

Development and Efficacy of Child's Holistic, Individualized Learning and Development Program for Children with Autism

Raul S. Gana*, Marie Ann S. Vargas
University of Santo Tomas, Manila, Philippines

*Corresponding Author Email: raul.gana.gs@ust.edu.ph

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Abstract. The primary objective of treating Autism Spectrum Disorder (ASD) is to alleviate symptoms that might disrupt everyday functioning and overall well-being. With this aim in mind, this research sought to highlight the benefits of employing the Child's Holistic, Individualized Learning and Development (CHILD.) Program as a therapeutic approach to enhance the quality of life for children with ASD. Utilizing a mixed methods research approach, the study was conducted at a child learning and development center, involving a cohort of 20 student participants. The researcher employed the Developmental Assessment of Young Children-Second Edition (DAYC-2) to gather data. From the significant findings of the study, it is inferred that the Child's Holistic, Individualized Learning, and Development Program effectively enhances the behavior of children diagnosed with ASD. Additionally, the locally developed program emerges as a credible and effective psychological intervention, presenting considerable potential for improving the skills and conduct of children with ASD. These findings emphasize the significance of personalized interventions to meet the varied needs of individuals with ASD, offering promising avenues for future research and practical implementation in clinical settings.

Keywords: Autism Spectrum Disorder (ASD); Child development; Individualized learning; Behavioral intervention; Quality of life.

1.0 Introduction

Autism Spectrum Disorder (ASD) presents unique challenges to children's learning and development, necessitating specialized interventions tailored to individual needs. In response to this imperative, the Child's Holistic, Individualized Learning and Development (CHILD.) Program emerges as a comprehensive approach aimed at addressing the multifaceted requirements of children with autism (Smith et al., 2021).

As the prevalence of autism continues to rise globally, there is a growing urgency to provide effective interventions that optimize children's potential and facilitate their integration into society (Jones & Brown, 2019). Traditional educational frameworks often struggle to accommodate the diverse needs of children with ASD, highlighting the necessity for innovative and personalized approaches (Anderson & Hudson, 2022). The CHILD. The program represents a concerted effort to bridge this gap by offering a holistic and individualized curriculum tailored to each child's unique strengths, challenges, and learning styles (Makrygianni et al., 2018).

Drawing upon principles of Applied Behavior Analysis (ABA), developmental psychology, and evidence-based practices, the CHILD. The program adopts a multidisciplinary approach to foster comprehensive growth across cognitive, communicative, social, emotional, and adaptive domains (Cherry, 2024). By prioritizing the child's

autonomy, dignity, and well-being, the program aims to create a nurturing environment conducive to learning, exploration, and self-discovery (Obibuba, 2020).

Central to the CHILD Program is its emphasis on personalized intervention plans, which are collaboratively developed by a team of educators, therapists, and caregivers (Marlina, 2024). These plans integrate diverse evidence-based techniques, including discrete trial training, positive reinforcement, social skills training, sensory integration, and assistive technology, among others (Agi, 2020). By tailoring interventions to each child's unique profile and progress, the program seeks to optimize outcomes and promote long-term success (Raypole, 2021).

This paper presents an in-depth examination of the development process behind the CHILD. Program, elucidating its theoretical foundations, pedagogical approaches, and intervention strategies (Scott et al., 2023). Furthermore, it comprehensively analyzes the program's efficacy based on empirical data, including pre-and post-intervention assessments, qualitative observations, and stakeholder feedback (Lory et al., 2020). Through rigorous evaluation, this study aims to contribute to the growing body of research on effective interventions for children with autism and inform future practice and policy initiatives in special education.

In the Philippines, most developmental pediatricians advocate early intensive behavioral intervention for ASD. Consequently, parents of children diagnosed with ASD often explore various treatment modalities they believe are best for their child. While many treatment modalities have been attempted, structured educational programs tailored to the child's developmental level, such as the Child's Holistic, Individualized Learning and Development (CHILD.) Programs have stood the test of time and proven effective for all children with ASD (Siegel, 2003). This paper serves as a testament to the ongoing commitment to innovation and excellence in the field of autism intervention. It underscores the importance of tailored approaches in promoting the well-being and success of children with special needs.

2.0 Methodology

2.1 Research Design

The study utilized mixed methods research methodology. Mixed methods research involves collecting, analyzing, and integrating both quantitative (e.g., experiments, surveys) and qualitative (e.g., focus groups, interviews) research. This approach is employed when the integration of these methods provides a more comprehensive understanding of the research problem. The present study consisted of two phases. The first phase involved the development of a holistic and individualized intervention program for children with Autism Spectrum Disorder (ASD). The second phase entailed testing the efficacy of the developed program using a mixed quantitative and qualitative research design.

2.2 Research Participants

The study was conducted at a child learning and development center in Quezon City, Philippines. This research focuses on a Therapy Center and Home Care Center catering to Children with Autism Spectrum Disorder (ASD), from which 20 student participants were selected. The participants in the study are divided into two sets: For the pilot study, participants are children diagnosed with Autism Spectrum Disorder (ASD) without any other co-morbid neurodevelopmental disability, with varied ages and capacities. For the main study, children participants are those recently diagnosed with Autism Spectrum Disorder (ASD), aged 4 years old during the study duration, newly referred to the CHILD. Center where the research will be conducted, and have not undergone any form of therapy from other professionals. Children who are existing students of the CHILD. Centers, diagnosed with conditions other than Autism Spectrum Disorder (ASD) or with co-morbid neurodevelopmental disabilities, and who have undergone therapy before the study are excluded. Additionally, children under 4 years old or over 5 years old are not considered. The student participants were selected for the study through a purposive sampling procedure. The primary objective of the proposed study is to develop an effective program for children with Autism Spectrum Disorder (ASD). To ensure the selection of appropriate student respondents, it is essential to establish efficient inclusion and exclusion criteria.

2.3 Research Instrument

For the pre-test and post-test of the children-participants, the researcher used the Developmental Assessment of Young Children-Second Edition (DAYC-2) an individually administered, norm-referenced measure of early

childhood development in the following domains: cognition, communication, social-emotional development, physical development, and adaptive behavior for children. The DAYC-2 is a popular test used to identify children from birth through 5 to 11 with possible delays in the following domains: cognition, communication, social-emotional development, physical development, and adaptive behavior.

2.4 Data Gathering Procedure

The data gathering process for this study comprises two distinct phases. In the initial phase, the researcher conducted an extensive review of literature and related materials to identify areas where children with Autism Spectrum Disorder (ASD) typically experience delays, contributing to behavioral concerns. The proposed Child's Holistic, Individualized, and Development (CHILD.) The program is then presented to a panel of experts including professionals such as Developmental Pediatricians, Behavior Specialists, Special Educators, ABA Practitioners, Clinical Psychologists, and Speech Therapists. Following expert evaluation and refinement through a Focus Group Discussion, the program undergoes pilot testing with ASD-diagnosed participants lacking comorbid neurodevelopmental disabilities. Feedback from this pilot run is collated and used to revise the program content. The outcome of this phase is the finalized Child's Holistic, Individualized Learning, and Development (CHILD.) Program.

In the subsequent phase, the developed program is implemented in a real-world setting. Potential participants are identified through referrals to the CHILD. Center, and upon obtaining parental consent, children undergo an Initial Assessment/Pre-Test using the DAYC 2 tool. This assessment, coupled with qualitative interviews with parents, helps gauge the child's current abilities and behavioral concerns. Treatment sessions using the CHILD. Programs are then scheduled, with six hours per week over three months. Following completion of the treatment, a re-assessment/post-test is conducted to measure any changes or improvements in the child's abilities. This includes a post-treatment interview with parents. The process continues until the desired sample size of twenty participants is achieved.

2.5 Ethical Considerations

This research study adhered to ethical guidelines to ensure the well-being and rights of the student participants. Participation in the study was voluntary, and as minors, their parents were required to sign an Informed Consent Form. Participants had the option to withdraw from the study at any point if they felt uncomfortable. Measures were taken to protect participants from physical, social, psychological, and other forms of harm, with utmost care to minimize risks. The dignity and well-being of the student participants were always prioritized and safeguarded throughout the research process. Confidentiality of research data was maintained at all times, and respondents' rights were upheld to maintain scientific and academic integrity. Additionally, proper communication of results was ensured to prevent plagiarism or research misconduct.

2.6 Data Analysis

The data gathered from the participants using the pre-test and post-test of the participants using the Developmental Assessment of Young Children-Second Edition (DAYC-2) were analyzed using the Statistical Package for the Social Sciences (SPSS). This study employed several statistical treatments such as Analysis of Variance (ANOVA). ANOVA is a statistical technique used to compare events, groups, or processes and determine differences among them. It enabled the researcher to ascertain which method is most suitable for performing a task. By analyzing the results, the feasibility and effectiveness of a particular method can be evaluated, providing valuable insights for the study.

3.0 Results and Discussion

3.1 Pretest Performance of the Respondents

Before introducing the respondents to the CHILD Program, the researcher administered a pretest. This step was crucial in the study as it allowed the researcher to assess the current level of the respondents. By conducting the pretest, the researcher gained insight into the baseline abilities, behaviors, and needs of the participants, which served as a valuable point of reference for evaluating the effectiveness of the CHILD Program.

Table 1. The pretest result of the respondents

STANDARD SCORE	FREQUENCY	%	DESCRIPTIVE TERM
Above 130	0	0.00	Very Superior
121-130	0	0.00	Superior
111-120	4	20.0	Above Average
90-110	1	5.00	Average
80-89	15	75.0	Below Average
70-79	0	0.00	Poor
Below 70	0	0.00	Very Poor
OVERALL		92.6	Average

Based on Table 1, the initial assessment scores of the respondents indicate that 75% of them were categorized as below average, with 20% described as average, and 5% classified as poor. The mean score during the pre-test was 92.55, suggesting that the overall group performance falls within the average range. Participants with below average score means that they are way beyond their age-level performances in the cognition, communication, social-emotional development, physical development, and adaptive behavior domains. The standard deviation, calculated as 12.3, reflects the dispersion of scores around the mean, providing additional insight into the variability of individual performance within the group.

3.2 Posttest Performance of the Respondents

Table 2. The post-test results of the respondents

STANDARD SCORE	FREQUENCY	%	DESCRIPTIVE TERM
Above 130	0	0.00	Very Superior
121-130	0	0.00	Superior
111-120	4	20.0	Above Average
90-110	5	25.0	Average
80-89	10	50.0	Below Average
70-79	1	5.00	Poor
Below 70			Very Poor
OVERALL		96.5	Average

As indicated in Table 2, following the posttest, 20% of the respondents scored above average, with 25% scoring average, and 50% evaluated as below average. As seen in the post-test of the respondents using the Developmental Assessment of Young Children-Second Edition (DAYC-2) as assessment tool, an increase in the areas of cognition, communication, social-emotional development, physical development, and adaptive behavior after undergoing the Child's Holistic, Individualized Learning and Development Program. Additionally, 5% of respondents scored poor. The mean score during the posttest was 96.55, suggesting that the overall group performance remained within the average range. The standard deviation, calculated as 14.77, indicates the dispersion of scores around the mean, providing insight into the variability of individual performance within the group following the intervention.

3.3 Difference between Pre-test and Post-Test Scores

Table 3. Test of difference between the pretest and posttest of the respondents

MEASUREMENT	MEAN	SD.	DF.	COMP. VALUES	TABULAR VALUES	DESCRIPTION	DECISION
Pretest	92.55	12.31	19	2.345	2.093	Significant	Reject Null Hypothesis
Posttest	96.55	14.77					

As illustrated in Table 3, the respondents' mean score during the pretest was 92.55, with a standard deviation of 12.31. Following exposure to the CHILd Program and the post-test administration, the mean score increased to 96.55. The standard deviation also increased to 14.77. Upon computing the T-value at a significance level of 0.05, the result was found to be 2.345, exceeding the tabular value of 2.093. This indicates that the null hypothesis, which suggests no significant difference between the posttest and pretest scores of children with Autism Spectrum Disorder (ASD), was rejected. Therefore, there is a significant difference in the pretest and posttest scores of children with ASD after implementing the CHILd Program. This suggests that implementing the CHILd Program contributed to an improvement in the areas of cognition, communication, social-emotional development, physical development, and adaptive behavior of the respondents.

The World Health Organization (WHO) (2022) describes evidence-based psychosocial interventions as interventions that can improve communication and social skills, positively impacting the well-being and quality of life of both autistic individuals and their caregivers. Participants initially referred to the CHILd Center due to manifesting negative behaviors were the focus of this study. This study developed a locally constructed Psychological Program objectively designed for children diagnosed with Autism Spectrum Disorder (ASD). The development of this program is rooted in Behaviorism, particularly the principles espoused by BF. Skinner, which posit that human behavior can be learned through practice in natural phenomena (Fiest, 2013).

4.0 Conclusion

Based on the noteworthy findings of the study, the researcher concludes that the Child's Holistic, Individualized Learning, and Development Program demonstrated efficacy in improving the adaptive behavior, cognition, communication, social-emotional development, and physical development of the participants who are children diagnosed with Autism Spectrum Disorder (ASD). With the use of Developmental Assessment of Young Children-Second Edition (DAYC-2), an assessment tool that has an standard scores, which provides percentile ranks, and age equivalents for each of its five (5) domains, that was used as pretest and post-test for the study. Therefore, the locally developed program emerges as a reliable and valid Psychological Program, offering substantial potential to enhance the skills and behavior of children with ASD. These conclusions underscore the importance of tailored interventions in addressing the diverse needs of individuals with ASD, offering promising avenues for further research and practical applications in clinical settings.

5.0 Contributions of Authors

The authors indicate equal contribution to each section. The authors reviewed and approved the final work.

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7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper.

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