

Impact of parental involvement on the communication skills of children with autism

Janine Joy L. Tenerife¹, Emerson De Luna Peteros¹, Joseph L. Bunghanoy², Lilibeth C. Pinili¹,
John V. de Vera¹, Margie D. Fulgencio¹

¹College of Education, Cebu Technological University-Main Campus, Cebu City, Philippines

²Administrator, Kairos Program-Victor Braun Training Center, Cebu City, Philippines

Article Info

Article history:

Received Jun 8, 2022

Revised Dec 19, 2022

Accepted Jan 10, 2023

Keywords:

Children with autism
Communication skills
Parental involvement
Special education

ABSTRACT

In pursuit of every individual's access to education regardless of one's status in life, the Philippines established special education (SPED) centers to cater to children with special needs. Children with autism are the expected beneficiaries of these centers. This research assessed the impact of parental involvement on the communication skills of children with autism at a SPED center in Cebu City, Cebu, Philippines. Their teachers, regarding their communication skills, assessed 30 children with autism. At the same time, parents were asked to rate their extent of involvement in their child's school activities using survey questionnaires. Different statistical tools were used to treat the data gathered, such as the weighted mean, standard deviation, and Pearson product moment correlation coefficient. Results revealed that parents were involved in the school activities of their children. However, the children had a moderate manifestation of communication skills. It was found that there is a moderate positive significant relationship between the parents' involvement and the communication skills of the children. Thus, teachers are encouraged to design programs for the children that would involve the parents in enhancing the communication skills of children with autism.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Janine Joy L. Tenerife
College of Education, Cebu Technological University-Main Campus
Cebu City, 6000 Cebu, Philippines
Email: janinejoy.tenerife@ctu.edu.ph

1. INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental disorder manifested by the prevalent impairments of an individual in terms of social interaction and communication and repetitive disruptive behaviors, interests, and activities [1]. The prevalence of this disorder in the United States is one in 68 children diagnosed to have this disorder [2]. Similarly, according to autism speaks foundation in Manila, one in every one million Filipinos in the Philippines is diagnosed with ASD [3]. However, the disorder's severity and behavior manifestation vary among these individuals [4]. Thus, the services and supports provided to these children to develop adaptive behavior are specific in addressing their social and communication deficiencies and disruptive behavior like hyperactivity or inattention [5], [6].

The support these children receive should start from the family, particularly from the child's parents. Though parenting children with ASD is complex and challenging, parents' involvement is significant in helping the child develop the essential skills that are deficient for the child to adapt to society. As the child grows up, the parents are the first to observe these deficiencies of the child until the diagnosis on the appropriate intervention that should be provided to the child. Thus, there should be active participation from the parents and even family members to ensure that whatever skills are learned by the child with ASD are

effectively used at home and in other settings [7]. The child's training with ASD starts at home right after the diagnosis is made. Hence, the family members are also significant in helping the child with autism cope with his difficulties. Parents are expected to implement the programs that will develop the child's skills with ASD, whether in the child's daily living skills or in communicating with the other family members [8], [9].

A child with ASD often manifests undesirable behavior, like tantrums, to catch people's attention. This behavior results from the child's communication difficulty [10]. In most cases, parents are unaware of why the child reacts this way. With proper training and intervention on the child, which focuses on developing communication skills, this occurrence can be minimized or avoided in the future [11]. The child's success in learning new skills and minimizing disruptive behaviors depends on the extent of the parent's involvement in providing intervention on the child's skills [12], [13]. This is because when parents are involved in creating and implementing the program, the program can provide learning to the child relevant to the program designed to be executed to address the child's deficiencies while the child is immersed in society. Moreover, the intervention program must be consistent in school and at home so that there will be a higher chance that the skills will be developed faster. Parents' involvement in providing intervention to the child with ASD is necessary, especially when enrolled in school [14]. Parental involvement in the child's learning activities at home and school significantly influences the child's learning and development at all ages. Parents' participation positively contributes to the child's development and progress in the early intervention program [15].

Cebu City in the Philippines has special education (SPED) centers established by the Department of Education (DepEd), which aims to provide high-quality services and support to children with special needs [16]. Autism is one of the disorders that are catered to by these centers. Instructions in these centers are well-monitored by the SPED supervisors to ensure that the children's optimum level of education is provided. However, this program will not be successful if there is no or less support from the parents. Parents should reinforce intervention programs provided in school at home. More importantly, interventions provided should be consistent in school and at home [17]. Since these children are already in school, they must develop their communication skills sufficiently to avoid conflicts among other learners in school.

A lot has been studied on parental involvement in children with autism. However, there is limited literature that will discuss how parental involvement can enhance the communication skills of children with autism. It has been established that communication skills are one of the deficiencies in children with autism [18], [19]. These skills are very significant in developing adaptive skills in children, like the social skills they can use to adapt to society without being misunderstood by others. Hence, this literature will provide a framework that will help examine the relationship between parental involvement and the communication skills of children with autism. This work intends to provide information on what kind of relationship these variables exist to give insights to professionals and parents in their efforts to help improve the communication skills of children with autism. In such a way, the disruptive behavior of these children will be avoided because of their ability to communicate what they think and feel.

Moreover, after how many years of SPED centers in the Philippines were established, no research was conducted that assessed the role of parents in enhancing the communication skills of children with autism when these children are enrolled in school. With these, the researchers felt the need to assess the involvement of parents in their child's school activities and the communication skills of the children with ASD. The findings of this study can serve as literature that could help realize the goal of the DepEd to educate all learners regardless of their status in life.

Furthermore, this study explores the impact of parental involvement on the communication skills of children with autism in a SPED center in Cebu City, Cebu, Philippines. Specifically, it sought to answer the following questions: i) What is the extent of parents' involvement in the school activities of children with autism?; ii) What is level of manifestation of communication skills of children with autism?; and iii) Is there a significant relationship between the parents' involvement and the communication skills of children with autism?

2. RESEARCH METHOD

2.1. Research design

This study utilized a descriptive correlational research design to determine the relationship between the parents' involvement in their children's educational activities and the children's communication skills. A correlational research design is non-experimental research that measures two variables. It assesses their relationship with little or no intention of controlling the extraneous variables [20]. Parent respondents were identified using the complete enumeration of children with autism in the research environment due to their small population. SPED center was used as the environment of the study, which caters to 30 children with autism, 16 children with attention deficit hyperactivity disorder, 15 with intellectual disability, and three with

cerebral palsy. They are aged from 5 to 15 years old. These children are separated into groups according to their functional level and work with each group for one to two hours blocks throughout the day. Since the teachers have no aides, they ask parents to accompany their children. After regular assessment of the children, some will be recommended to be mainstreamed in regular classes when the child is ready.

2.2. Participants

The study's respondents were 30 parents and four teachers of children with autism who were enrolled in the SPED center. They were oriented by the researchers on the purpose and procedures in gathering the vital information they were asked to provide. Informed consent was secured before the respondents were asked to participate in the study. Furthermore, they were informed of their right to withdraw anytime when they were no longer comfortable with the data gathering process.

2.3. Data collection tools

The 30 children with autism served as the subjects whose communication skills were assessed by their SPED teacher using the modified scale of communication skills assessment instrument of Vineland Adaptive Behavior Scales (VABS) [21], which consists of 15 items. VABS is a standardized instrument that measures the adaptive behavior of people, such as communication, daily living, social, and motor skills. This instrument contains questions describing the communication skills of children with autism, which are rated by the teachers using a five-point Likert scale: 5=highly manifested, 4=manifested, 3=moderately manifested, 2=less manifested, and 1=not manifested. This instrument assesses children's essential communication skills, such as: says his own first name or nickname, says his age when asked, identifies one or more alphabet letters, and follows instructions in one and two steps. It was pilot tested to 10 teachers teaching children with autism in a SPED center in Cebu District to ensure the instrument's reliability, which achieved a Cronbach's alpha of 0.985.

Moreover, the parents also assessed their involvement in the educational activities of their child using the modified questionnaire from [22] which has 10 statements. The parents rated these statements by describing the extent to which they are involved in the development of the communication skills of their child using a five-point Likert scale, namely: 5=highly involved, 4=involved, 3=moderately involved, 2=less involved, and 1=not involved. The statements of the instrument were modified to fit the context of the parents' involvement in the school. Hence, the instrument was pilot tested on ten parents of children with autism in the Cebu District, with a Cronbach's alpha of 0.955. The two instruments achieved high reliability, which are greater than 0.70 thresholds [23]. A Cronbach's alpha is used to assess the internal consistency of the statements measuring a construct [24].

2.4. Data collection process

There were two sets of questionnaires that were provided to the respondents. The teachers used the communication skills assessment instrument to assess the children of the parent-respondents. The teachers assessed the communication skills of the children with autism based on their manifestation of the skills during assessment and their interaction with the other learners. On the other hand, the parents assessed their involvement based on their participation in the school activities of their child. The respondents were given enough time to answer the questionnaire. A 100% retrieval of the questionnaires was attained. The data gathered were handled by the researchers with the utmost confidentiality and appropriately stored.

2.5. Data analysis

Descriptive and inferential statistics were utilized to process the data gathered according to the objectives of the study. Weighted mean was used to determine the extent of parents' involvement and level of communication skills of the children with autism. On the other hand, the Pearson product moment correlation coefficient (PPMC) was used to describe the degree and test the relationship between the parents' involvement and communication skills of children with autism. PPMC describes the strength and the direction of the relationship between two variables [25]. The study is anchored on the following null hypothesis: There is no significant relationship between the parents' involvement and the communication skills of children with autism.

3. RESULTS AND DISCUSSION

This section presents the data on the extent of parents' involvement in the children's school activities and the level of their communication skills. Further, the test of the relationship of these variables is also presented. Table 1 presents the extent of parents' involvement. Among the ten statements that describe the extent of parental involvement, it is in offering help to their child's responsibilities in school that parents take a more significant part. Aside from that, parents also seek advice from their child's teacher on topics

related to their child. These imply that parents establish a good relationship with the teachers in helping their children. It is a good decision for parents to ask for advice from the teacher regarding their child because teachers are more knowledgeable, especially in providing intervention to the child. However, parents need to improve their involvement, such as asking for help from teachers on how to teach new communication skills to their children. Children with autism usually have difficulties communicating, which can cause child tantrums or other disruptive behavior.

Table 1. The extent of parents' involvement in the school activities of the children (n=30)

S/N	Indicators	Weighted mean	Standard deviation	Verbal description
1	I work with the teacher when planning my child's communication skills enhancement program.	3.90	1.062	Involved
2	I inform the teacher what goals I want to be included in my child's communication skills enhancement program.	3.93	0.980	Involved
3	I am an equal partner in the relationship I have with the teacher in developing my child's communication skills.	4.00	1.114	Involved
4	The teacher and I decide which goals are most important to work on with my child's communication skills.	3.90	0.995	Involved
5	I offer help in response to my child's responsibilities in school.	4.23	0.898	Highly involved
6	The teacher and I work together to teach my child new communication skills.	3.93	0.980	Involved
7	I teach my child how to communicate by asking for advice from the teacher.	3.90	1.094	Involved
8	Working with my child's teacher has made me feel more capable of teaching my child to communicate well.	3.87	1.074	Involved
9	I feel comfortable asking for advice and sharing ideas with my child's teacher.	4.03	0.999	Involved
10	I spend time asking for help from the teacher on how to teach new communication skills to my child	3.83	1.020	Involved
	Overall weighted mean	3.95		Involved
	Overall standard deviation		1.022	

Note: 4.21-5.00-highly involved; 3.41-4.20-involved; 2.61-3.40-moderately involved; 1.81-2.60-less involved; 1.00-1.80-not involved

On the other hand, parents should feel free to have collaboration with parents in helping the child develop communication skills so that whatever intervention is provided in school will be reinforced at home. The overall weighted mean of 3.95 with a standard deviation of 1.022 implies that those parents are involved in their child's school activities. Nevertheless, this involvement of parents needs to be improved so that maximum development of the child can be achieved with their partnership with the child's teacher.

Table 2 shows that the children had manifested the ability to identify one or more letters of the alphabet and say their first or nickname with weighted means of 4.13 and 4.07 with standard deviations of 1.408 and 1.530, respectively. The rest of the skills were manifested by the children moderately. However, there were three skills that the children less manifested, namely the ability to read sentences with three or more words out loud, understanding sarcastic words, and remembering things an hour later with weighted means from 2.27 to 2.50 with standard deviations from 1.202 to 1.479. Generally, the children manifested moderately the identified communication skills presented in the table with an overall weighted mean of 3.18 and a standard deviation of 1.462. The results suggested that the involvement of parents in developing their child's communication skills needs to be improved because the children's moderate level of manifestation of the skills imply that there are other things that parents need to do to enhance such skills like parents and teachers decide on the child's needs and appropriate exposure to authentic education that address these needs [26], [27].

Moreover, parents need to be oriented of their role in developing their child's communication skills and understand their child's characteristics to address the deficiencies appropriately [11]. The person with autism spectrum disorders usually shows being awkward in how they interact with their peers. They respond to other people with inappropriate body gestures and facial expressions and lack interest. They have a hard time understanding others' feelings and emotions and expressing their thoughts and feelings. To improve the level of communications skills of the learner, teachers use many different approaches and strategies to help and facilitate their communication skills and learning. Since every child is different and because of the broad spectrum, teachers' approaches to developing the child's communication skills are both group and individualized. Most learners are visual; their visual skills are more robust than their communication skills.

Table 2. Level of manifestation of communication skills of the children (n=30)

S/N	Indicators	Weighted mean	Standard deviation	Verbal description
1	Says his own first name or nickname	4.07	1.530	Manifested
2	Names at least three actions	3.43	1.524	Manifested
3	Says his age when asked	3.23	1.478	Moderately manifested
4	Responds to questions that use the word "who"	3.03	1.450	Moderately manifested
5	Identifies one or more alphabet letters	4.13	1.408	Manifested
6	Understands at least three more advanced gestures	3.27	1.202	Moderately manifested
7	Follows instructions with two related actions	3.20	1.448	Moderately manifested
8	Responds to questions that use the word "why"	2.63	1.351	Moderately manifested
9	Follows instructions in one and two steps	3.03	1.402	Moderately manifested
10	Copies his first name correctly	3.80	1.808	Moderately manifested
11	Follows instructions involving right and left	3.10	1.517	Manifested
12	Writes both his first and last name in memory	3.57	1.832	Moderately manifested
13	Reads sentences of three or more words out loud	2.47	1.479	Manifested
14	Understands sarcastic words	2,272.27	1.202	Less manifested
15	Remembers to do something up to an hour later	2.50	1.306	Less manifested
	Overall weighted mean	3.18		Moderately manifested
	Overall standard deviation		1.462	

Legend: 4.21-5.00=highly manifested; 3.41-4.20=manifested; 2.61-3.40=moderately manifested; 1.81-2.60=less manifested; 1.00-1.80=not manifested

Table 3 presents the test on the significance between parents' involvement and the communication skills of the children. As reflected in the table, the computed statistic ($r=0.559$, $p=0.001$) suggests a moderate positive correlation between the parents' involvement and the communication skills of the children, and the p-value is less than the significance level of 0.01 ($p<0.01$), which means that the null hypothesis is rejected. The results suggest a significant relationship between parental involvement and the learners' communication skills. This implies that parental involvement in their child's school activities helps develop their child's communication skills. Similarly, the study of El Nokali, Bachman, and Votruba-Drzal [28] found that parental participation in school supports the development of communication skills in children with autism within different learning environments. Moreover, Naidoo and Govender [29] found that parental involvement predicts the decline of children's problem behaviors.

With these findings, the role of parents cannot be discounted because it benefits the child's communication skills. The more support parents provide to their child's school activities, the better progress can be observed in their child. The concept of parental involvement in schools does not limit parents from attending meetings in school. The support parents provide to their children is associated with their children's schoolwork [30]. Parents' expectations of their children significantly impact their child's achievement in school. That is why there is a need to establish a partnership between the school and home to provide open communication between parents and teachers. The support that parents can provide can be their strong partnership with the teachers in the form of asking for advice and sharing ideas and assisting their child in all school-related tasks [31].

Table 3. Relationship between parental involvement and communication skills of the children

Variables	R-value	Strength of correlation	p-value	Decision	Remarks
Parents' involvement and communication skills of the learners	0.559**	Moderate positive	0.001	Reject Ho	Significant

**significant at $p<0.01$ (two-tailed)

Santiago *et al.* [26] suggested two ways to establish an excellent parent-teacher relationship. First, parents and teachers can discuss the interests and needs of the child and their family and agree on how to address their needs concerning the child to enhance the overall satisfaction of the family with the services. Second, at an early age, the child must be exposed to an authentic education to the child's needs. Further, it is recommended that the persons involved in the child's education reach out to the family to establish trust and confidence between the family and the school, which will be the basis for academic and behavioral support for the child to influence parents' involvement. Moreover, parents' support of the child has been associated with these positive outcomes, especially when parents reinforce interventions provided in school at home [32], [33]. On the contrary, if parents have less involvement with the child, the poorer will progress in the child's skills. Parents' lack of involvement will result in their inability to support their child's needs and the child's inability to generalize their skills across the environment [15], [34], [35].

4. CONCLUSION

This study examined the parent's involvement in enhancing the communication skills of children with autism. With the results of the data gathered, it can be concluded that parents are involved in their child's school activities, such as serving as the teacher's partner in developing the child's communication skills. However, the children have only moderate manifestations of communication skills. Although the parents' involvement helped in developing the children with autism's communication skills, results suggest that their involvement is not enough. The parents' partnership with the teachers needs to be focused on identifying their child's specific needs, including sharing ideas and asking for advice from the teachers, like how to teach their child's communication skills. When parents partner with their children's teacher in school, they can easily communicate with the teachers on what activities their child is engaged in so that these can be reinforced at home. Thus, parents can identify appropriate strategies for exposing their children to consistent activities in school and at home to address their needs relevant to their communication difficulties. A harmonious parent-teacher relationship and collaboration in providing activities and assisting their child in improving their communication skills will benefit the child's communication skills development.




REFERENCES

- [1] V. Del Barrio, *Diagnostic and statistical manual of mental disorders*. American Psychiatric Association, 2016.
- [2] Developmental Disabilities Monitoring Network Surveillance Year 2010 Principal Investigators; Centers for Disease Control and Prevention (CDC), "Prevalence of autism spectrum disorder among children aged 8 years-Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2010," *MMWR Surveillance Summaries*, vol. 63, no. 2, pp. 1–24, 2014, [Online]. Available: <https://pubmed.ncbi.nlm.nih.gov/24670961>.
- [3] A. V. S. Buescher, Z. Cidav, M. Knapp, and D. S. Mandell, "Costs of autism spectrum disorders in the United Kingdom and the United States," *JAMA Pediatrics*, vol. 168, no. 8, pp. 721–728, 2014, doi: 10.1001/jamapediatrics.2014.210.
- [4] C. L. Chang, F. W. Lung, C. F. Yen, and P. Yang, "Adaptive behaviors in high-functioning Taiwanese children with autism spectrum disorders: An investigation of the mediating roles of symptom severity and cognitive ability," *Journal of Autism and Developmental Disorders*, vol. 43, no. 6, pp. 1347–1355, 2013, doi: 10.1007/s10803-012-1684-8.
- [5] M. J. Konst, J. L. Matson, R. Goldin, and R. Rieske, "How does ASD symptomology correlate with ADHD presentations?" *Research in Developmental Disabilities*, vol. 35, no. 9, pp. 2252–2259, Sep. 2014, doi: 10.1016/j.ridd.2014.05.017.
- [6] C. Kingston, C. Hibberd, and A. Ozsivadjian, "Parent experiences of a specialist intervention service for mental health difficulties in children with autistic spectrum disorder," *Child and Adolescent Mental Health*, vol. 18, no. 2, pp. 109–115, 2013, doi: 10.1111/j.1475-3588.2012.00667.x.
- [7] S. A. Garbacz, L. L. McIntyre, and R. T. Santiago, "Family involvement and parent-teacher relationships for students with autism spectrum disorders," *School Psychology Quarterly*, vol. 31, no. 4, pp. 478–490, 2016, doi: 10.1037/spq0000157.
- [8] J. A. Crowell, J. Keluskar, and A. Gorecki, "Parenting behavior and the development of children with autism spectrum disorder," *Comprehensive Psychiatry*, vol. 90, pp. 21–29, 2019, doi: 10.1016/j.comppsy.2018.11.007.
- [9] J. L. Gibson, E. Pritchard, and C. de Lemos, "Play-based interventions to support social and communication development in autistic children aged 2–8 years: A scoping review," *Autism and Developmental Language Impairments*, vol. 6, 2021, doi: 10.1177/23969415211015840.
- [10] V. M. Durand and E. Merges, "Functional communication training: A contemporary behavior analytic intervention for problem behaviors," *Focus on Autism and Other Developmental Disabilities*, vol. 16, no. 2, pp. 110–119, 2001, doi: 10.1177/108835760101600207.
- [11] T. L. Baker, J. Wise, G. Kelley, and R. J. Skiba, "Identifying Barriers: Creating solutions to improve family engagement," *School Community Journal*, vol. 26, no. 2, pp. 161–184, 2016.
- [12] M. T. Bartolome, N. Mamat, and A. H. Masnan, "Parental involvement in the Philippines: A review of literatures," *Southeast Asia Early Childhood Journal*, vol. 6, pp. 41–50, 2017, doi: 10.37134/saecj.vol6.5.2017.
- [13] M. Marti, E. C. Merz, K. R. Repka, C. Landers, K. G. Noble, and H. Duch, "Parent involvement in the Getting Ready for School intervention is associated with changes in school readiness skills," *Frontiers in Psychology*, vol. 9, May 2018, doi: 10.3389/fpsyg.2018.00759.
- [14] S. Bariroh, "The influence of parents' involvement on children with special needs' motivation and learning achievement," *International Education Studies*, vol. 11, no. 4, p. 96, 2018, doi: 10.5539/ies.v11n4p96.
- [15] M. Prinsloo and M. Reid, "Experiences of parents regarding a school-readiness intervention for pre-school children facilitated by Community Health Nursing students," *International Journal of Africa Nursing Sciences*, vol. 3, pp. 94–101, 2015, doi: 10.1016/j.ijans.2015.09.003.
- [16] J. J. L. Tenerife, E. Peteros, I. D. Zaragoza, J. V. De Vera, L. C. Pinili, and M. D. Fulgencio, "Teachers' perceptions on their competence and the benefits of inclusive education," *Cypriot Journal of Educational Sciences*, vol. 17, no. 8, pp. 2605–2621, 2022, doi: 10.18844/cjes.v17i8.7784.
- [17] E. Garira, "Needs assessment for the development of educational interventions to improve quality of education: A case of Zimbabwean primary schools," *Social Sciences & Humanities Open*, vol. 2, no. 1, p. 100020, 2020, doi: 10.1016/j.ssho.2020.100020.
- [18] P. Meharwade, H. Nookala, S. Kajjari, P. Malavalli, S. M. Hugar, and C. Uppin, "Bridging the communication gap in autistic children, one picture at a time," *Journal of Oral Biology and Craniofacial Research*, vol. 11, no. 4, pp. 507–510, 2021, doi: 10.1016/j.jobcr.2021.07.005.
- [19] V. Vellonen, E. Kärnä, and M. Virnes, "Communication of children with autism in a technology-enhanced learning environment," *Procedia - Social and Behavioral Sciences*, vol. 69, pp. 1208–1217, 2012, doi: 10.1016/j.sbspro.2012.12.053.
- [20] R. S. Jhangiani, I. A. Chiang, and P. C. Price, *Research methods in psychology*, 2nd Canadian edition. Victoria: BCcampus, 2015.
- [21] S. S. Sparrow, *Vineland adaptive behavior scales*, 3rd edition. San Antonio, TX: Pearson, 2016.
- [22] S. van Delft, "Relationships between parental self-efficacy, parent training instructional practices and models of parent-professional interaction," M. A. Thesis, University of British Columbia (Vancouver), 2012.




- [23] K. S. Taber, "The use of Cronbach's alpha when developing and reporting research instruments in science education," *Research in Science Education*, vol. 48, no. 6, pp. 1273–1296, 2018, doi: 10.1007/s11165-016-9602-2.
- [24] M. Tavakol and R. Dennick, "Making sense of Cronbach's alpha," *International Journal of Medical Education*, vol. 2, pp. 53–55, Jun. 2011, doi: 10.5116/ijme.4dfb.8dfd.
- [25] P. Schober and L. A. Schwarte, "Correlation coefficients: Appropriate use and interpretation," *Anesthesia and Analgesia*, vol. 126, no. 5, pp. 1763–1768, 2018, doi: 10.1213/ANE.0000000000002864.
- [26] R. T. Santiago, S. A. Garbacz, T. Beattie, and C. L. Moore, "Parent-teacher relationships in elementary school: an examination of parent-teacher trust," *Psychology in the Schools*, vol. 53, no. 10, pp. 1003–1017, 2016, doi: 10.1002/pits.21971.
- [27] A. C. K. Chua, "A triple-E framework on parental involvement of children with autism spectrum disorder in early intervention," *International Journal of Multidisciplinary Research and Development*, vol. 2, no. 9, pp. 579–586, 2015, [Online]. Available: <http://www.allsubjectjournal.com/archives/2015/vol2/issue9/119>.
- [28] N. E. El Nokali, H. J. Bachman, and E. Votruba-Drzal, "Parent involvement and children's academic and social development in elementary school," *Child Development*, vol. 81, no. 3, pp. 988–1005, 2010, doi: 10.1111/j.1467-8624.2010.01447.x.
- [29] M. K. Naidoo and S. Govender, "Parental participation in supporting the development of communication skills in autistic children," *International Journal of Early Childhood Special Education*, vol. 14, no. 1, pp. 791–801, 2022, doi: 10.9756/int-jecse/v14i1.221093.
- [30] K. J. Caño, "Parental involvement on pupils' performance: Epstein's framework," *The Online Journal of New Horizons in Education (TOJNED)*, vol. 6, no. 4, pp. 143–150, 2016, [Online]. Available: <https://www.tojned.net/journals/tojned/articles/v06i04/v06i04-16.pdf>.
- [31] M. Đurišić and M. Bunijevac, "Parental involvement as a important factor for successful education," *Center for Educational Policy Studies Journal*, vol. 7, no. 3, pp. 137–153, 2017, doi: 10.26529/cepsj.291.
- [32] S. M. Sheridan, J. H. Ryoo, S. A. Garbacz, G. M. Kunz, and F. L. Chumney, "The efficacy of conjoint behavioral consultation on parents and children in the home setting: Results of a randomized controlled trial," *Journal of School Psychology*, vol. 51, no. 6, pp. 717–733, 2013, doi: 10.1016/j.jsp.2013.09.003.
- [33] J. J. L. Tenerife, E. D. Peteros, J. D. Englatera, J. V. de Vera, L. C. Pinili, and M. D. Fulgencio, "Exploring predictors of adaptive behaviour of children with autism," *Cypriot Journal of Educational Sciences*, vol. 17, no. 3, pp. 772–786, 2022, doi: 10.18844/cjes.v17i3.6906.
- [34] A. S. Garcia and M. R. T. de Guzman, "The meanings and ways of parental involvement among low-income Filipinos," *Early Childhood Research Quarterly*, vol. 53, pp. 343–354, 2020, doi: 10.1016/j.ecresq.2020.05.013.
- [35] L. Lara and M. Saracostti, "Effect of parental involvement on children's academic achievement in Chile," *Frontiers in Psychology*, vol. 10, Jun. 2019, doi: 10.3389/fpsyg.2019.01464.

BIOGRAPHIES OF AUTHORS






Janine Joy L. Tenerife    is an Associate Professor of the College of Education at Cebu Technological University, Cebu City, Philippines. She teaches undergraduate, master's, and doctorate students who major in Special Education. She has mentored undergraduate and postgraduate students in research writing which specialized in special education. She was one of the presenters at the international conference on special education. She joined training and workshops related to special education like IEP preparation and process for special education, formative assessment for preschool and SpEd, Transition curriculum in SpEd, SpEd identification and intervention in the inclusive setting, and other relevant SpEd topics. She has co-authored research publications in different fields of education such as special education and social sciences. She can be contacted at email: janinejoy.tenerife@ctu.edu.ph.






Emerson D. Peteros    received his doctorate degree in education from Cebu Technological University, Cebu City, Philippines. He is currently an Associate Professor of the College of Education at Cebu Technological University where he teaches math related subjects. Moreover, he teaches statistics and research for the post graduate studies in the same university. He has mentored undergraduate and post graduate students in research writing. He has co-authored research publication in different fields of education such as mathematics, early childhood, and special education. He can be contacted at: emerson.peteros@ctu.edu.ph.






Joseph L. Bunghanoy    a licensed physiotherapist and professional teacher in Secondary Education major in Biological Sciences, and a long-time advocate for people with disabilities. He also obtained his Master of Arts in Education major in Special Education at Cebu Technological University Main Campus, Cebu City, Philippines. Currently, he is a practicing physiotherapist, physical therapy training officer, and clinical instructor at children and adults in a multitude of Play (CHAMP's) therapy center evaluating and implementing plan of care for patients, supervising, and providing training for physiotherapists and physical therapy interns from different university and colleges and teaches children and young adult with neurodevelopmental disabilities. Furthermore, he is also the program Director of delictus Dei training and development offering different program and services for children and young adults with disabilities and special needs for skills enhancement, empowerment, active participation, and productive living. He can be contacted at email: jlunghanoy@gmail.com.






Lilibeth C. Pinili    holds a bachelor's degree in Elementary Education major in Home Economics Livelihood Education and minor in Filipino. She also obtained master's in education major in Special Education and had earned units in Master of Arts in Vocational Education. She also obtained her doctorate degree in Development Education major in Special Education at Cebu Technological University where she teaches special education related subjects. Moreover, she is a chairman for online program in graduate teacher education in the same university. She has co-authored research publications in different fields of education such as special education, mathematics, guidance, and counseling. She can be contacted at email: lilibeth.pinili@ctu.edu.ph.



John V. de Vera    holds a bachelor's degree in Computer Science from University of San Jose-Recoletos, Cebu City, Philippines. He obtained a certificate in professional education from Cebu Normal University, Cebu City, Philippines and is a licensed professional teacher. He also obtained his master's in education major in Teaching Mathematics and his doctorate degree in Development Education from Cebu Technological University Main campus, Cebu City, Philippines. He is an instructor at Cebu Technological University Naga extension campus where he teaches mathematics subjects. Furthermore, he teaches statistics and professional education subjects for undergraduate and postgraduate studies in the same university. He has co-authored research publications in different fields of education such as mathematics, early childhood, and special education. He can be contacted at email: john.devera@ctu.edu.ph.



Margie D. Fulgencio    holds a bachelor's degree in Business Management and Music Education as well as a Diploma in Early Childhood Education. She also obtained her master's in education major in Early Childhood Education and her doctorate degree in Development Education at Cebu Technological University Main Campus, Cebu City, Philippines. At present, she is an Instructor of Cebu Technological University Main Campus where she teaches early childhood education subjects. Moreover, she teaches for the post graduate studies in the same university. She has mentored undergraduate students in research writing. She has co-authored research publications in different fields of education such as mathematics, early childhood, and special education. She can be contacted at email: margie.fulgencio@ctu.edu.ph.