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Research Article

Efficacy for inclusion and intervention practices of teachers of children with autism in the Philippines

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Efficacy as a concept in education has been extensively explored in research. However, efficacy for inclusion as related to intervention practices addressing the behavior, social, and communication problems of children with autism has not been given due attention. Thus, this study attempted to determine the relationship between efficacy for inclusion and intervention practices of teachers handling children with autism. Following a correlation research design, 34 purposively sampled special education (SpEd) teachers in Region XII, Philippines served as the respondents of this study. The results showed that the teachers have a high level of efficacy for inclusion and often use intervention practices for children with autism. It provides evidence as regards the significant influence of efficacy for inclusion on the intervention practices of teachers in handling children with autism. It is recommended that teachers should be afforded vicarious experiences that enhance their efficacy to a higher level so that they will use intervention practices to a great extent.

Keywords: Efficacy for inclusion, Intervention practices, Autism, Special education, Philippines

1. Introduction

Different scientific and legislative changes in many countries (e.g., Bateman & Cline, 2016) brought about the founding of the educational field called SpEd with respect to the need to develop relevant, appropriate, and responsive programs for children with special needs. Research into the etiology of disabilities has gained momentum and expertise in its treatment in the context of education has expanded all over the world. Specifically, in education, it can be favorably observed that the institutionalization of a SpEd program in schools of many countries has been continuously being given priority.

Rotas and Cahapay (2021) and Cahapay (2020a; 2020b) recently called for the inclusion of persons with disabilities in the decision spaces regarding the development of social programs and services in the Philippines. Tracing the root of this call in the country, the Republic Act 7277 also known as Magna Carta for Disabled Persons in the Philippines provides a strong impetus to improve the educational services for children with special needs. It mandates to take into consideration the special requirements for persons with disabilities in the formulation of educational policies and programs and encourage learning institutions to consider the special needs of disabled persons.

Specifically, Formoso (2019) reiterated the provision of the Department of Education (DepEd) Order 26, series of 1997 which afforded for the institutionalization of special education in the country. Two of the stated goals of DepEd are to establish more special education resource centers scattered geographically in the regions of the country and to strengthen programs to address children with special needs. Based on the 2010 Census of Population and Housing, out of the household population of 92.1 million, 1.443 million Filipinos, or 1.57%, have a disability. A small percentage are provided with appropriate educational

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services, but most are not catered. One of these special needs that is prevalent yet unserved is autism.

Autism was first described by Austrian child psychiatrist Kanner (1943) cited by Cohmer (2014) to those children who display an inability to relate to others, obsessive desire for sameness, insistence upon repetitive activities, and poor language development. The National Autistic Society (2021) more recently defined autism as a lifelong developmental disability that affects how an individual perceives the world and in other different ways. Although numerous claims link it to genetic and environmental causes (Chaste & Leboyer, 2012), it is still of an unknown origin and an unknown cure.

There is considerable agreement over diagnostic criteria for autism although there is less agreement over how broad the categories should be defined. However, most researches underpin a triad impairment that all children with autism commonly exhibit. The medical handbook defining mental disorders written by the American Psychiatric Association (2013) identifies compromising areas for autism. To meet diagnostic criteria for autism, a child must accordingly have persistent deficits in each of three areas of social, communication, and interaction plus at least two of four types of restricted and repetitive behaviors (Centers for Disease Control & Prevention, 2020).

In the light of such fact, Dodd (2005) stressed that the focus of most current intervention practices should revolve around the distinctive characteristics that compose the triad of impairments linked to autism. Because of the daunting task that teachers who handle children with autism need to perform, the aspects that have a potent influence on their intervention practices should also be considered. One of these aspects includes the concept called efficacy for inclusion also known as efficacy for inclusive education (You et al., 2019). It refers to the beliefs of people about their capability to attain success, which in this case is the inclusion of children with autism.

Teaching efficacy and instructional practice are the main issues for educational research (Galloway et al., 2020). A review of works in this area points out that teachers who possess a high level of self-efficacy have better practices in the different teaching facets (Achurra & Villardon, 2012; David, 2009; Myhill, & Wilson, 2013; Klassen & Tze, 2014; Zakharov et al., 2016; Poulou et al., 2019; Xiong, et al., 2020; Khanshan & Yousefi, 2020). Within the field of special education, studies conducted (Knight et al., 2019) focused on efficacy and the instructional practices of teachers and other variables, but not specifically on efficacy for inclusion and intervention practices addressing the behavior, social, and communication problems of children with autism. Besides, in the context of the Philippines, no study has been found to explore these current variables.

This study will theoretically and practically be significant in understanding how the perceived competence of teachers in inclusive education influences their practices specifically to address the needs of children with autism. Thus, this study attempted to explore the relationship between efficacy for inclusion and intervention practices of teachers handling children with autism.

2. Method

2.1. Research Design

The purpose of this study was to explore the relationship between two variables of efficacy for inclusion and intervention practices. It entailed a correlation research design. A correlation research design describes the extent of a link or relationship between two or more variables (Creswell, 2012). Given the purpose of this study, this design is deemed appropriate.

2.2. Respondents

The respondents of this study were determined through purposive sampling, defined as a technique in which the sample is drawn based on a certain set of criteria (Suen et al., 2014). The main criterion used to select the respondents was their qualification as SpEd teachers handling children with autism. Out of the population of teachers in the identified public schools with a special education program in Region XII, Philippines, only the subset of teachers who handle children with autism were specifically chosen. There was a total of 34 SpEd teachers who served as respondents in this study. They were chosen regardless of age, sex, marital status, and teaching rank.

2.3. Instrument

The first questionnaire was adapted from an instrument designed by Walls (2007) to measure the perceived competence of teachers in the inclusion of children with autism. The second questionnaire was tailored by the researcher to assess the extent of the use of intervention practices of teachers in handling children with autism. It was developed by the researcher based on existing theoretical models about intervention practices employed for the treatment of children with autism. The item pools were evaluated by four selected

specialists in special education, child psychology, and occupational therapy.

2.4. Statistical Tools

The efficacy for inclusion and the intervention practices of the teachers were treated using descriptive statistics such as frequency count and weighted mean. On the other hand, the extent of relationships between the two variables was determined using the Pearson Product Moment Coefficient of Correlation. All tests were done at .05 level of statistical significance.

3. Results and Discussion

3.1. Efficacy for the Inclusion of Children with Autism

This study initially attempted to measure teachers' efficacy for the inclusion of children with autism in the general education class. Efficacy for inclusion is measured based on three indicators namely disability awareness, teaching confidence, and instructional accommodation. Table 1 shows the results for teachers' efficacy for inclusion.

Table 1
Efficacy for inclusion

Indicators	*Mean*	*Description*
Disability Awareness		
1. I understand autism and its manifestations as a disability.	4.32	Highly confident
2. I understand the exceptional needs of a child with autism.	4.32	Highly confident
3. I understand the difficulties a child with autism encounters.	4.29	Highly confident
4. I know how autism can impact a child's social relationship.	4.26	Highly confident
5. I know how autism can impact a child's language development.	4.24	Highly confident
6. I know how autism can impact a child's cognitive skills	4.26	Highly confident
7. I know how autism can impact a child's psychomotor skills	4.21	Highly confident
8. I know how autism can impact a child's self-help skills	4.32	Highly confident
Mean	4.28	Highly confident
Teaching Confidence		
1. I know the most effective teaching strategies for the child with autism	3.53	Highly confident
2. I know effective strategies to work with families of child with autism.	3.53	Highly confident
3. I can modify instructional practices to meet the special needs.	3.82	Highly confident
4. I know how to break learning tasks down into subcomponents.	3.88	Highly confident
5. I understand what learning tasks are for child with autism.	3.85	Highly confident
6. I can make an individualized educational plan based on assessment.	3.59	Highly confident
7. I understand the information in the individualized educational plan.	3.76	Highly confident
8. I can develop learning tasks based on plan objectives.	3.76	Highly confident
Mean	3.72	Highly confident
Instructional Strategies		
1. I can make an appropriate environment to meet the needs of a child.	3.91	Highly confident
2. I can select a curriculum appropriate for a child with autism.	3.74	Highly confident
3. I can modify classroom assignments for a child with autism.	3.82	Highly confident
4. I can collect data to accurately reflect the performance of a child.	3.91	Highly confident
Mean	3.84	Highly confident

Note. Legend: 4.50-5.00 Very Highly Confident; 3.50-4.49; Highly Confident; 2.50-3.49 Moderately Confident; 1.50-2.49 Less Confident; 1.00-1.49 Not Confident

As rated by the teachers, they are highly confident that they understand the nature of autism. Specifically, the teachers know the manifestations of autism; understand the needs of children with autism; know the impact of autism on self-help skills; and understand the difficulties of autism. Moreover, the teachers know the various impacts of autism in the different aspects of the life of a child which include social relationship; cognitive skills; language development; and psychomotor skills.

Concerning teaching confidence as an indicator of efficacy for inclusion, the teachers are highly confident. Specifically, the teachers know how to break learning tasks into subcomponents; know the appropriate learning tasks for children with autism; and can modify instructional practices to meet the needs of a child with autism. Furthermore, the teachers understand the information contained in the individualized educational plan; can develop learning tasks based on the individualized educational plan; can make a good

individualized educational plan based on the assessment; know the most effective teaching strategies for children with autism; and know how to deal with the families of children with autism.

Similarly, the teachers are also highly confident in their efficacy in employing instructional accommodation. Specifically, they can adjust the classroom environment to meet the needs of the child with autism; can collect accurate data which shows the performance; can modify classroom assignments; and can select appropriate curriculum.

As a whole, the results reveal that the teachers are highly confident of their efficacy for the inclusion of children with autism in their class particularly in disability awareness, teaching confidence, and instructional accommodation. The self-efficacy levels of teachers towards the inclusion of children with disabilities have been globally studied in different educational contexts. For example, Emmers et al. (2020) recently found out that the teachers in higher education possess an average level of teaching self-efficacy towards inclusive education of students with disabilities. In another context, Hussien & Al-Qaryouti (2015) found out that general education teachers have varying self-efficacy when domains are examined. The results suggested that the teachers had high levels of perceived self-efficacy in classroom management, moderate in collaboration and assessment, and low in special education.

3.2. Intervention practices for children with autism

This study also measured the extent to which teachers utilize intervention practices in teaching children with autism. These practices include behavior modifications, communication styles, and social skills training. Table 2 shows the result of the assessment of the teachers.

Table 2
Intervention practices

Indicators	*Mean*	*Description*
Behavior Modification		
1. I adjust classroom features that distract the senses of the child with autism.	4.29	Often
2. I use reinforcers such as rewards and privileges to increase good behaviors.	4.41	Often
3. I provide children with autism an opportunity to relax throughout the day.	4.12	Often
4. I use consistent routines; give warnings and exposures before changes.	3.94	Often
5. I ignore behaviors that are attention-seeking but are generally harmless.	3.82	Often
6. I subtly redirect behaviors that tend to be aggressive and injurious.	3.97	Often
7. I remove child from situations that reinforce undesired behaviors.	4.12	Often
8. I reduce repetitive behaviors by developing more appropriate behaviors.	4.00	Often
9. I break the rigid behaviors of children with autism like lining up toys.	3.71	Often
Mean	4.04	Often
Communication Strategies		
1. I use visual inputs like pictures and objects to aid comprehension of the child.	4.26	0ften
2. I use signs and gestures to augment oral communication of child.	4.24	Often
3. I use age-appropriate vocabulary to facilitate comprehension of the child.	4.50	Always
4. I use simple, clear, and concise language when instructing the child.	4.56	Always
5. I teach listening skills as turning head toward the speaker, making eye contact.	4.32	Often
6. I structure situations that encourage child with autism to express his needs.	4.15	Often
7. I anticipate the needs of the child and provide him correct words to say.	3.97	Often
8. I give the child ample time to process information before expecting to respond.	4.09	Often
9. I ask simple Wh questions to develop comprehension of the child with autism.	4.09	Often
10. I ask simple situational questions to increase the critical thinking of the child.	3.97	Often
11. I reinforce, extend, and praise attempts of the child with autism to converse.	4.29	Often
Mean	4.22	Often

Table 2 continued

Indicators	*Mean*	*Description*
Social Skills Training		
1. I include role-playing and video watching in class to build interaction skills.	3.68	Often
2. I encourage peer support to enjoin the participation of child with autism.	3.97	Often
3. I teach key social rules such as initiating, waiting, and finishing when feasible.	3.94	Often
4. I use social stories to teach appropriate responses to specific situations.	3.88	Often
5. I teach child with autism to observe others on what to do in actual situations.	4.03	Often
6. I help the child understand facial expressions and express appropriate emotions.	3.85	Often
7. I provide the child with opportunities to mingle with peers to practice interaction.	4.21	Often
8. I teach group play to enhance appreciation of victory and increase tolerance.	4.09	Often
9. I engage the child in different community places for social adaptability.	3.82	Often
10. I encourage spontaneous conversations of child to people around.	4.29	Often
Mean	3.97	Often

Note. Legend: 4.50-5.00 Always; 3.50-4.49 Often; 2.50-3.49 Sometimes; 1.50-2.49 Seldom; 1.00-1.49 Never

As evaluated by the teachers, they often employ behavior modifications for children with autism. Specifically, they use reinforcers like rewards; adjust the classroom environment to prevent behavior; provide relaxing activities; remove the child from situations that reinforce undesired behaviors; and reduce repetitive behaviors. Besides, teachers redirect aggressive and injurious behaviors; use consistent routines; ignore attention-seeking but harmless behaviors; and break rigid behaviors.

For communication styles, the teachers often use it. Among the parameters, the teachers use simple, clear, and concise language, and use age-appropriate vocabulary; both described as always. On the other hand, they teach simple listening skills; praise attempts to converse; use pictures and objects; use signs and gestures; structure situations; give enough time to process information; ask simple Wh questions; provide correct words to say; and ask simple situational questions; all described as often.

Finally, the teachers often use social skills training. Specifically, they encourage spontaneous conversations; mingling with peers,; group playing; and observing others follow what to do. Additionally, they encourage peer support of regular peers; teaching key social rules; use social stories; help child understand facial expressions; engage to different community places; and include role-playing and video watching.

Overall, the result shows that teachers often use intervention practices for children with autism such as behavior modification, communication styles, and social skills training. There has been no research, as far as this study is concerned, that measures the intervention practices to improve the triad impairments of children with autism. A more granular survey was conducted by Knight et al. (2019) revealed that instructional practices reported to be used daily by special educators were direct instruction, modeling, and physical structure or environmental arrangement. Alberta Learning (2003) highlighted the characteristics of children with autism in terms of behaviors, social, and communication. It suggested different teaching strategies corresponding to these areas. Thus, it is important that in the education of children with autism, these areas must be addressed by formulating appropriate intervention practices based on their unique needs.

3.3. Relationship between Efficacy for Inclusion and Intervention Practices

This study also examined whether teachers' efficacy for inclusion has a significant influence on their intervention practices for children with autism. To do this, Pearson r was used. Table 3 shows the results.

Table 1
Relationship between efficacy for inclusion and intervention practices

	Efficacy for Inclusion		
Intervention Practices	Disability Awareness	Teaching Confidence	Instructional Accommodation
Behavior Modification	r = .389*	r = .487*	r = .466*
Communication Styles	r = .256	r = .558*	r = .166
Social Skills Training	r = .487*	r = .504*	r = .412*

Note. *Correlation is significant at 0.05 level.

The results of the correlation reveal that three indicators of efficacy for inclusion have a significant relationship with the behavior modification used by the teachers. This includes disability awareness, $r(31) = .389$, $p = .023$; teaching confidence, $r(31) = .487$, $p = .004$; and instructional accommodation, $r(31) = .466$, $p = .005$. Their relationships are significant since their p values are less than the .05 level. This outcome implies that teachers tend to adopt behavior modifications as they understand the manifestations, needs, difficulties, and impacts of autism on the life of a child. The teachers also implement behavior modifications if they have self-assurance about their abilities to teach children with autism. Likewise, the teachers apply behavior modifications when they know how to modify teaching approaches to accommodate the special needs of children with autism.

Similar results were obtained for the relationships between efficacy for inclusion and social skills training provided by teachers to children with autism. The three indicators have significant relationships to social skills training such as disability awareness, $r(31) = .487$ $p = .003$; teaching confidence, $r(31) = .504$, $p = .002$; and instructional accommodation, $r(31) = .412$, $p = .016$; since their p values are less than the .05 level. This result signifies that teachers adopt more social skills practices for children with autism when they are convinced that they are aware of the complexity of autism when they are secured that they know how to handle children with autism, and when they are certain that they know how to adjust instructional strategies to accommodate the learning preferences of children with autism.

Lastly, the correlation also illustrates that teaching confidence has a significant relationship to communication styles used by teachers for children with autism, $r(31) = .558$ $p = .001$; because its p-value is lesser than the demarcated .05 level. It means that the teachers adopt varied practices in communicating to children with autism when they are self-assured that they are well informed on the most functional teaching strategies for children with autism.

The outcome that there is a significant relationship between teachers' efficacy for inclusion and intervention practices for autism is affirmed in similar past research of Brownell and Pajares (1999) which found out that teachers' efficacy for the inclusion of children with disability in the regular classroom has a direct effect on their use of teaching strategies in handling them. This result also alludes to another study conducted by Allinder (1994) who surmised that teachers' heightened efficacy to include students with special needs in general education classrooms has a direct influence on their effective use of teaching practices in handling these differently able children.

4. Conclusion

Based on the results, the following conclusions are drawn: 1.) the teachers are highly confident in their efficacy relative to disability awareness, teaching confidence, and instructional strategies for the inclusion of children with autism; 2.) they also often use intervention practices such as behavior modifications, communication styles, and social skills training in handling children with autism; and 3.) the efficacy for inclusion of the teachers has a significant influence on their intervention practices in handling children with autism. This signifies that as the perceived competence of teachers in inclusion increases, they likely tend to utilize more teaching strategies in dealing with children with autism.

Based on the results, this study offers some significant recommendations. The high level of efficacy for inclusion and the great extent of intervention practices of teachers are positive indicators that may be used as benchmarks for peer coaching and sharing of best practices in the field. Furthermore, as efficacy for inclusion influences intervention practices, teachers must indulge in vicarious professional experiences related to special education such as peer coaching, seminars, workshops, and trainings to further heighten their efficacy, which in effect, will increase their use of intervention practices in handling children with autism. Needed in realizing the above recommendations are the different types of support including technical and financial, especially in the current context of this study where access to quality professional development activities and adequate budgetary requirements are a challenge.

This study was delimited on the influence of efficacy for inclusion on intervention practices of the teachers handling children with autism. Hence, further studies looking into the influence of other factors such as attitudes toward disability on the intervention practices should be conducted. Moreover, methodical rigor in terms of tools and techniques employed in this study is seen to be needing further improvement. Thus, future studies need to ensure psychometric properties of tools to be used and multiple data gathering techniques may also be considered such as interviews and observations.

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