

Carlina E. Lahoz-Ogando
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Professor Bennett Schepens
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Effectiveness of the Verbal Behavior Approach to teach students with Autism their personal information and Emergency contact.

Verbal behavior is a program for ABA to help an individual to enhance communication. "Verbal Behavior (VB) is a communication theory that proposes that language, like any other observable action, is a learned behavior that can be acquired, developed, and sustained through the application of behavioral strategies (i.e., prompting, reinforcing, planned ignoring, etc.). "(AHRC New York City, 2022) Verbal behavior is used as a strategy in Special education schools to help students learn information and a desired behavior.

This type of intervention helps students on the spectrum to learn about personal information, imitate and/or follow commands and learn about numbers, colors, and other simple terms education related. During a certain time in the classroom, the teacher set a time for the students to a station and work on VB in a 1:1 setting. The teacher will teach a certain skill and the teacher will ask the student to clap their hands and touch heads as a distraction. Then the teacher will ask again for the desired skill. Data is collected, and the student will mark it as a + if they were able to answer independently and marked with – if they weren't able to answer independently.

An example of Verbal Behavior (VB) is present below:

Teacher: "What is your name?" "Jack"

Student: "Jack"

Teacher: "Clap hands"

Student: (Clap hands)

Teacher: "Touch your head"

Student: (touch his/her head)

Teacher: “What is your name?”

Student: “Jack”

Teacher: “Good job”

The main goal of Verbal Behavior (VB) is to teach communication and language to students with special needs. This approach ensures individuals on the spectrum will be able to gain words that will help them get desired things or actions. VB has its origins in Applied Behavior Analysis where language seems like a type of behavior. “Based on Skinner’s theories, language is viewed as a behavior that is reinforced through the mediation of another person’s behavior (River and Forget 2012; Sundberg and Michael 2001). This approach focuses on analyzing the effect of the speaker on the behavior of the listener as well as the effect of the listener on the behavior of the speaker. The topography of VB can take many forms (vocal speech, sign language, written text, etc.)” (Szu-Yin Chu, 2016)

The research topic that would be presented for Educational Research and Statistics would be the Effectiveness of Verbal Behavior on students on the spectrum in a 3rd-to-5th-grade classroom. The classroom would be a self-contained classroom with an 8:1:1 setting. Some students are verbal and some of the students have limited communication. The purpose of implementing the Verbal Behavior approach is to help them know their personal information such as their parent's name, their address, their family’s phone number, and the emergency number. These students need to learn this information because it can be useful in case, they get lost.

Individuals with Autism may present severe communication problems because of their neurodevelopment disorder. These communications cause behavior problems in those individuals. “A number of factors may impact the presence and severity of behavior problems in individuals with ASD. Research examining the association between spoken language ability and child behavior problems is mixed. Studies have found no differences, more severe behaviors in less verbal children, and more severe behaviors in more verbal children (Baghdadli et al., 2003; Matson et al., 2009; Williams et al., 2018).” (E. Lorang, J. Hong, J. Song, L. Smith DaWalt, & M. Mailick, 2021) Explicit instruction and repetition are necessary to help these individuals retain information and acquire skills. Help is needed in the form of a prompt to help them get independent ability. “A prompt was defined as an antecedent stimulus that was effective in evoking a response. Prompt fading was defined as the transfer of stimulus control from a prompt to stimuli in the natural environment.” (S. M. Vener, A. M. Gillis, & C. L. Poulson, 2020)

Because of the need to support students with Autism. The Verbal Behavior approach was created. It covers sixteen areas to help these individuals acquire the needed skill to enhance communication. “According to its manual, the VB-MAPP is described as a criterion-referenced assessment, curriculum guide, and progress-monitoring tool designed for parents and professionals to gain information regarding their child’s language and social skills for individuals aged 0 to 48 months. The VB-MAPP is based on Skinner’s analysis of verbal behavior and the science of ABA.” (K. L. Padilla, & J. S. Akers, 2020) Verbal Behavior is based on Skinner’s theories about language development which is based on imitating other person’s behavior. “Based on Skinner’s theories, language is viewed as a behavior that is reinforced through the mediation of another person’s behavior (River and Forget 2012; Sundberg and Michael 2001). This approach focuses on analyzing the effect of the speaker on the behavior of the listener as

well as the effect of the listener on the behavior of the speaker. The topography of VB can take many forms (vocal speech, sign language, written text, etc.)” (S. Y. Chu, 2016). Skinner’s theory of language development is practiced in special education schools and behavior intervention clinics. “Different groups of clinicians and researchers have used Skinner's analysis of language to observe, describe, and teach the functions of verbal behaviors for children and adults with ASDs (McGreevy, 2009). As mentioned by Greer and Ross (2008), verbal behavior analysis is suited for identifying verbal developmental capabilities, creating curricula for children with or without language deficits, and providing environmental or teaching interventions to establish functional verbal repertoires.”([R. Melina](#) and [F. Jacques](#), 2012)

In a classroom, the teacher is the main source of language support for students with Autism. Students imitate what the teacher teaches in the classroom. “Child language development is supported by frequent, high-quality, and dynamic early interactions with caregivers (Hirsh-Pasek et al., 2015). Conversations are an ideal context for young children to observe models, practice language, and receive feedback. Caregiver factors, such as responsivity (Bornstein & Tamis-LeMonda, 1989), have a powerful impact on language, social, and cognitive development (Landry et al., 2006).” (M. Beiting, R. M. Alper, R. Luo, and K. Hirsh-Pasek, 2022) Supporting language in a student with Autism requires time, patience, structure development, and discipline on behalf of the teacher. “Many teachers have experienced the frustration of teaching a concept and seeing students appear to grasp the concept only to discover on a test or in the next unit that they did not retain the information or skill. Although some forgetting occurs for all learners, students with high-incidence disabilities are particularly susceptible to experiencing difficulties with retaining content (Swanson & Deshler, 2003)” (C. A. Hughes and J.-Y. Lee, 2019). Children with autism have difficulty learning their personal

information such as their parents' name, their house phone number, one of the parent's cellphone numbers, and the address. It is important for every kid to know this information and more importantly to learn the 911 number for emergencies. To help students on the spectrum in learning their personal information, Verbal Behavior (VB) approach will be implemented.

VB will help them memorize these students' personal information and as the teacher prompts them, the students will be retaining the information. The teacher will be fading the prompts as the student makes progress towards his or her goals. "As a result, children with weaker languages are exposed to robust language modeling, which promotes their language development (e.g., Huttenlocher et al., 2002; Mashburn et al., 2008)" (M. B, Schmitt, S. Tambyraja, and S. Siddiqui, 2022). Verbal Behavior (VB) can also be used in non-verbal students. The house information must be on the student's device and the teacher will teach them how to access the information when asked.

In a classroom with eight students, it has been observed that some of the students know their parent's names, and some of them just know their parents by calling them Mommy or Daddy. A few of the students know their address and phone number. Also, few of the students know the emergency number which is "911" to call in case of an emergency and no adult is around. Students have a tag attached to their uniforms or backpack with their personal information. It would be of great benefit if students could learn their personal information in case, they get lost or misplaced. "A verbal behavior framework specifies observable contexts (i.e., antecedents and consequences of communication) to objectively define different communicative functions (Skinner 1957). Skinner (1957) identified several relevant antecedent contexts of communication that align well with contextual variables. For example, Skinner discussed that communication may or may not reference events currently perceived in the

environment, and communication may precede or follow the utterances of another person.” ([H.J. Forbes](#), [J.C. Travers](#), and [J.V. Johnson](#), 2020)

The purpose of this study was to describe the challenges students with autism may face when exposed to the insecurities of not knowing what to do when they are lost and do not know their family’s contact information or what number to call in case of an emergency. Additionally, the study pursued to determine if gender, academic performance, autism level, and experience level affect the ability to know this information. The specific research questions addressed in this study were:

1. How safe can a student with autism feel by knowing his or her contact information?
2. To what extent can Verbal Behavior influence students with autism?
3. What differences can be noted according to the children’s autism level, gender, academic performance, and experience?

We have heard on the news about children with autism getting lost. This situation may be not frequent, but it happens. Most of the children with autism carry a tag on their backpacks with their family’s information. What could happen if they do not carry their backpack? How can these children be able to provide their family and house information to return home safely? Let’s say they are in a shopping center and for any reason they get distracted and are separated from their relative. How can they be able to recognize they are lost, and need to ask for help? This study provides the need to teach students with autism to know and give their personal information to be reunited with their family.

Hypothesis: Verbal behavior (VB) help students on the spectrum to develop their language skills through mands and/or requests, VB can help students on the spectrum memorize and learn their personal information and emergency number.

- Independent Variable: participants with high performance, participants with verbal limited and using AAC
- Dependant Variable: data collection sheets

Methods

Setting

The children with ASD who participated in this study were students from a special education School. This school is part of District 75 which is the district in charge of students with disabilities and/or special needs. This school has the mission of providing an environment that includes academic instruction, social skills development, and vocational opportunities. The school is in a low-income community and the principal and staff are working together to support the needs of the students from that community. The students were between 7 years of age and 10 years of age. All students presented different levels of ASD. Most of the students were verbal and few of them were on talking devices.

Participants

For this study, a small group of students has been selected to experiment with implementing Verbal Behavior (VB) to teach personal information. The class is in an 8:1:1 Setting. Students' grades are 3rd, 4th, and 5th grades. The population in this classroom consists mainly of Hispanics and Afro-Americans. Parents demonstrate support for the students by

actively communicating with the teacher, expressing their ideas or concerns, and encouraging students to do their homework.

Child Verbal Status

Since the class consists of eight students, two of the students are on AAC devices. Two students are verbally limited and need time to speak and be understood. Most of the students in this class are highly functioning and verbally fluent, while the others in the class need more support in verbal prompting.

Child Behavior Status

Even though the students in this classroom are mostly highly efficient. They show some behaviors which may disrupt the class environment. Two of the students have a “one-to-one” paraprofessional. One is a health paraprofessional and the other one is a behavior paraprofessional. The behaviors presented in this classroom have been classified into five categories from most intense (5) to less intense (1):

- 1- Disrupting
- 2- Distractive
- 3- Uncooperative
- 4- Self-regulation
- 5- Hurtful to self and/or others

During the study, it has been observed that these behaviors occur frequently during whole group discussions, in the afternoon (after the students come from lunch and recess), whenever a student does not want to participate, and when a student is trying to escape instruction.

Instrumentation

In addition to the description of the study, each participant will have a data collection sheet obtained from the ABLLS program where their progress will be recorded. Participants will ask a series of questions regarding their personal information. Some of the questions to help them learn their personal information are:

- What is your address?
- Who are your parents?
- What is your name?
- Are you a boy or a girl?
- What school do you go to?
- What is your birthday?
- What is the emergency number to call?
- What is your phone number?
- Do you have brothers or sisters?
- How old are you?
- What grade are you in?
- Who is your teacher?
- How old are you?

Procedure

Participants will answer the questions, the teacher will prompt them when need it. The data sheet will be marked “Y” for answering correctly or an “N” for not answering correctly. Participants' baseline to master this skill will be three consecutive probes. After participants

demonstrate to be able to retain this skill, a retention probe must be required. (See data sheet scores in the Appendix and under the section “Data Collection for each participant”) Participants were given a set of ten questions in the datasheet. Tab 1.1 provides the results of the personal information questionnaire that participants were able to master.

Data Analysis

To analyze the effectiveness of VB to learn personal information skills, statistics were conducted using IBM SPSS version 25 and Microsoft Word. After all, the data was collected, the results were gathered, and a statistical study was conducted showing the frequency, percentages, and ratios to summarize the overall results of the data. Analyses of variance were used to compare participants' responses based on their academic performance level, verbal level, and attitude and/or cooperativeness. All data have been analyzed at a .05.

Null Hypothesis

Verbal behavior (VB) helps students on the spectrum to develop their language skills through mands and/or requests, VB can help students on the spectrum memorize and learn their personal information and emergency number.

To validate the meaning of the hypothesis, a week-long study was initiated. Participants were conducted to a Verbal behavior approach station for a week where they could learn and practice their personal information skills. Data collections were implemented daily to demonstrate if participants have mastered the skills or need the program to be run more time to help master these skills.

Results

Data collection has shown that all 8 recipients did benefit from the VB approach. 3 out of 8 of the recipients mastered the targeted questions. The rest of the recipients did benefit from the VB approach even though they did not master all the targeted questions, they showed a lot of progress.

The hypothesis of this study confirms that Verbal Behavior (VB) help students on the spectrum to develop their language skills through mands and/or requests, VB can help students on the spectrum memorize and learn their personal information and emergency number. The more time VB is implemented, the more the learning will be.

Research Findings

To analyze the results of the effectiveness of the Verbal Behavior approach (VB) a *t* test analysis was executed. For the attitude of the recipients toward the Verbal Behavior (VB) approach, the values of the mean and standard deviation are 8.3 and 1.40, respectively. The statewide mean is 8.0. The difference between the sample means and the statewide mean is statistically significant at the .05 level ($t=.75, df=7$)

Limitations and Recommendations for Future Research

No study goes without potential limitations. This study was based mostly on verbal skills to assess Verbal behavior. The size of recipients was significant for the study. Including more details in the study such as level of autism, learning proficiency, more time, and behavior could have affected the results of the study. Although the main goal was to demonstrate the effectiveness of the Verbal Behavior approach to learn about personal information and emergency numbers.

Conclusion

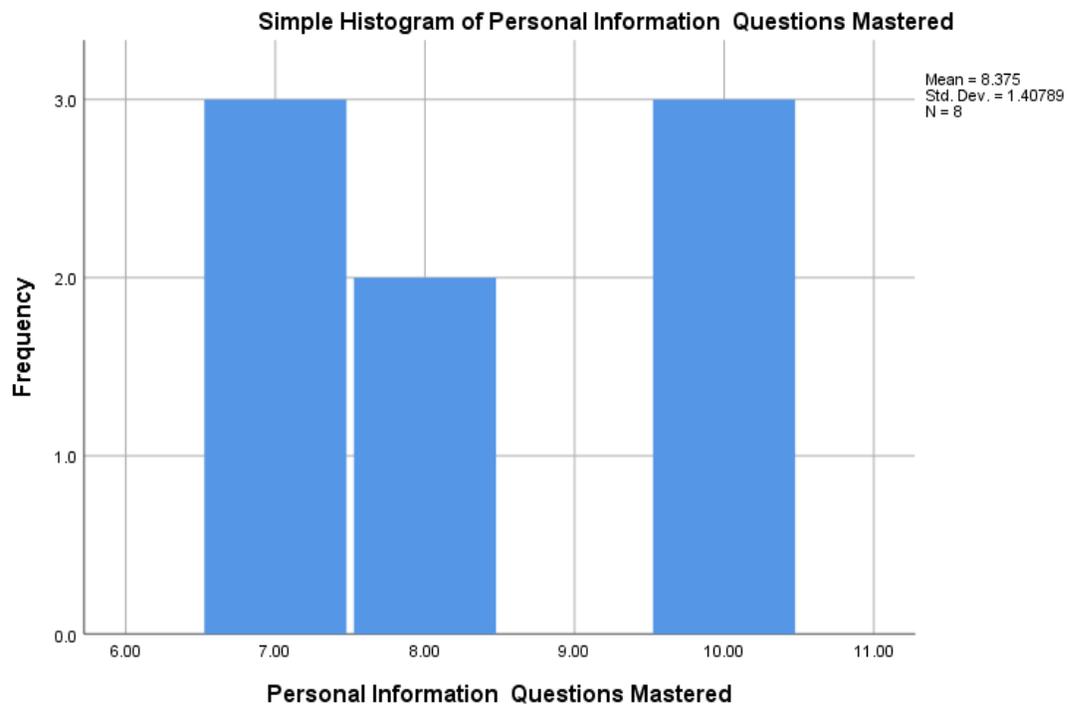
This study has demonstrated enough evidence the Verbal Behavior approach is very effective to help students learn a desired skill. It is suggested maintenance of the skill through consistency of the VB approach. It is recommended future research about the validity of this approach and more ways to implement it in the classroom and outside the classroom. In addition, comparing this approach to an alternative learning method is also recommended to help individuals maintain their target skills.

Table 1.1

Number of Correct scores on Personal Information Using Verbal Behavior Approach

Participant Number	VB Personal Information Questions Mastered
1	10
2	7
3	10
4	10
5	8
6	7
7	8
8	7

GGraph



T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Personal Information Questions Mastered	8	8.3750	1.40789	.49776

One-Sample Test

	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Personal Information Questions Mastered	.753	7	.476	.37500	-.8020	1.5520

Test Value = 8

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