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RESEARCH PAPER

Effectiveness of Applied Behavioral Analysis vs Verbal Behavior approach in Autism Spectrum Disorder

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ABSTRACT

Autism Spectrum Disorder is a complex neuro developmental disorder marked by chronic social interaction and communication difficulties. This study fills the methodological gap by performing a comparative study of interventions based on applied behavior analysis in a changing social context of Pakistan. This study model is derived from applied behavioral analysis and used its three interventions Discrete Test Training, Video Demonstration, and Verbal Behavior and further divided them into two groups, one group provided Discrete Test Training and Video Modelling and the other group provided verbal behavior and did provided any intervention to controlled group. Cognitive behavioral therapy adopted for mothers of children with autism who suffer from stress, depression and anxiety. Data was collected with the help of Autism Treatment Evaluation Scale (ATEC) and Strength and difficulty questionnaire (SDQ). The sample of the present study consists of total of 42 children further divided into three equal groups of 14 each, ranging from age 6 to 11 years with diagnosis mild or moderate level of autism are included.

Introduction

Autism is characterized by social interaction and communication deficiencies, which is an inability to engage in conversation, reduced ability to share feelings, poor nonverbal communication, a lack of interest in others, and trouble in building interpersonal relationships (Centers for Disease Control and Prevention, 2020). Recent changes to diagnostic criteria reflect scientific findings and clinical knowledge that Autism Spectrum Disorder (ASD) is better classified using a two-domain model, in which speech and social interaction deficits are merged and assessed on a new severity scale (APA, 2013).

Several studies have found that children with ASD are more prone to engage in difficult behaviors than children with learning disabilities. Children with ASD are more likely to exhibit challenging behaviors than children with learning disabilities (Jang et al., 2011; Dominick et al., 2007; Kurtz et al., 2008); intellectual disability (ID) and typically developing children (Holden & Gitlesen 2006; Murphy et al., 2005).

Applied behaviour analysis (ABA) is the science of systematically applying behavioral principles-based procedures to modify socially significant behaviour to a meaningful degree while establishing experimentally that the techniques utilized were responsible for the behaviour improvement (Kalimo et al., 1987). The practice of applying

behavioral principles to improve behaviors while simultaneously analyzing whether observed changes can be linked to the application of those principles is known as ABA (Alberto & Troutman, 2006). ABA entails the systematic use of basic behavioral methods based on behaviour principles (such as positive reward, repetition, and prompting) to achieve meaningful behaviour change.

ABA-based therapy begins with a more structured one-on-one treatment that is more naturalistic in addition to programs with typically building children as role models. According to Dillenburger & Keenan (2009), ABA improves and transforms socially relevant behaviors within the context of 30 the individual's surroundings. ABA is also carried out in a therapeutic context, with a focus on functional correlations and repeatable processes. Because ABA is so data-driven, it has the potential to achieve measurable gains in important target behaviors that stay a long time in a long-term setting (Dillenburger et al., 2009).

According to Zaman (2011), there are three types of ABA that experts use as a foundation. Discrete Trial Training (DTT) is one of the most well-known and commonly used strategies. DTT is a type of instruction in which each stage of a desired reaction or action is taught through a series of trials. When classes are broken down into their simplest elements, good reinforcement can be used to reward answers. When a child gives an incorrect response, it will almost always be rejected (Zaman, 2011). A cue, prompt, response, effect, and inter-trial period would be the five components. Because children's abilities on the Autism Spectrum vary, different programs are applied for longer or shorter periods. DTT is advantageous to children on the Autism Spectrum in terms of making new friends since it allows the instructor to introduce new types of behaviour into the students' repertoires while simultaneously allowing them to interact with one another.

Besides Discrete Trial Training, video modelling (VM) is a successful intervention for children and adolescents with ASD, as well as a promising treatment option for adults. This approach, which works to decrease extraneous inputs by directing the viewer's attention to the relevant stimuli, is especially well suited to fine motor tasks.VM is regarded to be helpful with this group because it capitalizes on their skills in visual processing, reduces human interaction, and is intrinsically empowering for many (Nikopoulos & Keenan, 2007).

VM is a proven intervention strategy with positive outcomes in a variety of domains, including social communication and interactive functioning, as well as various behaviours, age groups, and cultures (Bellini & Akullian, 2007). In his book Verbal Behaviour, Skinner (1957) elaborated taxonomy of verbal operant. He defined verbal behaviour (VB) as any reaction that is supported by another person's mediated activity. He looked at VB through the same lens as nonverbal behaviour: the functional relationship between a response and its surroundings.

Michael and Sundberg (2011) discussed the contributions of Skinner's (1957) verbal behaviour to the treatment of language delays in children with ASD, including mand training, intra-verbal repertoire development, and the importance of using Skinner's taxonomy of VB in the clinical setting. Further, DeSouza et al., (2017) demonstrated the emergence of advanced intraverbal training as well.

The ABA-based treatment program has a significant impact on improving the performance and social adjustment of children with ASD and can be considered by psychologists and counselors as an effective educational program. This integrated study model is derived from ABA and used its three interventions DTT, VM, and VB (He , 2022). Treatments based on applied behaviour analysis are considered as an efficient tool, used

with children on the autism spectrum. Its numerous advantages allow children to exhibit development within their school and day-to-day life (Estes et al., 2019).

This research is designed to help mothers and teachers to find the best-applied behaviour analysis-based intervention and to educate and treat children with autism. The current study filled the gap by pinpointing dilemmas compares the effectiveness of interventions based on applied behaviour analysis and verbal behaviour in improving behaviour by decreasing signs and symptoms of autism and sought to address the difficulties through intervention sessions with children having Autism. Through this study, researchers and practitioners will be able to see how effective applied behavioural analyses and verbal behaviour approaches are. Besides it, this research also aimed at providing basic level psychological aid to mothers of children with autism, a sort of psychological first aid considering cognitive behavioural therapy.

The aim of this study is to document the learning process of communication skills in children with ASD, as well as their behavioural changes, when ABA interventions are used, and to assess their effectiveness in reducing ASD symptoms. This study focuses on the strategies utilized in assisting children with ASD in the acquisition of language and social skills. Attempts to assess the effectiveness of therapies based on ABA to give useful information to special education instructors dealing with ASD children (He, 2022; McGill &Robinson, 2020). Further, the study has been divided into two groups, one group is provided DTT and VM integrally while the other group is provided VB approach and subsequent aspects of their adequacy and effectiveness in obtaining an improvement in ASD symptoms (He, 2022).

Hypotheses

I. The verbal behaviour approach increases the speech and language skills of children with Autism Spectrum Disorder.

II. The verbal behaviour approach increases appropriate social behaviour of children with Autism Spectrum Disorder.

III. The verbal behaviour approach reduces inappropriate behaviour of children with Autism Spectrum Disorder.

IV. Discrete trial training and video modelling jointly increase the speech and language skills of children with Autism Spectrum Disorder.

V. Discrete trial training and video modelling jointly increase appropriate social behaviour of children with Autism Spectrum Disorder.

VI. Discrete trial training and video modelling jointly reduce inappropriate behaviour of children with Autism Spectrum Disorder.

VII. Cognitive behaviour therapy reduces the stress, depression, and anxiety level in parents of children with autism.

VIII. There is a difference in efficacy level of the Verbal Behaviour Approach and integrated discrete trial training and video modelling in the improvement of symptoms of autism.

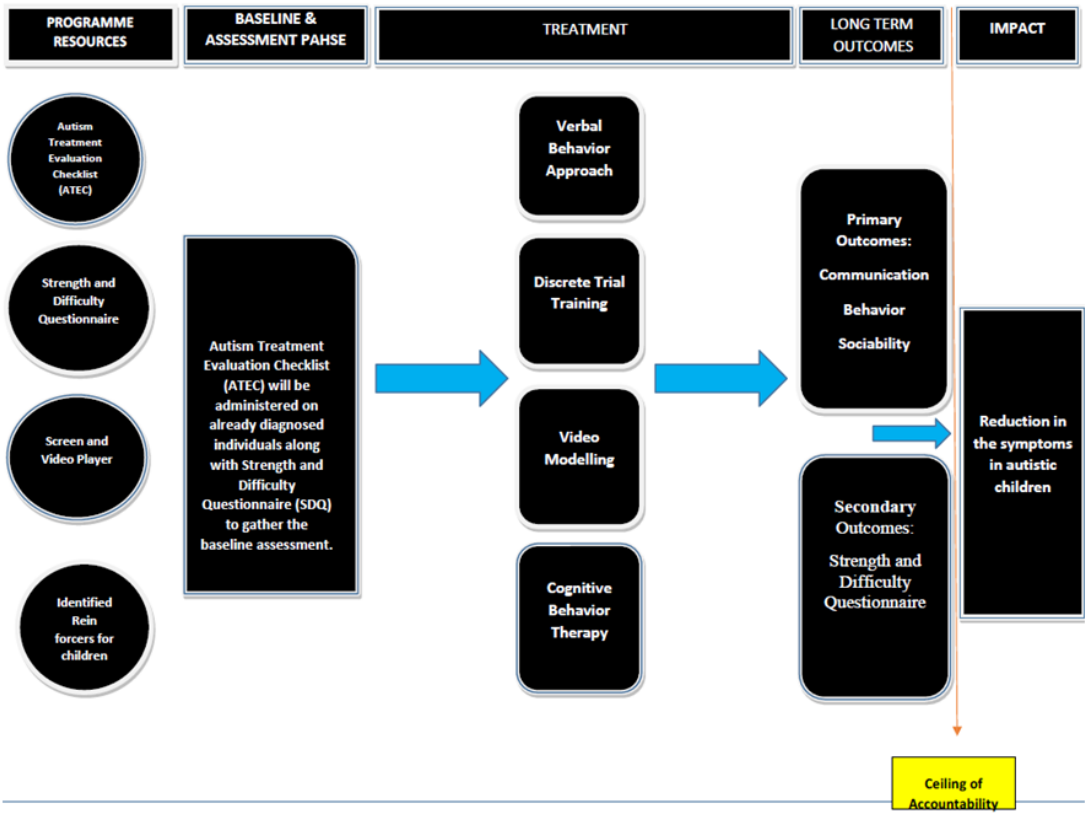

Figure 1: Conceptual Framework

Material and Methods

For the present study, experimental research design was used to assess the effectiveness of intervention strategies employed for managing ASD. Convenient sampling technique was used for the present study. Children with formal diagnosis of ASD (mild to moderate severity level), age ranging from 6-11 years old were part of study. Participants with any additional comorbids were excluded from study. Participants were recruited from an educational setup exclusively designed for children with autism.

Measurement Tools

Consent and Socio-demographic form: It consists of consent form for taking formal permission from participants to participate in current study and right to withdraw any time. Secondly sociodemographic variables were Parents name (optional), age, gender, institution, faith, alive/dead, parents profession, no. of kids, domestic location, socio-economic standing, any birth related problem faced by the child, child's name(optional), birth order, class/grade, any treatment/therapy history, parental psychological issues.

Autism Treatment Evaluation Scale (ATEC) : The Autism Treatment Evaluation Checklist (ATEC) by Bernard Rimland and Stephen Edelson (2014) is used as a diagnostic 77-item assessment to evaluate the effectiveness of autism treatments as a tool for children. The survey is designed for children aged 5 to 12 and takes about 10–15 mins to complete. The ATEC is available in a total of seventeen different languages. Several research investigations have identified the ATEC as a reliable tool for assessing children's autism symptoms and progress.

- Section 1 speech/language and communication

- Section 2 sociability
- Section 3 sensory and awareness this is certainly cognitive
- Section 4 physical/health behaviour

For parts 1-3, parents were asked to read each assertion and mark whether it is "not true/descriptive," "somewhat true/descriptive," or "very true/descriptive" about their child. Parents are asked to identify whether the lines explain something that is "no trouble," a "little" challenge, or a "moderate" task in part four. Concerning their son or daughter, they have a "issue," even a "severe difficulty ". ATEC values range from 0-180 and are normally calculated by summing the subscale scores. In general, a higher score indicates more symptoms-related disability. Every response is given a numeric value, which is then totaled up. A response of "not true/descriptive" receives 0 points in parts 1-3, while a remedy of "somewhat true/descriptive" receives 1 point and a response of "very true/descriptive" receives 2 points. In area 4, a "not a problem" response receives 0 points, a "minor problem" solution receives 1 point, a "moderate problem" solution receives 2 points, and a "severe issue" response receives 3 points.

Strength and Difficulty Questionnaire (SDQ): The SDQ (Skills and Difficulties Questionnaire) developed by Robert N. Goodman (1997) is a behavioral screening tool. It comes in a variety of forms to fulfill the needs of researchers, physicians, and educators. The following elements are included in one to three versions of each version:

A) There are 25 questions about psychological qualities. The SDQ asks approximately 25 traits, some of which are positive and others which are negative.

B) Mental symptoms (5 items), 1 to 4 combined to provide a total issues score (based on 20 factors), conduct difficulties (5 items), hyperactivity/inattention (5 items), peer relationship problems (5 items), prosocial behaviour (5 items). The same 25 items are included in questionnaires for parents or educators of children aged 4 to 16 months (Goodman, 1997).

A slightly modified version that is informant-rated by 3 (and 4) 12-month-old parents or nursery educators. 22 items are identical, the product on effectiveness has been softened, and two antisocial behaviour products are being replaced by compositionality products. Teenagers' self-completion questionnaires ask about the same 25 attributes, though the language is significantly different (Goodman et al, 1997). This self-report version is appropriate for young people aged 11 to 16, depending on their level of reading and comprehension. In low-risk or population settings, it may be simpler to divide the SDQ into three subscales: "internalizing problems" (emotional peer signals, ten questions), "externalizing issues" (conduct hyperactivity symptoms, ten items), and the pro-social scale (5 items) (Goodman et al, 2010).

ABA Assessment Sheet/ABA Record Sheet: For DDT, VM and VB approach, ABA assessment/ABA record sheets were implied as per the basic protocol to conduct ABA-based sessions.

Procedure

To determine the differences between demographic characteristics, quantitative data was examined using SPSS version 20 and an independent sample t-test. Moreover, the paired sample t-test was used to compare one group of participants who were exposed to two different experimental circumstances, namely the pre-test and post-test.

The procedure of administration inside a research study reflects the sources which are numerous means utilized for the true purpose of information collection and its particular analysis. Questionnaires were filled through the direct connection with participants by the researcher to achieve an optimum result. Informed consent is attached in which the purpose of this study was clearly explained and a written guarantee was presented with of protection of privacy of respondents. Moreover, participants and the concerned authorities were also informed that their responses would continue to be confidential and also the information would be utilized limited to present study to acquire the real reaction of each respondent who participated.

Before main study, a pilot testing was conducted on a sample consisted of 21 ASD children from the Rawalpindi and Islamabad Autistic Centres. Individuals with mild to moderate ASD, aged 6 to 11years old were involved in the study, which received ethical approval from University's ethical council. Children came from a variety of socioeconomic backgrounds. The purposive sampling strategy was used to approach the sample.

For the collection of data for the present study, the adopted questionnaires in the printed form were used to obtain data from targeted respondents. A total of 42 questionnaires (for pre and post-testing) were administered to respondents and all were retrieved after following the initial data screening process that is further utilized for data analysis purposes of the present study achieving a response rate of 100% for the present study.

Pre-testing was done with three groups in which filled ATEC and SDQ questionnaires were filled by the participant's mothers and then eight ABA interventions sessions were given (VM and DTT to one group, VB to the second group, and the third group was the controlled group). Two CBT based sessions were also given to mothers. Later on, post assessment was done through ATEC and SDQ for assessing the importance of treatment given to participants.

Table 1
Group 1: Integrated Model; DTT, VM and CBT

Phases	Therapy Plan	Details	Description
Step 1	Development of Model	Integrated Model	Therapy sessions are structured and adapted as per culture.
			A session with parents to psycho educate and counsel them along with sharing of treatment of plan.
Step 2	Pre-testing	ATEC, SDQ	Baseline data is obtained.
Step 3	Random Assignment	Division of participants into equal groups	Participants meeting inclusion criteria with an equal number were divided into three groups.
Step 4	Intervention (No of Sessions 8)	Function Behaviour Analysis	Identification of Behaviour, Nature of Behaviour, Antecedent, Consequence, Reinforcement. IEP is shared with the teacher for implementation.
		DTT & VM	Instruction Behaviour

			Consequence Use of Reinforcement & Punishment
Step 5	Post Assessment	ATEC, SDQ	For evaluation of effectiveness of given treatment
Step 6		CBT	With mothers

Table 2
Group 2: VB approach

Phases	**Therapy Plan**	**Details**	**Description**
Step 1			Therapy sessions are structured and adapted as per culture.
		Psycho-education	A session with parents to psycho educate and counsel them along with sharing of treatment of plan.
Step 2	Pre-testing	ATEC, SDQ	Baseline data is obtained.
Step 3	Intervention (No of Sessions 8)	VB Approach	Antecedent Learner Behaviour: Mands Tacts Intraverbals Receptive Echoics Motor Imitations Consequence IEP is shared with the teacher for implementation.
Step 5	Post Assessment	ATEC, SDQ	For evaluation of effectiveness of given treatment
Step 6		CBT	With mothers

Table 3
Sociodemographic variables

		f	%
Institute	Private Autism School	24	55.8%
	Home Schooling	18	41.9%
Age	6-7Yrs	6	14%
	8-9Yrs	6	14%
	10- 11Yrs	6	14%
	Above 11 Yrs	24	55.8%
Child gender	Male	12	27.9%
	Female	30	69.8 %
Any therapy	Yes	18	41.9%
	No	24	55.8%
Spouse Mental health after child diagnosis	Yes	36	83.7%

	No	6	14%
Satisfaction of Past treatment of child	Yes	12	27.9%
	No	30	69.8%
Utilization of Support	Family	30	69.8%
	Friends	6	14.0%
	Teachers	7	2.3%
	Total	42	97.7%

The results of the demographic analysis are exhibited in Table 3 exhibits of the present study in terms of age, gender, institution, faith, mother and father alive/dead, parents knowledge, parents profession, no. of kids, domestic location, history, socio-economic standing, any birth problem faced, child's name(optional), birth order, class, year of analysis, the youngster got any treatment/therapy, parents faced any mental wellness, Child's diagnosis affected moms and dads social life, diagnosis affected bond among moms and dads, pleased with the treatment/therapy kid has received in the past, reputation for emotional disease, reputation for psychological illness in family members, utilization.

Reliability analysis is conducted to check whether data is accurate, consistent, and reliable. More than 0.6 value shows that the scale used for analysis is reliable. Reliability analysis gives information about the internal consistency of the variables that are selected for the study. This analysis also helps to identify the problematic questions and thus they can be excluded from the analysis (Finn et al., 2005). The data for all the variables seems to be reliable as the Alpha value for all the variables is more than 0.6. Cronbach's Alpha. As all the alpha values lie between 0.6 and 1, the data is considered reliable.

Table 4
Normality Analysis

	Groups	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Pre-testing	Controlled group	.248	14	.020	.848	14	.021
	DTT and VM	.251	14	.051	.917	14	.068
	Verbal Behavior	.233	14	.048	.867	14	.041
Post-Testing	Controlled group	.248	14	.020	.848	14	.021
	DTT and VM	.251	14	.50*	.939	14	.52
	Verbal Behavior	.231	14	.54	.884	14	.47

The above table presents the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The Shapiro-Wilk Test is more appropriate for small sample sizes (< 50 samples) for this reason, the Shapiro-Wilk test is done as our numerical means of assessing normality. The results concluded that the Sig. value of the Shapiro-Wilk Test is greater than 0.05, the data is normal.

Table5
ANOVA

Measure	PreSqd		PostSdq		*F*	p
	M	*SD*	*M*	*SD*		
Between Groups	12.01	0.49	70.38	0.35	68.87***	.140
Within Groups	23.40	1.50	23.06	1.20	62.60***	.017

***$p < .001$.

ANOVA tables protest SDQ sig p-value is 0.140 which is insignificant shows that at pre-test stage all three groups are almost same do not have significant difference among them at post-test stage sig p-value is 0.017 which is less than 0.05 and its significant shows that all three groups have significant difference after having intervention but for checking which group is more significant and to check where difference exists.

Discussion

This study investigated the effects of ABA and VB approach on children with ASD during three months beginning in June 2021 till August 2021 with 8 sessions. 42 students participated in the study. All students who participated in the study were between the ages of 6-11 and their performances in the areas of verbal communication and social behaviour were examined. Based on the initial assessment, individual goals were developed for each student. Students were instructed toward those goals, and their performance was evaluated by recording data for 8 weeks. At the end of the three months, the data were analyzed to examine the gains, if any, students made in the area of ABA and verbal communication.

VB Approach increases speech and language skills of children with ASD

The data collected during the study were analyzed and discussed in the context of the literature on the effectiveness of VM interventions in developing the social skills of children with ASD. The study's goal is to see how effective the VB technique is at teaching children with autism. Firstly it focuses on students with ASD who have improved their speech and verbal communication skills. Overall, students who took part in the study shows positive results after using the VB approach to instruction. During the study, all students improved their verbal communication skills, particularly in the area of independent or unprompted manding. When the VB technique was used during the intervention, highly rewarding objects were found for each student before mand training began. These items include highly motivating items like food, toys, and other items that these kids were interested in. As a result of the VB approach's use of highly reinforcing things, children with ASD have been driven to react vocally to their teacher's requests. These findings are in line with Murphy et al., (2005) and Kahana et al., (2015) previous research.

Lorah et al., (2019) conducted a study by employing the VB approach to help children with autism spectrum disorder strengthen their language abilities. The results show the validity of Skinner's verbal behaviour method by comparing it to a group of children with ASD who were exposed to a traditional approach over nine months. The VB approach showed a considerable improvement in language capacity, with individuals progressing from producing less than 5 words to more than 100 words in functional speech, using words, phrases, and sentences.

VB Approach increases appropriate social behaviour of children with Autism Spectrum Disorder

The second goal of this study stated the improvement in the social behaviour of children with ASD through the implementation of the VB Approach. All of the students who took part in the study improved their independent manding and social communication. Several children, for example, began to request products without prompting. In organized social circumstances, other students learned to communicate independently as well. They began to want goods that were out of sight, indicating that they were aware of the significance of the verbalization. This conclusion backs up Hernandez et al., (2009) findings, which claims that prompting and differential reinforcement of one or two bands led to manding for things that were out of reach, sight, or total independence on the student's behalf. Alzrayer et al., (2021) came to the same conclusion. Social communication skills, the frequency of problem behaviours, academic ability, and fine and gross motor skills all improved significantly.

VB Approach reduces inappropriate behaviour of children with ASD

VB approach is effective in reducing improper behaviours like violence and hostility. Students' inappropriate, aggressive, and violent behaviours were reduced and eventually eliminated, according to the findings. Students who had previously committed multiple acts of aggression or tantrums every day reduced their incidents to nearly none. During class changes, there were no longer any behaviour issues. Redirecting students to display proper behaviour was easier. Barbera et al., (2007) had also found the same conclusion. The VB method gave systematic training to autistic youngsters in a step-by-step manner. In transitioning from one activity to the next, there was no downtime. As a result, all the students were required to engage in each activity. These children's inappropriate actions were reduced while they were engaged in a fun activity.

DTT and VM jointly increase appropriate social behaviour of children with ASD

VM is an effective intervention in supporting the improvement of social capabilities for children with ASD. According to one study which examined the effectiveness of using VM in developing two specific social skills of four students with ASD in a special boys' school namely, playing with friends and how to greet someone at school. The multiple-baseline design across participants was used to evaluate the effectiveness of the VM intervention for developing social skills over 18 weeks. The study found that VM was effective in developing the targeted social skills in the participating students with ASD and there was evidence that some generalization of skills had been achieved (Alhuzimi, 2020).

According to Ali and Fazil (2020), a study focused on investigating the efficacy of DTT programs in the development of sustained eye contact and social skills in children with ASD. The single-subject study design in this research was based on A-B-C-D-E-A and two follow-up periods. The participant was the minimal verbal adolescent girl with ASD observed on DSM-5 by the psychologist. The researchers found her major area of the deficit by using a self-developed rating scale for the identification of social communication deficits of children with ASD which was validated by experts. DTT was then manipulated over developing social communication skills under four different contexts taken as treatment conditions of the experiment. Efficacy of DTT observed under triad analysis was found comparatively higher during the E phase of treatment.

DTT and VM jointly increase speech and language skills of children with ASD

Many studies have been focused on VM and prompting as effective evidence-based practices to teach conversational skills to students with ASD. However, few studies have

focused on teachers who implement VM and prompting in their classrooms. According to one study which aims to describe the experiences and perceptions of four special education teachers who have used VM and prompting with four autistic students for a semester in their classrooms. The participants were asked questions related to three main areas: effectiveness, practicality, and acceptability. Most of the teachers regard this intervention as an effective and acceptable way to teach conversational skills to students with ASD. Training and support were requested by all teachers to enhance the practicality of this intervention. Other important implications for researchers and teachers were identified (Almalki et al., 2021). Yu et al., (2020), systematically evaluated the evidence for the use of interventions based on ABA to manage various symptoms of children with ASD.

Sensitivity analyses were conducted by removing any outlying studies and subgroup analyses were performed to compare the effectiveness of ABA picture exchange communication systems (PECS) and DTT. Results suggested outcomes of socialization, communication, and expressive language may be promising targets for ABA-based interventions involving children with ASD. However, significant effects for the outcomes of autism general symptoms, receptive language, adaptive behaviour, daily living skills, IQ, verbal IQ, nonverbal IQ, restricted and repetitive behaviour, motor and cognition were not observed.

DTT and VM jointly reduce inappropriate behaviour of children with ASD.

According to one study which replicated and extended prior research by examining the acquisition, maintenance, and generalization of DTT performance of adults with ASD who were interested in careers as behaviour technicians. Three participants received training on how to implement DTT with children and assessed the maintenance and generalization of DTT performance in the absence of feedback. Results indicated that procedural integrity generalized across children and targets and was maintained for 6 to 17 session days without feedback. Results have implications for the successful employment of individuals with ASD as behaviour technicians and for future research on strategies to enhance their performance on the job (Hillman et al., 2021).

According to Galligan et al., (2022) VM has demonstrated efficacy in teaching a variety of skills (e.g., social skills, communication, and vocational tasks) to learners with an autism spectrum disorder. Previous research indicates teachers and learners have supported the use of VM. However, the majority of studies have focused on elementary-school students; less research has explored the use of VM in secondary education settings. To extend the literature, this article describes the use of VM with three high school student–teacher dyads. Each teacher adapted the VM intervention to meet the needs of their student as well as to fit with the current technology available and utilized in their classrooms. All of the three students learned a different target skill with VM achieving mastery criteria and reducing their inappropriate behaviours.

According to Papaefstathiou et al., (2021) Individuals with ASD display a variety of challenging behaviours, such as tantrums, aggression, stereotypy, and disruption. Challenging behaviours can have a serious negative impact on the development of social relations, the learning process, and education. To this aim, there is a need for appropriate interventions to improve the quality of life of individuals with ASD. That study aims to provide data concerning different types of interventions and technological tools used for the reduction of challenging behaviors of students with ASD. Functional communication training with the use of speech generating devices, video self-modelling, self-monitoring with the use of technological devices, and social stories presented in electronic form reflect types of interventions used for challenging behaviour reduction. Results indicated that

technology-aided interventions are generally effective in reducing challenging behaviors of students with ASD.

Cognitive behavior therapy reduces the stress, depression, and anxiety level in parents of children with ASD

Parents are faced with numerous life demands, and all parents, regardless of their parenting experience, can become stressed. Balancing professional, familial, and financial demands with the daily stressors from parenting can harm their overall health and have a trickle-down effect on their families. When parents struggle to cope with these stressors, their parent practices and relationships are impacted, resulting in negative mental and physical health outcomes for the child and family unit. Parents can become immensely overwhelmed by their child's experiences resulting in parent anger, anxiety, and/or depressed mood. These unhealthy negative emotions can have a significant impact on their parenting and their family unit. Rational emotive and cognitive behavioral therapy (RE-CBT) can be an invaluable therapeutic approach to helping parents manage their emotions by changing their irrational beliefs. This in turn can assist parents to cope with the stress of being a parent and lead to improved parent behavior, parent-child relationships, and overall relationship satisfaction (Kurasaki & Terjesen 2020).

There is a difference in efficacy level of the VB Approach and integrated DTT and VM in the improvement of symptoms of ASD.

The main aim of this study was to compare the efficacy level of the VB Approach and integrated DTT and VM in the improvement of symptoms of autism, and results proved that the efficacy level of verbal behavior group is higher as compared to DTT and VM group in improving symptoms of autism and supported by many research studies. Tincani et al (2020) conducted a study by employing the VB approach to help children with ASD strengthen their language abilities. The results showed the validity of Skinner's verbal behavior method by comparing it to a group of children with ASD who were exposed to a traditional approach over nine months. The VB approach showed a considerable improvement in language capacity, with individuals progressing from producing less than 5 words to more than 100 words in functional speech, using words, phrases, and sentences.

Alzrayer et al. (2021) came to the same conclusion. Social communication skills, the frequency of problem behaviors, academic ability, and fine and gross motor skills all improved significantly. Following one study Students who had previously committed multiple acts of aggression or tantrums every day reduced their incidents to nearly none after getting verbal behavior intervention. During class changes, there were no longer any behavior issues. Redirecting students to display proper behavior was easier (Barbera et al., 2007).

Conclusion

Limitations and Recommendations

The scope of the current study is limited because only students with ASD who were currently placed in a self-contained classroom took part. Another limitation is the lack of consistency in data collection due to shortage of staff and a lack of training for all staff members. Some of the staff had no prior program training, which may have harmed the data gathering quality. In addition, throughout the session conducting time period, the rooms were relocated to a different floors; necessitating time spent reorganizing a new and more appropriate learning environment for children. As a result of using the ABA and VB techniques, instructional time was cut in half for 42 students. In addition to the smaller sample size, the study's outcome may be influenced by the short time frame. The current

study did not include maintenance or generalization sessions to see if the improvements in coping skills transferred to other situations and/or lasted after the trial ended. Social coping abilities, for example, are frequently required in a variety of contexts; therefore, generalization is a crucial aspect of learning a skill. Even if they have mastered certain abilities in a specific area, children with ASD struggle to generalize skills in a variety of environments.

The following recommendations are made in light of the study's limitations. First, more research with a bigger sample of the population is needed to corroborate the conclusions of this study. Second, to investigate the impact of the VB method on specific abilities and behaviors, research may need to be divided into specific communication and behavior improvements. Third, teachers and educational personnel should get continual education in the field of teacher training so that the VB approach may be effectively implemented in classrooms for children with ASD. Future research should incorporate opportunities for multiple places to be used when producing a video model for a student to assist them to generalize that new social coping skill to different contexts. Future studies should be explored to confirm the findings and improve the curriculum so that it can assist more children with autism.

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