In addition to Elena’s mom providing data on her daughter’s expressive language abilities on the first day and at the completion of the Turn Autism Around® online course, she also provided two independent standardized speech evaluations. The two standardized speech evaluations further supported the changes her mother observed during the 33 days she was watching the online modules and practicing the ABA/Turn Autism Around® strategies with her daughter daily.

On February 6, 2020 when Elena was 23 months of age, she was evaluated by a Speech and Language Pathologist in an outpatient clinic setting. Expressive and receptive language skills were assessed utilizing portions of the Rossetti Infant-Toddler Language Scale (RITLS). The basal score indicates the age level at which all items were achieved resulted in a 0-3 months for Language Expression age equivalent. The ceiling score which indicates the age level at which none of the items were achieved resulted in a score of 15-18 months for Language Expression.

The SLP noted that “the majority of Elena’s expressive language skills are at the 9-12 month range.” During the evaluation in February, Elena used one word (mom) and she was also observed to point, grunt, and cry to communicate.”The evaluation resulted in Elena being diagnosed with a severe mixed receptive-expressive language disorder.

On April 29, 2020, when Elena was 26 months of age, she was evaluated with more standardized speech evaluations over Zoom through the Michigan Early Intervention program. Three different standardized



expressive language scores were reported including the REEL3 with expressive language score of 20 months, Preschool Language Scale 5 with a score of 23 months and Birth to 3 assessment with a 30-month expressive language score. It was noted in the post-course report that “Elena’s parents stated that along with her language abilities, they have seen vast improvement in Elena’s social-emotional development over the last 6 weeks.”

Discussion

The data presented in this case study show significant improvements in expressive language skills with parent-led intervention as learned within the Turn Autism Around® online training program which is based on ABA and Skinner’s Analysis of Verbal Behavior. Because of the stay-at-home orders, Elena did not receive any other services or leave the home for social or community outings during the study period limiting some extraneous variables (e.g., outside services).

The two independent speech evaluations obtained retrospectively also supported Elena’s expressive language gains between the ages 23 and 26 months of age going from a basal score of 0-3 months of age on the Rosetti Infant Toddler Language Scale at 23 months of age chronologically to a high score of a 30-month-old age equivalent on the Birth to 3 speech and language evaluation when she was 26 months of age.

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Limitations/Future Research

There are several limitations to the study. Since the Turn Autism Around® online course can be purchased and started at any time and is self-paced, little is known about the parent-led ABA intervention that occurred on each day of the study. Elena’s mom was clearly motivated to complete all the activities and implement the procedures as quickly as possible to help her daughter as evidenced by finishing the online toddler course within 33 days. However, there is no record of whether Elena’s mom re-watched portions of the course and what specific strategies within the course were most important. Because no one observed or gave feedback regarding table time sessions or analyzed any videos or

other data collected, the fidelity with which Elena's mother implemented the techniques correctly is unknown.

Also, two different Speech and Language Pathologists administered four different expressive language tests during the pre and posttest making a true comparison of pre and posttest results impossible. The post course language evaluation was also conducted via a Zoom virtual meeting which was another variable.

Elena's mother was a high school teacher who was not working outside the home at the time of the study. Her background in education could have been a factor in her completing all the baseline activities, organizing her results, seeking independent evaluations, and obtaining an early diagnosis as well as her identifying the need for ABA treatment.

Future research based on this study should focus on parents with different educational levels learning the Turn Autism Around® approach via online learning only. Adding in checkpoints, feedback and coaching on the ABA strategies should also be studied. Standardized speech and language assessment results could also be used pre and post to continue to evaluate whether the results correlate to the Turn Autism Around® language samples, assessment, intervention, and progress. Young children of different age ranges and ability levels both with and without a diagnosis of autism could be subjects in future studies and research on teaching these ABA strategies to early intervention professionals should also be considered.

Conclusion

The present case study suggests that online parent training and parent-led ABA intervention was successful in improving expressive language in a toddler newly diagnosed with autism and a severe mixed receptive-expressive language disorder. With the rate of autism continuing to climb and the long wait lists for evaluations and treatment as well as possible future stay at home orders, it is critical for parents to learn to identify and enhance the parent-child dyad of back-and-forth babbling, communication, eye contact and imitation. It is also imperative that parents learn child-friendly ways to reduce problem behaviors and improve eating, sleeping and potty training.

Compliance with Ethical Standards

Funding

- No funding was obtained for this study.

Disclosure of potential conflicts of interest

- Dr. Mary Lynch Barbera financially benefits from the sale of the Turn Autism Around® online courses, memberships and books.
- Dr. Rick Kubina has no conflicts of interest.

Informed Consent

- The mother in the study paid for the Turn Autism Around® online course and voluntarily provided retrospective data of two excel sheets and two speech and language evaluations for analysis and publication. Written consent was obtained and the mother reviewed the manuscript and approved it for publication.
- Elena and her mother Michelle are featured in the Turn Autism Around® book, Chapters 8, 9 and 13. Michelle is also interviewed on podcast episode #78, in 2020 shortly after completing the online course and on episode #164 in 2022 when Elena was 4 years of age.

References

- Barbera, M. L. & Kubina, R.M. (2005). Using Transfer Procedures to Teach Tacts to a Child with Autism. *The Analysis of Verbal Behavior*, 21(1), 155–161. <https://doi.org/10.1007/BF03393017>
- Barbera, M. L. (2007). *The Verbal behavior approach: How to teach children with autism and related disorders*. Jessica Kingsley Publishers.
- Barbera, M. L. (2021). *Turn autism around: An action guide for parents of young children with early signs of autism*. Hay House.
- Centers for Disease Control and Prevention. (2022, January 11). Data and Statistics on Autism Spectrum Disorder: <https://www.cdc.gov/ncbddd/autism/data.html>
- Hyman, S. L., Levy, S. E., & Myers, S. M. (2020). Identification, evaluation, and management of children with autism spectrum disorder. *Pediatrics*, 145(1), e20193447. <https://doi.org/10.1542/peds.2019-3447>
- Klin, A., Micheletti, M., Klaiman, C., Schultz, S., Constantino, J. N., & Jones, W. (2020). Affording autism an early brain development re-definition. *Development and Psychopathology*, 32(4), 1175-1189. <https://doi.org/10.1017/S0954579420000802>
- McLeod, S. (November 10, 2019). *Case study method*. Simply Psychology <https://www.simplypsychology.org/case-study.html>





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