

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

UWS UNIVERSITY OF THE
WEST of SCOTLAND

MBA STRATEGIC PROJECT

Surname: GOH	
First Name: JONATHAN	Initials: JG
Student ID: B01665586	
Course Code: BUSN (11076)	
Project Supervisor: Prof.Dr Ian Mackechine	
Project Title: BARRIERS TO EFFECTIVE IMPLEMENTATION OF INCLUSIVE EDUCATION FOR AUTISM IN MALAYSIAN PRIMARY SCHOOLS	
Submission Date: 6 th December 2024	
Please tick appropriate box:	
<input type="checkbox"/> I give permission for my project to be made available for reference in the University of the West of Scotland library.	

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

I do not wish my project to be made available in the University of the West of Scotland library as it contains confidential information.

I certify that all material in this project which is not my own is dulyacknowledged. I have read and understand the University's policy on plagiarism.

The copyright of this project rests with the author. No quotationfrom it should be published without her prior written consent and information derived from it should be acknowledged.

Signed.....

TABLE OF CONTENTS

MBA STRATEGIC PROJECT	400
ABSTRACT	402
Chapter 1: Introduction.....	403
1.1 Background of the Study.....	403
1.2 Problem Statement	404
1.3 Research aim	405
1.4 Research objectives.....	405
1.5 Research Questions	405
1.6 Significance of the Study	405
Chapter 2: Literature Review.....	405
2.1 Overview of Autism Spectrum Disorder.....	405
2.2 IE Policies in Malaysia for Autistic Children.....	406
2.3 Theoretical Framework	407
2.4 Variables	409
2.4.1 Dependent Variable	409
2.4.2 Independent Variables	409
2.5 Hypothesis.....	410
2.6 Conceptual Framework	411
2.7 Summary	411
Chapter 3: Methodology.....	411
3.1 Introduction	411
3.2 Research Design.....	412
3.3 Research Approach	412
3.4 Sampling Method.....	412
3.5 Data Collection.....	413
3.6 Data Analysis	413
3.7 Summary	414
Chapter 4: Data collection and analysis.....	415
4.1 Introduction.....	415
4.2 Thematic analysis.....	415

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

Theme 1: Challenges and Opportunities in Implementing Inclusive Education for Students with Autism Spectrum Disorder (ASD).....	415
Theme 2: A Targeted Training and Professional Development is needed to Enhance Preparedness for Teaching Students with Autism Spectrum Disorder (ASD)	415
Theme 3: Innovative Curriculum Adaptation Strategies for Supporting Students with Autism Spectrum Disorder (ASD).....	416
Theme 4: Insufficient Resources and Support Systems for Teaching Students with Autism Spectrum Disorder (ASD).....	416
Theme 5: Variable Collaboration Between Parents and Specialists in Supporting Students with Autism Spectrum Disorder (ASD).....	416
4.3 Statistical analysis	417
4.4 Hypothesis testing	421
4.5 Summary	422
Chapter Five: Summary of findings, discussion & recommendations.....	422
5.1 Summary of research findings.....	422
5.2 Discussion/Conclusions	423
5.3 Recommendations	423
5.4 Limitations of the Study.....	423
5.5 Recommendations for Future Studies	424
Reference List.....	424
Appendix 1: Interview transcript.....	426

ABSTRACT

The present research examines the barriers experienced in the IE policies for children with ASD in understanding the context of implementation in the Malaysian primary schools. Autism is a developmental disorder for children that categories the understanding of language, interaction with others, and learning, which is increasing in Malaysia. While IE has been an intended policy to improve the education of students with disabilities by placing them in general classrooms, this study reveals several barriers to the successful implementation of the policy for autistic students. The emerging issues include a shortage of qualified education professionals, the lack of teachers' knowledge of the disorder, and a scarcity of suitable educational resources. The structure of school curriculum in Malaysia is very inflexible and does not offer much flexibility to cater with the requirement of the children with ASD. This research seeks to find out the challenges that hinder the use of IE as well as gain understanding on the concerns that in relation to curriculum and professional development for ASD students. Moreover, focusing on the results of the recent studies and policies, the research stresses the need in searching for new approaches to minimise the existing educational practices for the children with ASD. The study provides policy makers, educators, and healthcare practitioners with a clear guideline for designing policies and interventions that enhance school experiences of children with autism in Malaysia. From this study, the sectors where the education system fails to support the children and where improvement can be attempted in order to advance the agenda of inclusive education for all will be identified.

This research is qualitative and quantitative in design, and mixed methods. The quantitative part involves asking 310 teachers, using closed-ended questionnaires, what they are thinking and experiencing around IE policies. At the same time, qualitative data will be collected through semi-structured interviews with 10 selected teachers and administrators to get their insight and personal perspective. This dual pedagogy is designed to offer a more detailed description of what prevents autistic students from gaining access to IE. The key findings of the study point to significant barriers such as inadequate teacher training, ASD-specific training, and disparate administrative support. Educators frequently reported being overwhelmed at the challenge of meeting ASD students' specific needs and experiencing feelings of emotional distress due to behaviour issues. The studies show structural deficiencies in the educational system, including a lack of consistent care, resources and communication between parents, teachers and professionals. Remarkably these results indicate a gap in administrative support from school to school, and therefore a difference in teacher assessment. Such heterogeneity points to a larger systemic issue in policy and funding that can

shape ASD students' learning. The research points to the need for specific professional training, better communication, and stronger stakeholder collaboration to foster an inclusive learning environment.

Keywords:

Autism Spectrum Disorder (ASD), Inclusive Education (IE), Malaysia, primary schools, special education, teacher training, curriculum adaptation, learning disabilities, educational barriers, neurodevelopmental disorder

Chapter 1: Introduction**1.1 Background of the Study**

Autism Spectrum Disorder or ASD is a neuro developmental disorder that impacts an individual's ability to communicate, interact in social related activities and may involve repeated patterns of behavior. ASD is confirmed to have an upward trend among children and young persons in Malaysia as in other parts of the world. One will find that there is a dearth of extensive information about this particular special need among children in Malaysia as provided in a recent report. The prevalence of children diagnosed with autism has been on the rise, with 562 children affected in 2020 and 589 affected in 2021 (Murugesan, 2024). Around 80% of the diagnoses were among children aged between 2 and 3 years, which show that the condition is diagnosed at an early age. The occurrence of cases in young people is on the rise and presents the following emerging picture of the new normal, a worrying trend that should be of serious concern to educators, policymakers, and other healthcare practitioners.

Education emerges among the most difficult areas when it comes to the mainstream schooling of children with ASD. The concept of IE (Inclusive education) is of significant focus in the education of children with disabilities and it refers to the process of educating learners in the general classroom for group of learners in groups of learners without reference to their capability or difficulties (Lindner & Schwab, 2020). However, the use of IE for children with autism has some challenges in Malaysia where the education system is struggling to find the best way to meet the needs of these children within the general classroom. IE aims at allowing these students to be integrated in main classrooms with peers of similar age and ability but in the same time to make sure that they get all necessary help to succeed academically and personally.

In one way or another, it is regrettable to note that the Malaysian education system has not effectively adopted IE practices for learner with autism though there have been numerous attempts to do so. A lot of autistic children are challenged when attending general schools that have structures which prove difficult for their growth since they are not fully understood. Some of the reasons for this include; unqualified educators, low understanding of autism and inadequate materials. Leveraging on the on trends evidences about the increasing population of children with autism in Malaysia, will warrant efforts to try and establish the challenges that hinder implementation of IE policies.

Year	No Of Children Diagnosed With Autism
2013	6,991
2014	8,789
2015	10,708
2016	12,976
2017	15,838
2018	18,754
2019	23,634
2020	27,732
2021	32,471
2022	40,963
2023	53,323

Figure 1: No. Of children diagnosed with Autism in Malaysia 2013-2023

(Source- <https://ova.galencentre.org/number-of-children-diagnosed-with-autism-in-malaysia-increased-by-663-from-2013-to-2023/>)

1.2 Problem Statement

In Malaysia, the government introduced some policies to enhance a provision of learning to children with disability especially those with autism. However these policies have not been implemented effectively because of some conditions as follows. One of the major concerns is that to establish adequate teaching staff qualified and competent enough to teach the learners. In the study conducted by Binti Samian & Bin Rohani (2020) depicted that the majority of the teachers in Malaysian primary schools lack preparation to attend the needs of the students with autism. The teachers themselves lack the knowledge regarding how autism can be explained to children, and how teaching strategies need to be adapted to ensure inclusion into classes.

The operationalization of this perspective supports the argument that curriculum specialization is an essential barrier to inclusive education in Malaysia. Most autistic students are supposed to learn the same curriculum as other typical students with no filler or deviation from the program. What these reforms fail to consider are the child with autism learning needs where every child has different teaching abilities and thus learning ability. Malaysian primary schools do not reflect the student- centered approach, and this has made classroom environment to be very unhealthy for autistic learners since they cannot cope with the mainstream education.

Another factor is teacher attitude toward inclusive education as an element that determines the success of IE practices. According to Low et al., (2020) special education teachers have taken time to state their concern in regards to the ability and efficiency of general education teachers to educate autistic students. General education teachers stated that they lack the necessary knowledge and experience to support integration of autistic learners in their classroom irrespective of their experience in teaching students with ASD. This negative attitude poses even more difficulties regarding the implementation of IE as teachers with such perception may lack motivation or self efficacy to cater for such student.

Another cause at the national level is also related to the inefficiency of policies that are part of the IE in the Malaysian education system. Teacher assistants in countries like UK and Australia were prepared to work for autistic students in integrated settings (Min & Wah, 2020). These assistants help teachers closely to monitor every child, and more so the autistic ones to give them the attention necessary to enable them. The foreign talent system is not formally existent in Malaysia though it has certain traits of such a system. The lack of trained teacher assistants alongside the lack of

proper course of classroom management makes it very challenging for teachers to properly attend to autistic students most especially.

In consequence, the problem is complex. The main barriers to practising inclusive education for autistic students in Malaysia are teacher training, Curriculum issues, teacher attitudes and education system. This paper identifies the following as major problems that need to be solved in order to provide children with autism equality and chance for success in inclusive education.

1.3 Research aim

The purpose of this study is to understand significant issues and challenges that hinder the implementation of inclusive education for children with autism in Malaysian primary schools so that potential strategies may be elaborated for improving inclusive education practices of educators and education system..

1.4 Research objectives

- To find what are the existing barriers preventing the implementation of IE practices in primary schools of Malaysia for autistic children
- To analyse the fundamental causes of the factors affecting the education of the autistic children in the primary schools of Malaysia
- To propose the probable strategies to overcome this problem

1.5 Research Questions

- What are the existing barriers preventing the implementation of IE practices for autistic children in Malaysian primary schools?
- What are the major underlying factors of these challenges for implementing IE practices?
- What are the probable strategies to effectively address and overcome these barriers to improve educational experience and better academic management for the autistic students in the Malaysian primary schools?

1.6 Significance of the Study

The significance of this research lies on the challenge of intervention for children with ASD in Malaysia to be in school with their peers. This is especially important bearing in mind that the number of children diagnosed with Autism is rising and therefore the question of what hinders these children from enjoying quality education needs to be answered. Thus, the present study intends to shed some light on the issues of Malaysian education system and practices, investigate teachers' experiences, and curriculum requirements for offering references to enhance the implementation of inclusive education in the context of Malaysia.

The implication of the findings of this study will benefit educators' policymakers and any stakeholders who have interest in the education of autistic children. Analyzing the barriers of the successful realization of EC should aid in the formulation of antecedents of inclusive Education policies and practice. Furthermore, this study will also permit contributing to the evaluation of the evaluation of the equal opportunity to learn in Malaysia and allow facilitating the integration of all students into Malaysian schools, irrespective of their disability.

Chapter 2: Literature Review

2.1 Overview of Autism Spectrum Disorder

ASD is a developmental disorder that has an impact on an individual's communication, social skills and their respond to the environment. In this case the term "spectrum" is used to suggest that children with the disorder are a diverse group who suffer from a wide array of symptoms, which vary in severity and present differing degrees of difficulty. These signs can be seen in infancy, commonly before the age of three years and remain the child's life. Some of the common features of social cognition difficulty are; impaired social competence, social pragmatism, and social perception. Another important feature of ASD is the fact that is a very heterogeneous syndrome. There is no one on the autism spectrum that will go through exactly the same as someone else. Some forms are characterised by quite mild signs and children are able to cope with most aspects of life, whereas other forms are characterised by profound developmental delay, children being virtually unable to communicate, interact with the environment, etc. One's autism experience is further highlighted as being diverse for this reason and this goes hand in hand with understanding that there is no one set way that autism can present. This heterogeneity also increases diagnostic difficulties and need for individual specific intervention (Khairuddin et al., 2020).

The primary underlying causes include genetic and even environmental aspects that have not been discovered to date. Autism is widely referred to as a genetically inherited disorder, which greatly increases the likelihood that the condition will occur within a family. Some individuals with autism have mutations that make the disorder prominent,

although the mutations are different in each person. Sometimes, the autism may be associated with other genetic disorders like Fragile X syndrome, but in most instances, the disorder is not connected to such syndrome. It is also believed that biological environmental aspect may play a role in the development of ASD. Some investigations have looked at possible antecedent constitution cues like the pregnant woman's exposure to some substances during pregnancy either chemically, physically or bacteria and virus infected pregnancy. Moreover, the state of affairs during delivery, including prematurity or low birth weight, is likely to make a child vulnerable to such problems. Nevertheless, there is still no substantial proof that shows a particular environment that causes autism this shows that identifying root causes of autism is not easy (Lord, et al., 2020).

Children with autism have various difficulties that may hamper them for participating in society as other normal individuals do. It will also affect social interpersonal relationships which can be very complex. Some children with ASD have difficulty identifying emotions displayed by their peers through their facial expressions or even the gestural language or tone of voice. This could affect friendships making and sustaining them and in the process feels lonely or frustrated. Apart from social impairments, others are faced with stereotyped behaviour or intense fixations. They may become fixated on certain subjects or particularly objects and partake in stereotypic behaviours such as hand flapping or rocking. While such behaviours may help offer comfort or the perception of some control, they also can cause impairment of otherwise normal activities. Other core features that might be observed in children with ASD include problems with flexibility in thinking and behaviour simply because even a slight variation of routines may be distressing. Like many other aspects, children with autism also experience problems in communication (Naznin et al., 2023). It is important to know that a number of children with autism are nonverbal – this means that they cannot speak and cannot use words, speech or signs to interact with others. Some children may be slow in learning languages as compared to other children or may use language inappropriately for instance through echoic language which is termed as echolalia. Such children can still have difficulty functioning at the pragmatic level, which includes the ability to comprehend idioms, jokes or proverbs as well as following the rules for conversation and turn taking about.

It is important to diagnose children on the autism spectrum as early as possible and begin the children's early intervention immediately. There is no treatment for autism and yet, through interventions like speech therapy, occupational therapy and other behaviour therapies a child with autism can gain speech and language skills and learn how to interact with others and manage his or her behaviours. Thus, ASD is a complex and diverse condition that in various ways affects encompassing functioning of people. This stigma intrudes in many features of communication, behaviour and social interaction, which makes it different for each person it occurs with. Though, it is established that the root cause of the disorder is still unclear, there is still research that is being conducted to find out whether it is a genetic or environmental issue. These findings are important, as accurate screening and support that fits the child with autism's needs will enable him or her to play successfully and to the best of his or her ability in the world.

2.2 IE Policies in Malaysia for Autistic Children

Inclusive Education (IE) on the other hand is a teaching model that services children with disability such as Autism Spectrum Disorder (ASD) right in the context of pre-schooled built for non-disabled children. The idea aimed through IE is to allow every child, including the disabled one, to learn with his or her peers in 'normal' classes, instead of in a separate class. The call for an inclusive education for children with autism in Malaysia has in the recent past received boost, but the following factors present some challenges. Malaysian IE policies for autistic children are being championed by several ministry departments, namely, Ministry of Education, the Ministry of Higher Education, and the Ministry of Women, Family, and Community Development. These ministries have been collaborating to enhance the capacity of educational services for children with the disability-ASD. Malaysia has been aware of the the special education since then, offering formal programs for special education teachers since 1980s. This training program was aimed at providing teachers with the appropriate knowledge and skills in order to address children with disabilities such as mental and developmental delay (Mitchell, 2023).

Among the main policies that have been formulated to enhance Inclusive Education in Malaysia, the most imminent is Zero Reject Policy. This policy launched by Ministry of Education suggests that no child with disability cannot be refused admission to school at any instance (Chin, 2023). It entitles all children, including those with autism, to be accepted in ordinary schools and be provided for when in school. This policy highlights the fact that every learner has special needs, and thus appreciates diversity and equity in the education systems. The Zero Reject Policy is a positive step towards changing the social relations in school system in Malaysia. But again, this has not been on any brick like challenges. Among these challenges, the shortage of competent professionals who could help train teachers to

accommodate autistic students in regular schools represents one of the most significant issues. While special education teachers go through training on disability and the best approach to handling students with the condition, many majority of general education teachers' lack adequate training for autism learners. This lack of training h e can lead to the use of informal methods of handling the students and in the worst scenarios amount to the exclusion of the autistic students in the class.

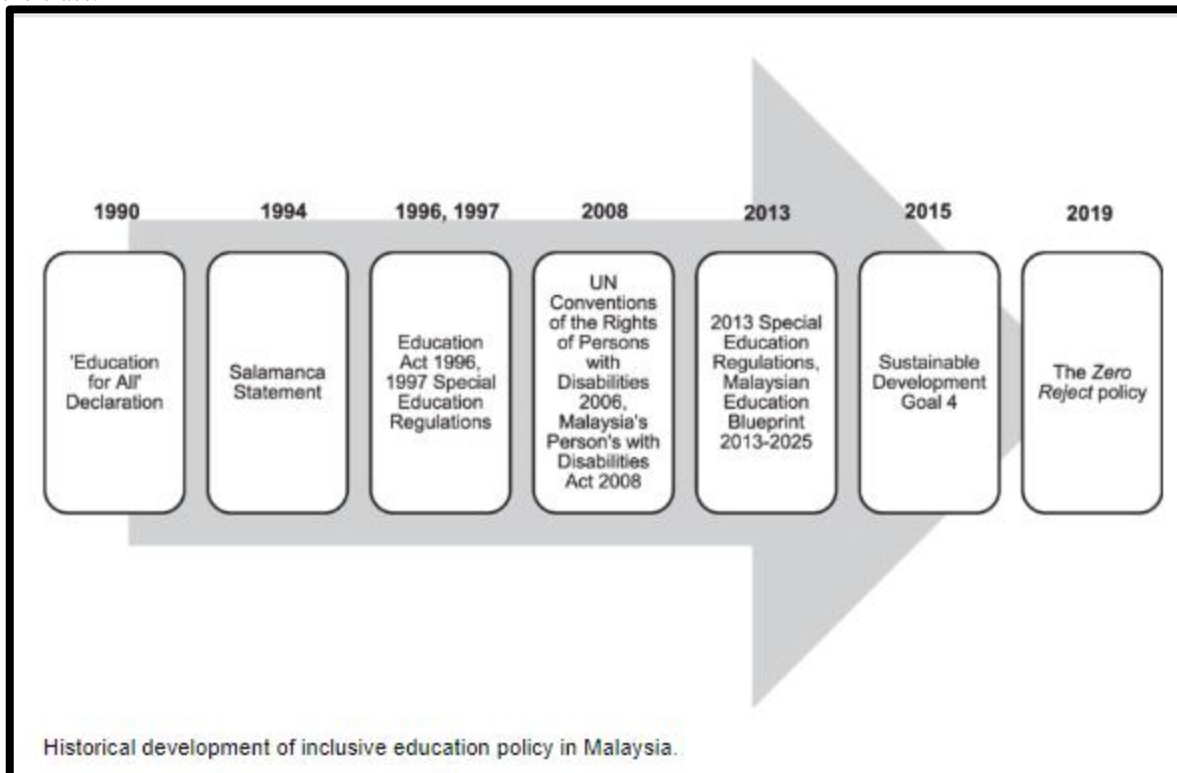


Figure 2: Development of inclusive education policy in Malaysia

(Source- https://www.researchgate.net/figure/Historical-development-of-inclusive-education-policy-in-Malaysia_fig1_346109020)

The other problem revolves around the fact that the curriculum is rather set in concrete. The current type of education system in Malaysia has no distinction in curriculum for students with and without disabilities with particular reference to students with autism. This sort of rigidity becomes a major issue in the learning process for the autistic children as they require customized learning approaches. In many classes, autistic students do not find they can learn with children in a mainstream class, which leads to low frustration and disinterest. However, there have been some encouraging signs in the campaign for the implementation of the policy of inclusion in education. A manifested aim to enhance the special education in Malaysia is introduced by its attempt to promote the awareness of autism as well as other disabilities (Istiyati et al., 2023). Moreover, increased awareness is now being paid to such ideas as pre-service and in-service teacher education, the promotion of which could be focused on the problem of inclusive practices. These programs have the intention and opening to help teachers to facilitate the necessary environment for each child a learning-friendly classroom.

2.3 Theoretical Framework

In this context, this research utilizes Bronfenbrenner's Ecological Systems Theory as the framework to address on how different environmental factors affect children with ASD on their education and development particularly under IE in Malaysia. Bronfenbrenner's brings out the microsystem, mesosystem, exosystem, macrosystem and chronosystem through which the organization of various circumstance co - impact on an individual; therefore, it poses

as an appropriate lens through which to understand the barriers and possibilities existing within the Malaysian educational system for autistic children.

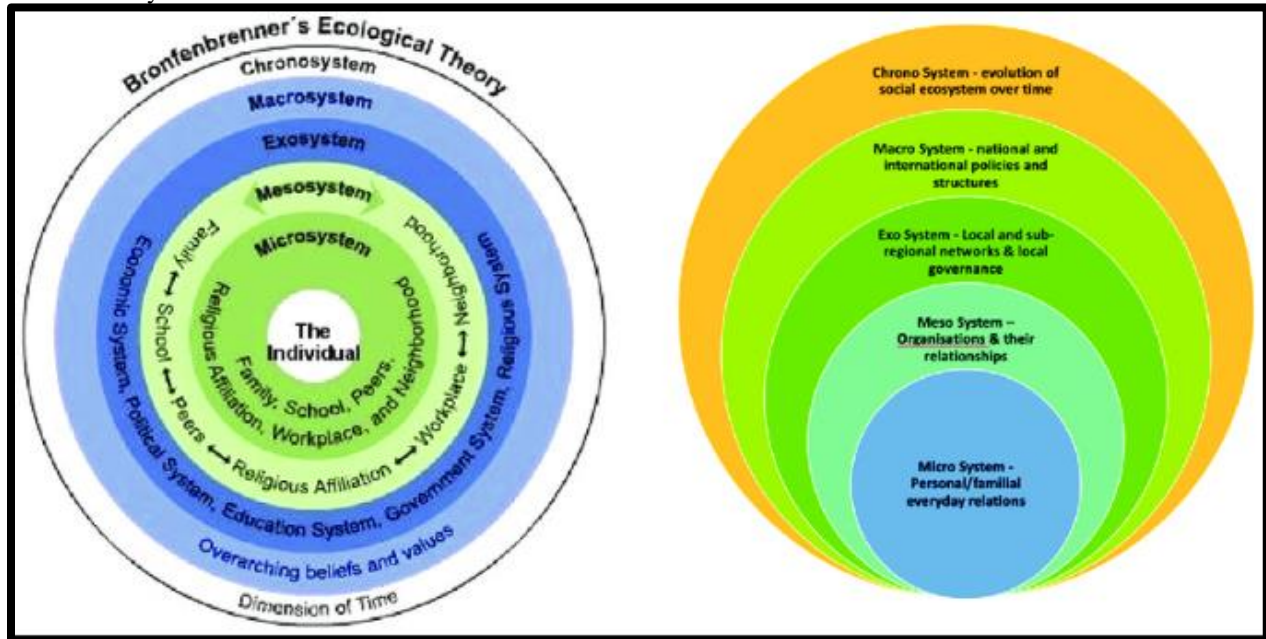


Figure 3: Bronfenbrenner's Ecological Systems Theory

(Source- https://www.researchgate.net/figure/Bronfenbrenners-Ecological-Systems-Theory-1979-1994-and-its-social-and-spatial_fig1_365781984)

Microsystems: Immediate Environment

The Microsystems includes the closer environment, which a child with ASD communicates, for example, family members, friends and school. The school environment which children spend most of their time is very important to their social and academic needs. The Zero Reject Policy in Malaysia means that autistic children go to normal classes, but its efficiency strongly depends on the teachers and other students' approach to such kids. Teachers are also likely to teach autistic kids on reasons why they should accept other children and how these children should treat them. But this congenial environment can turn into an unfavorable one if teachers are not trained in how to deal with autistic students, which is quite common in schools of Malaysia at the moment. The microsystem insists that only the immediate interactions between autistic children and teachers are critical to the learning process.

Mesosystem

The mesosystem pertains to the reciprocal interchange between two microsystems like the home and school environment. IE integration with parents and teachers is significant to support children with the disorder, within the context of this study. For instance, IEPs for the autism requires the parents, teachers and the educational authorities to participate immensely in the developmental of such plans for the autistic children. Otherwise, lacking the corresponding support at home and school, the child may not receive it at all (Attard & Booth, 2023). Subsequently, according to Bronfenbrenner's mesosystem is the key component in forming strong partnership with different parties to form a closed helpful network for autistic students in Malaysian mainstream schools..

Exosystem: Indirect Environmental Influences

The exosystem is made up of environmental systems external to the child that shapes the child's development in one or many ways but the child does not come into direct contact with. Under this system, we have such policies; Malaysia's Zero Reject Policy, which is an education policy that aims at making sure any child cannot be turned away by any school. Despite the fact that autistic children are unlikely to personally interact with the policymakers who devise such rules, these regulations significantly impact the autistic children's learning process. For instance, specialization of teachers and resource availability, support services depend on the effectiveness of these policies (Pratiwi, 2024). The strength of exosystem is also a weak enemy in this respect; if the policy is weak or poorly

implemented, or the equipment available is not sufficient, the overall operation of IE for autistic children in Malaysia will also be compromised.

Macrosystem: Societal and Cultural Context

The macrosystem is composed of the large culture in which a child operates and functions. This paper identifies that cultural attitudes towards disability and inclusion play a critical role in the delivery of IE policies in Malaysia. Indeed, while the Zero Reject Policy has been implemented to ensure that every child is given a slot in a learning institution regardless of his or her disability, the society has not embraced disability particularly autism which is a hindrance to full integration (Sek & Min, 2024). There are always attitudes or perceptions developed by the teachers, parents or students regarding the children with this disorder and these attitudes or perceptions may hinder the acceptance of the autistic children in the normal schools. The macrosystem raises awareness on the fact that society and culture must change in order to embrace the autistic children fully.

Chronosystem: Changes over Time

The chronosystem, as a subtheory of the eco-system, looks at the dimension of time when development transformation may occur in an individual's environment or circumstances exists. For IE in Malaysia, transition of policies from the past segregated special education systems to the new paradigm of Zero Reject Policy is evidence that the change process is still progressive (Arias et al., 2023). Thus, the long-term perspective of IE effectively inevitably requires further enhancement of the teacher training, and quality of resources, let alone the shift of social attitudes towards disability.

2.4 Variables

2.4.1 Dependent Variable

Affecting Teacher Efficiency

Teacher efficiency is defined here as the ability of a teacher to teach, control classroom environment, and facilitate students with learning disabilities especially in IE context. When discussing teaching experience for autistic learners in general classrooms, teacher effectiveness is a direct result of their ability to foster a positive learning environment, address behavioural concerns, and select strategies to present curriculum material in a manner to which all students can respond favourably despite the presence of autism (Alshoura, 2023). In the case of students who have Autism Spectrum Disorder (ASD), skills of the teachers become significant since these learners have special learning needs and may call for some specific interventions. The manner in which a teacher handles autistic students determines the life of the child and defines their status in school. Teacher efficiency in this case can therefore be explained to the degree to which the teacher can meet the needs of the autistic children which may include modifying teaching strategies, developing an individual learning curve and incorporating use of proper behavioural kind of programs. Nonetheless, the following concerns contribute to teacher inefficiency in the delivery of inclusive education for autistic students. Among them the most serious is the insufficient qualification of teachers due to the lack of proper preparation in special education. Teachers who have received no professional development concerning the teaching learning difficulties associated with autistic students may find it difficult to teach students. However, the status of the teacher and his/her attitude toward integration also has a major role to play. Overall professional orientation impacts the extent of Top down Support through the likelihood that teachers with positive attitudes toward integrated education will use practices that positively distort schooling for main stream and impaired students. However, negative attitude or resistance to diversity may greatly reduce the efficiency of teachers. The number and quality of resource available in classrooms for instance; special education teaching aids, and supportive staff and the number of students in a classroom also determine efficiency of the teachers. At time, teachers lack proper outfit and assistance to support the students with ASD and hence might find it difficult in handling all the children at school.

2.4.2 Independent Variables

Teacher Training and Competency

The first independent variable required to make a significant difference in the success of inclusive education for students with autism is teacher training and competency. Teachers who have received professional training in teaching children with learning disabilities mean that they will be better placed to handle autistic children within the classroom, and so their performance will be boosted. Autism spectrum disorders (ASD) training prepares teachers on the behaviour-modification approaches, communication, and the aspect of sensitivity to touch and sound that the autistic child is likely to develop. Main problems mentioned in the context of Malaysia include the absence of official requirements for mainstream teachers to undergo training on how to deal with autistic kids (Plantin Ewe et al., 2023).

Lack of training exposes these teachers to lack the proper skills that would enable them provide adequate learning needs for their students that in turn reflects improper management and teaching methods in class. In order to work with autistic children one needs to know how individual children will be better able to grasp lessons and what behaviours they may display. Teachers also have to be sufficiently skilled in development of properly individualized education plans (IEPs) of autistic children. Lack of training and competencies on the part of teachers may make them overwhelmed, thereby bringing out a lot of cases of burn out and as such low productivity. Improving the quality of the teacher training and teacher capacity will be crucial to preparing our teachers for facilitating the needs of autistic children in mainstream classrooms.

Attitude of Teachers

Another important independent variable that affects teacher efficiency is the teachers' attitude towards the inclusive education. Teachers' perception includes their beliefs about inclusion, knowledge about autism and self efficacy concerning teaching LEA students. In this case, teachers who have negative attitudes towards integration consider the act as a strain hence denying the pertinent strategies that could be useful to the autistic students. This resistance mostly grows out of ignorance of, or insufficient knowledge about, autism and the difficulties it may entail. On the other hand, those teachers who share positive attitude toward inclusive education will feel more obliged to make their classes inclusion friendly (Chezan et al., 2023). These teachers seem to be more approachable, receptive to learning new methodologies for teaching their students and more accepting of inter professional relations with other professionals like special education teachers or therapists. The above listed attitudes also compel teachers to undergo continued professional development to enhance their efficiency in educating the autistic children. The belief that integration is an effective learning model, not only increases teacher productivity but also benefits all learners in the class.

Available Resources

A major component of this study showed that the resources available influenced the success of inclusive education for autistic students. With regards to the subject of Malaysian schools, the most significant problem in relation to the issue of widened restricted inclusion is the deficiency of specific resources. Teaching assistants, adaptive technology, sensory tools, and learning materials are few of the crucial factors to help the autistic student in their mainstream classroom. Teachers are left under even more pressure because these resources are often unavailable, which means teachers may not have the resources they need to address the learning disabled students who are often on the autistic spectrum. Also, having sufficient personnel who will work as teacher assistants and special education consultants can reduce the teaching load from the mainstream teachers to allow them to teach effectively. This means that in other countries such as Australia and United Kingdom, the presence of trained teacher assistants for autistic students integrated within an inclusive classroom setting yields statistically significant increment in the learning achievements of those students. Hence, while teachers are focused on their autistic student, other students can prove too overwhelming to handle without such support as provided by education Services in Malaysia. In addition, the tangible things that are found in schools today like the so called sensory room or sensory corners are very helpful for the autistic child since he or she needs a break from the stimulation in the environment (Taresh et al., 2024). The existence of such oriented settings ensures that learners and instructors are alleviated of pressure thus giving a favourable learning climate. Consequently, the enhancement of these resources' accessibility is crucial for increasing teacher productivity and facilitating successful implementation of integrated schooling for autistic kids.

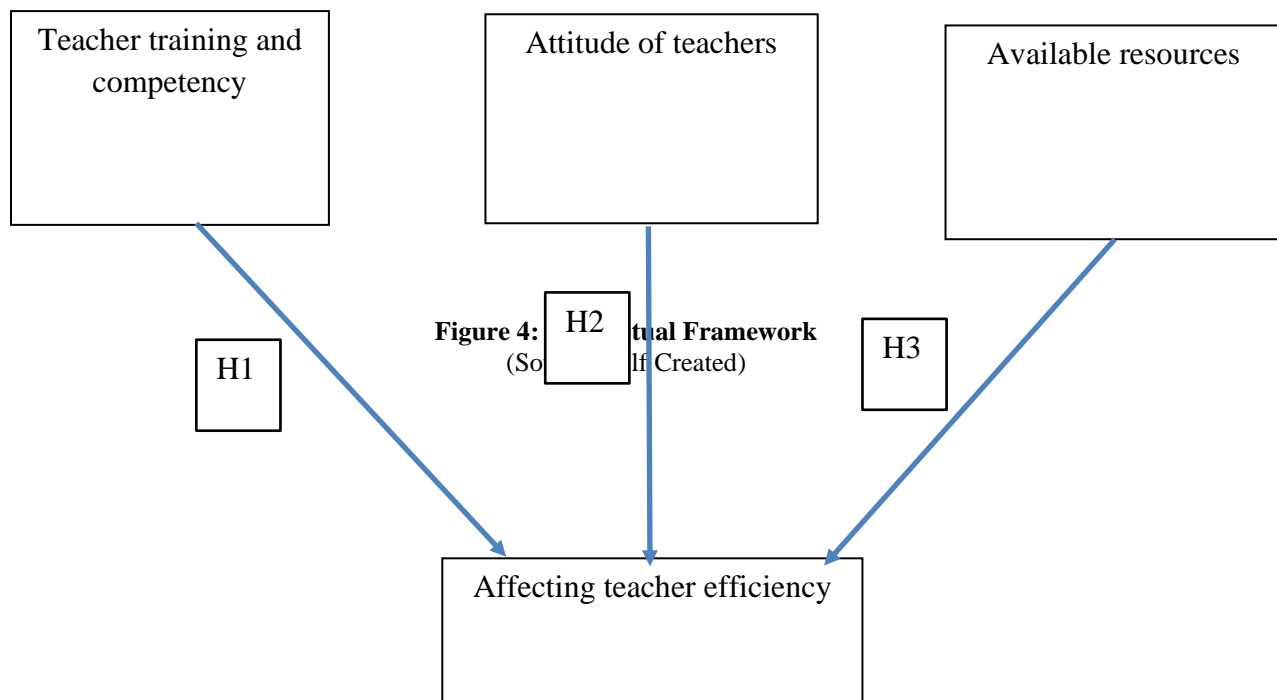
2.5 Hypothesis

H1: Educators with education on ASD will exhibit enhanced teaching productivity toward autistic learners due to specialize training in ASD classroom inclusion.

H2: Teachers with positive attitude toward integrated schooling will be more effective in mentoring the academic and social functioning of children with autism.

H3: Accompanying resources like teaching assistants and adaptive technologies are associated with a higher level of teacher productivity in the context of teaching autistic kids in inclusion classrooms.

2.6 Conceptual Framework



2.7 Summary

The present research examines the IE policies for the autistic children and the main constraints in their implementation in Malaysian primary schools with teacher efficiency as the dependent variable. Consequently, Ecological Systems Theory by Bronfenbrenner can be considered the most suitable theoretical lens to examine diverse contextual determinants of autistic students' inclusion. Three independent variables are discussed in this view with a particular emphasis on their relationship with teacher efficiency, namely teacher training and competency, attitude of teachers, and available resources. The dependent variable, teacher efficiency, is a critical component to making the programme has a positive impact on the autistic children so that they can access education like other children. Teachers with effective preparation, a positive demeanour and possession of appropriate resources nurture the best environment that could address the needs of students with autism. For testing hypotheses, a connect has been made of the independent variables to the dependent variables of teacher efficiency; training, Attitudes, and resources that can increase chances of success in an inclusive policy.

Chapter 3: Methodology

3.1 Introduction

The method section explains the procedures that were followed in the research study to understand the challenges encountered by teachers while implementing IE policies for autistic students in Malaysian primary schools. The multidimensional approach taken by the study involves both qualitative and quantitative approaches for data collection. This is important because the researcher will be able to combine statistical analysis of the trends with real-life experiences which gives a strong foundation to the obstacles. The initial data collection technique is the

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

development of questionnaires that are sample-issued to multiple teachers, and individual interviews with selected participants to ensure that qualitative data is also collected through the research.

Use of both quantitative and qualitative research method is informed by the nature of the research problem that demands a dual lens analysis. This paper presents a general outline of the research methodology which entails data analysis, following the quantitative and qualitative methods which are as follows. The application of both these techniques is useful as it allows making sure that the research is capable of denoting not only general tendencies but also such peculiarities as certain barriers experienced by individuals (Johnson & Christensen, 2024). The intention is to build a generalised knowledge base so as to assist policy makers, school managers and teachers to understand how to deal with these challenges and enhance the efficiency of integration arrangements for children with autism into mainstream school.

3.2 Research Design

The research design of the study entails both qualitative and quantitative research since a variety of barriers affect the implementation of inclusive education policies. The quantitative part of the study aims to assess related attitudes, experiences, and perceived difficulties of teachers based on a survey questionnaire. This survey is developed with closed type questions so as to obtain data that respond well to statistical analysis through which one is able to assess general trends and patterns regarding the responses of the teachers. The quantitative findings will, therefore, give an understanding of the degree of manifestation and instance of the barriers in question.

This will be complemented by qualitative data that is to be collected through semi structured interviews as a means of triangulation and to provide a more quantitative personal experience. In contrast, a set of semi-structured interviews with a smaller pool of teachers and administrators will seek to understand these actors' perceptions of IE implementation. This kind of format is free from rigidity whereby the respondent can express his/her own point of view concerning particular problems and recommendations regarding them (Wallwey & Kajfez, 2023).

Aside from this, this dual approach guarantees that the data that are gathered are both quantitative and qualitative, and they also increase the validity and reliability of the research results by allowing the use of triangulation. The combination showed a positive aspect of covering all expenses since both research designs give an overall view and limit the inadequacy of either numerical data or contextual information. This makes the research design appropriate for dealing with the compound and diverse nature of problems related to the practice of policy on inclusion in education.

3.3 Research Approach

The study uses both qualitative and quantitative research techniques to assess the challenges facing the organization regarding the provision of inclusive education policies. Procedures in the use of the quantitative method include using survey questionnaires to collect numerical data between teachers Special and general education classrooms. Thus, it will be possible to identify common patterns that relate to the teachers' experiences of IE policies implementation. Yes all the questions proposed in the survey will be closed-ended so as to get factual attitude, experience and challenges of the teachers which will be subjected to quantitative analysis.

The qualitative data collection strategy entails administering semi structured questionnaires to a sub-sample of teachers and school heads. These interviews will yield findings that capture the participants' personal and unique views and learning of inclusive education. To this effect, questions with an open structure will let participants provide detailed information on existing issues and potential solutions to enhance IE practices (Nii Laryeafio & Ogbewe, 2023).

The advantage of taking the blended approach is that all the techniques used will give an understanding of the issue in question. The quantitative data will help answer general questions, while the qualitative data will help answer questions related to participants' experiences. The use of such a mixed-method approach is relevant for the case since the barriers experienced by teachers are multiple and interrelated.

3.4 Sampling Method

The sampling technique used by this research is a mix of both probability and non probability sampling techniques. For the quantitative part, using such a technique as stratified random sampling we will be able to capture not only special education teachers but the teachers of general classes for the Malaysian primary schools as well. Stratified sampling will enable the researcher to take different sets of populations of the same level depending on the years of teaching experience, location, and type of school in order to make the samples more credible. A total of 310 teachers will be surveyed as this number is sufficiently large for statistical analysis and yet can be worked through in the context

of the study. The justification for the sample size is made on the basis of other such studies that advise sample sizes of this order for getting worthwhile results.

For the qualitative part, purposive sampling technique will be used to choose a small population of 10 teachers and school administrators for the purpose of conducting the semi structured interviews. Purposive sampling method is preferred here since the researcher will be selecting only participants that will understand and are most involved with the implementation of inclusive education policies (Barroga et al., 2023). It is useful to know the experiences felt and the procedures encountered by these educators, which this sampling method guarantees as being descriptive and detailed.

Through employing these two sampling procedures, the research is able to achieve both coverage and intensity. The survey portion of the study used stratified random sampling, which enables the quantitative data to be taken and generalized to the population, while the interviews were purposively selected so as to get rich and detailed feedback from individuals with experiencing inclusive education policies. It is most appropriate in the context of the mixed-method approach of the study because it combines both the quantitative and qualitative sampling technique to provide research results that are statistically generalizable while at the same time having local relevance.

3.5 Data Collection

The data collection process for this study involves employing a systematic procedure that ensures both measurement and verbal details that relate to the challenges limiting teacher's practice of IE policies for autistic students in Malaysian primary schools are captured as explained below. This dual method is useful to get over arching view of the problems and is useful for triangulation of data.

The quantitative part of the research study will consist of a questionnaire that will enable the researcher to gather quantitative data from 310 primary school teachers. The survey will be a quantitative one and will contain closed type questions which will address teachers' demographic characteristics, their knowledge and experience with IE policies and problems they face when implementing these policies. This is because the closed-ended format makes it easier to analyse the data and quantify it and hence easy to arrive at a conclusion. In a bid to capture a diverse population, the survey will also be in the form of an online questionnaire which will be sent via e-mail and social media and an offline hand-developed questionnaire which will be filled during the professional development sessions and school meetings. Before administering the survey to a large population of teachers, the questions contained in the survey instrument will be pre-tested on a limited number of teachers in order to remove any ambiguity and or irrelevance. The pilot's feedback will be used to make the required change in order to improve the reliability and validity of the instrument. After the survey is completed it will take about four weeks for the teachers to fill the survey forms so as to ensure that they are free enough to respond to the survey. In addition to the quantitative data, a number of qualitative research data will be gathered via semi structured interviews with 10 purposely selected teachers and school administrators. These interviews will offer a better understanding of the sensitivity of educators on the subject of IE policies implementation. It leaves enough room for several idiomatic approaches, especially in that participants can provide detailed descriptions of the problem that they encounter and propose ideas about how it can be solved. Interviews will be face-to-face or will be done over the phone or a video call.

The choice of interview questions to be used will be structured but guided by an interview schedule that will mostly pose questions that the participants would be able to expand freely. It is anticipated that each interview will span approximately 30-45 minutes with the participants' permission, the interview sessions will be audio taped for better transcription and analysis. To ensure accuracy, then transcriptions will be made shortly after all the interviews have been conducted. Using both quantitative and qualitative approaches, numeracy to be gain able in this study to paint the true picture of the barriers that teachers face, where quantitative approach give the numerical, broad and more manageable data, while qualitative approach shall give us the contextualized, detailed and broader perception on the challenges that teachers experience in facilitating the implementation of inclusive education policies for autistic children in Malaysian primary schools. Overall, this method of gathering extensive data will in turn improve the validity and richness of outcomes of the present studies.

3.6 Data Analysis

The data analysis for this study will involve two separate approaches: quantitative data collected from surveys have been analyzed using descriptive statistics while qualitative data obtained from interviews have been analyzed thematically. Such approaches are useful for acquiring a broad perspective of the challenges to the implementation of inclusive education policies. As for the quantitative survey data collection, structured questionnaires, the software to

be used for analysis is SPSS. The patterns of the data will be described by using descriptive statistics. These range from issues like the range, average, mode, and standard deviation that give a measure of centrality and spread of the teachers' responses. The usage of frequency distribution will bring the ability to group all the responses and get an idea of the overall picture of how many teachers actually face some or the other barriers in implementing inclusive education. The mean and median will show middle experiences of the respondents and the standard deviation will help to reveal the spread of variability of these experiences. With the help of the software called SPSS, the descriptive and inferential statistics will be carried out, including correlation analysis to determine the degree of relation between several variables. For example, the amount of time a teacher has been teaching can be related to the difficulties involved in integrating children with disabilities in the classroom in order to show how various aspects affect implementation of inclusive education (Dehalwar & Sharma, 2024).

When collecting qualitative data responses from the semi-structured interviews, thematic analysis will be used. The first actual procedure in this process is to take the interviews and get to know with them well. After transcribing the data, the data will undergo a coding process depending on the themes and patterns that will be identified in the response to the questions posed to the participants. Data analysis will involve emergence of themes that include lack of resources, inadequate training, and classroom management challenges, from which the main challenges teachers experience will be determined. In this case, the analysis will enable the researcher to focus on the recurrent patterns from the interviews as well as the ideas presented by each participant. By incorporating the following research questions into the study: The gaps between the scored variables and the realities of teaching practice from teachers' perspectives, this approach will assist in disambiguating and, thus, qualify the quantitative study's results. Those questions will contribute to contextualizing the quantitative data since they reveal the teachers' personal and experiential account of the particular obstacles to the implementation of inclusive education. In each section of this research, there shall be the use of SPSS for quantitative data while using the thematic analysis for the qualitative data, thereby presenting a balanced view on the challenges teachers encounter in the education system. The quantitative data will give an overall perspective on the statistics, on the general overall patterns while the qualitative data will give an inside perspective on people's experience making it easier to compare the results and come up with a well-informed conclusion on the issue in question.

3.7 Summary

This chapter presents the detailed analysis on the method used in conducting the research on the implementation of IE policies in Malaysian primary schools for autistic students with consideration to the challenges teachers encounter. Emulating an explanatory sequential design, both quantitative and qualitative data are collected and analyzed for the issue under study. The quantitative part of the study includes an attempt at surveying as many teachers as possible in the study and administering closed-ended questions to 310 teachers on their attitude, experience and perceived challenges with IE policies. This data will be sorted and described of consistently using statics in the help of SPSS software used to know the common features. Parallel to this, the data are collected through open ended questionnaires from a purposively sample 10 teachers and school administrators. These interviews will help to divert more information for individual experiences and difficulties, and it will let participants say what they want, how they are impressed. To the closed questions, the recommendations for the data analysis are descriptive and simple presenting the findings of the qualitative responses under themes such as 'insufficient resources' and 'insufficient training'. The integration of these methodologies improves the credibility and dependability of the study outcomes since multiple approaches provide a clear overview of IE implementation challenges. Through combining and comparing data from both methods, this study will help policymakers, educators as well as school managers to understand how to better enhance integration practices for children with autism, to promote inclusion in schools.

Chapter 4: Data collection and analysis**4.1 Introduction**

This data collection and analysis chapter provides an insightful analysis of inclusionary education for students with autism spectrum disorder (ASD) focusing on both complexities and prospects in the teaching arena. This chapter will include thematic analysis of responses to six questions that have been conducted focusing on teacher preparedness, training needs, curriculum development and resources needed to facilitate inclusive practice. Building on this, statistical analysis of the same data will be provided to identify the areas that need to be strengthened in an effort to facilitate better development of students with ASD in inclusive settings.

4.2 Thematic analysis**Theme 1: Challenges and Opportunities in Implementing Inclusive Education for Students with Autism Spectrum Disorder (ASD)**

The road toward inclusion for ASD (autism spectrum disorder) students is both rocky and rewarding. As stated by Cook & Ogden (2022), the value and opportunity in working with ASD students, but they also understood the challenges in making their classrooms supportive of them. One head of primary school said: 'Teaching children with ASD is interesting and fulfilling, but stressful'. Teachers and administrators noted that the most emotional burden came from behaviour management in the classroom. One of the biggest lacking areas identified by teachers was teacher preparedness (Howard & Milner, 2021). 'Teacher preparedness and understanding isn't there yet,' shared one school administrator. 'I've heard people talk about, well, they would feel better doing inclusion if they knew what some of these kids go through. So there is upfront training that we need.' 'I'm constantly at a loss for how to address disruptive students,' concluded a teacher.

Resistance to more inclusive practices exacerbates the situation. Some teachers resent having to change their ways: 'Not all the teachers will implement it and this is the problem,' says one school administrator. As stated by Molina Roldán et al. (2021), when there is no overarching approach across the school campus, then none of the children benefit as much from the approach of inclusive education, and students with ASD are especially unable to have their needs catered to. For all the obstacles, there are a number of advantages that can be harnessed to make the system better. Teachers understand the distinct nature of each child's pupils when they say 'Every child is different'. This implies that each child has a unique opportunity to benefit from some combination of pedagogical innovation and focused effort that will culminate in success. Administrators realise that 'inclusive education is a work in progress', hinting at a need for continual training, collective pursuit and development to improve their understanding and capacity to support pupils on the ASD spectrum. Through concerted effort to redress the stated challenges and harness these advantages towards a more robust style of inclusive education.

Theme 2: A Targeted Training and Professional Development is needed to Enhance Preparedness for Teaching Students with Autism Spectrum Disorder (ASD)

The lack of training teachers receive to teach students with ASD is a source of concern for teachers and administrators. Many feel ill-prepared to work with the specialised and complex needs that ASD brings to the classroom. As one teacher put it: "I don't have any specific ASD training, in terms of autism training, training in effective teaching practices for autism will definitely give me higher confidence". As coined by Molina Roldán et al. (2021), this lack of basic training hampers teachers' ability to create inclusive classrooms in which students with any type of need can be successful. School administrators echoed the call for more training, but emphasised that teachers needed training for specific intervention with ASD: 'Teachers need very specific interventions to deal with the challenges of autism.' Lessner Listiakova & Preece (2020) coined that requiring training to be more specific than generic reflects the idea that teacher preparation for ASD is not translating into improved learning for these students.

Besides, continuous professional development is something that teachers appreciate as one said: 'I feel like I am not well-prepared for some things. More just classroom management training, on how to manage ASD students would help'. Bernacki et al. (2020) have said that there is a clear deficiency in skills that can be addressed through workshops and training sessions. Finally, another manager noted: 'Training should be provided for a longer period of time. Teachers should study autism more and adjust their teaching methods accordingly.' This reinforces the view that there is a need for a commitment to lifelong learning and development for teachers if they wish to improve their readiness and confidence to support students with ASD. Hence the training and professional development program for teachers and other educators should be more structured and based on the specific requirements of ASD students.

Theme 3: Innovative Curriculum Adaptation Strategies for Supporting Students with Autism Spectrum Disorder (ASD)

Adapting the curriculum to meet the diverse needs of students with Autism Spectrum Disorder (ASD) is essential for fostering an inclusive learning environment. In the words of Acton (2021), teachers and school principals have shared with us a range of strategies that they have implemented to assist in the learning of students at school. One is as simple as using visuals and mini-lessons: 'I use visuals and mini-lessons. I really use sensory breaks. Everything really helps focus.' This allows the student to be just that. It is also important to the environment to meet the unique sensory needs of the student. Moreover Ginja & Chen (2020) said that differentiated learning plans are critical to meeting student needs. One teacher said: 'Technology gives me a way to reach a student that, when in big groups, cannot function. But the smaller groups, they can talk to me and are really good.' In this way, the technology can help provide students with individualised learning that magnifies their strengths and mitigates their weaknesses; it can help a student who wouldn't otherwise be able to function in the classroom.

Co-construction of the curriculum is further supported by peer-support. One teacher summarised her experience: 'I've used peer support, and..the background is very good, this environment. A Culture of teacher collaboration helps bring about curricular accommodations (Cook-Sather & Cook-Sather, 2023). 'We encourage teachers to assist and guide each other, in a comforting environment.' This ethos sees not only the sharing of strategies, but also the formation of a community of practice that continually improves teaching practices for ASD students. Hence it can be said that employing innovative curriculum adaptation strategies by implementing visuals, differentiated learning plans, peer support, and promoting collaborative teaching among people with Autism Spectrum Disorder to attain higher attainment in their educational journey.

Theme 4: Insufficient Resources and Support Systems for Teaching Students with Autism Spectrum Disorder (ASD)

The ability of the teaching staff to provide an appropriate environment depends a lot on the willingness of the school administration to provide support and resources such as materials and special education staff. One of the major challenges identified by many of the interviewees was a lack of adequate resources and support. Several teachers echoed their concerns with the unevenness of administrative support, saying: 'administrative support is very uneven. We need more specialised resources and personnel to ease students' broad-spectrum range of needs'. As coined by Snell-Rood et al. (2020), a system that can better address the diversity in needs of students with ASD requires increased structure and reliability. Administrators acknowledged the resource constraints on their ability to provide support to teachers, as one described: 'We are trying to be the best. We do not have enough money for giving the children teaching books for special education, and not enough people for extra special education'. The struggle to allocate sufficient funds and personnel to special education remains.

Moreover, teachers cited the paucity of specialised teaching materials as a major issue. As there is not much teaching material specifically adapted for autism and the learning environment makes a huge difference but nobody else is specially trained to teach me,' another teacher explained. Furthermore, another administrator shared: 'We can give you a little for intervention but the bottom line is you need some other resources there, and maybe other personnel, to answer their needs for ASD in a more specific way than we can.' This spotlights the ways in which support structures must be enhanced to address the complicity of teaching students with ASD. As said by Stephenson et al. (2021), the lack of resources and support, which are both reported by teachers and administrators, impact the education of the students with Autism Spectrum Disorder. Hence, there are a number of gaps that need to be filled for the students with Autism Spectrum Disorder to get the proper education and feeling supported in school.

Theme 5: Variable Collaboration Between Parents and Specialists in Supporting Students with Autism Spectrum Disorder (ASD)

The interviews describe a landscape of uneven collaboration that has significant consequences for the educational experience of pupils with ASD. As coined by Mazon et al. (2022), positive collaboration among parents, teachers and specialists can help students with ASD reach their full potential. Teachers commented on the need for parental involvement. Parental collaboration is usually a lovely thing to have but generally very few people want to say and this indicates the value of what can happen if experts are involved and what can be lost if not. They also talked of a desire for a more structured relationship with specialists. One said: 'I would like to see regular, formalised workshops. Others echo that sentiment when explaining some of the burdens that school administrators carry out 'Parents cooperate; some are involved, others are not. Consistency might be needed to handle the children.

Some of the children need either one-on-one tuition, a tutor in class, or a classroom buddy.’ Another administrator commented ‘Real collaboration with specialists is patchy, something like a “board” would increase support systems.’ Lack of regular contact with the specialists was another common thread: one teacher said ‘I think it is really good to always be talking to parents but I don’t think the specialists are around when you need them.’ It was clear that, in the midst of a busy work schedule, timely and appropriate communication between all parties was not always possible. Parents and educators should discuss and agree on a plan, but there are still many gaps between the two. There are still a lot of issues that need to be addressed. All the specialists have to visit the school more regularly. Including parents into structured communication regularly, will create an environment where the needs of the students with ASD are going to be more effectively met.

4.3 Statistical analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
1.My effectiveness as a teacher is significantly influenced by my ability to implement inclusive education practices.	254	1	5	4.23	1.058
2.I feel that my teaching efficiency improves when I receive adequate support for teaching students with autism.	254	1	5	4.03	1.251
3.The challenges I face in teaching students with autism directly impact my overall teaching performance.	254	1	5	4.27	1.103
4.My classroom management skills positively affect my efficiency in teaching students with diverse needs, including those with autism.	254	1	5	4.04	1.092
5.I believe that continuous professional development is essential for enhancing my teaching efficiency in an inclusive classroom.	254	1	5	4.17	1.050
1.I feel adequately trained to implement inclusive education practices for students with autism.	254	1	5	4.24	1.059
2.My professional development has equipped me with the skills necessary to support students with autism effectively.	254	1	5	4.24	1.147

3.I have sufficient knowledge of autism and its impact on learning to adapt my teaching strategies.	254	1	5	4.17	1.219
4.My training includes effective strategies for addressing the needs of students with autism in an inclusive classroom.	254	1	5	4.33	.987
5.I believe that my competency in managing diverse learning needs directly influences my teaching efficiency.	254	1	5	4.17	1.126
1.I believe that inclusive education positively impacts students with autism.	254	1	5	4.23	.963
2.I approach the challenges of teaching students with autism with a positive and proactive attitude.	254	1	5	4.18	1.098
3.My willingness to adapt my teaching methods enhances my effectiveness in supporting students with autism.	254	1	5	4.03	1.251
4.I feel that my colleagues' attitudes towards inclusive education affect my motivation to implement it.	254	1	5	4.13	1.127
5.I am committed to fostering an inclusive classroom environment for all students, including those with autism.	254	1	5	4.04	1.092
1.I have access to the necessary teaching resources to effectively support students with autism in my classroom.	254	1	5	4.17	1.050
2.The availability of specialized teaching materials enhances my ability to implement inclusive education.	254	1	5	4.04	1.092
3.Insufficient resources hinder my ability to effectively teach students with autism..	254	1	5	4.20	1.060

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

4.I receive adequate support from my school administration regarding the provision of resources for inclusive education.	254	1	5	4.27	1.067
5.Increasing the availability of resources would significantly enhance my teaching effectiveness for students with autism.	254	1	5	4.21	1.140
Valid N (listwise)	254				

Table 4.1: Descriptive stats

(Source: Self-developed)

The descriptive statistics relate to a sample of 254 educators in relation to their perception about the inclusive education practices vis-à-vis the students with Autism Spectrum Disorder (ASD). Each level of agreement is rated on a 5-point Likert scale ranging from 1 (strong disagreement) to 5 (strong agreement). The mean scores tapered from 4.03 to 4.33 which indicate that teachers have a positive outlook about their training, availability of resources for supporting inclusive practices and the impact of inclusive practices on their effectiveness in teaching students with autism. One of the significant findings is probably the statement “I feel adequately trained to implement inclusive education practice toward students with autism” receiving a score of 4.24 with standard deviation of 1.059. This reveals that the majority of teachers believe they are equipped by the necessary knowledge and skill to back up students with autism effectively.

Additionally, teachers agreed with the statement ‘The challenges I face in teaching students with autism directly impact my overall teaching performance’; this score (mean 4.27) indicates great impact on how teachers perceive their efficacy in classroom teaching. As stated by Gómez-Marí et al. (2021), this coincides with the literature that reveals that teaching students with autism requires a lot from a teacher. In terms of resource availability, the educators reported a clear need for additional teaching materials and administrative support as exemplified in items such as, ‘I receive adequate support from my school administration regarding the provision of resources for inclusive education,’ with an item mean score of 4.27. This suggests that educators feel somewhat supported, but that there is a sense that resources are unevenly available from the administration. This is exemplified further by the item, ‘Insufficient resources hinder my ability to teach students with autism adequately,’ with an item mean score of 4.20. Consistent with Yazçayır & Gürgür (2021), this research supports the role of resource availability in the establishment of successful inclusive education environments.

Moreover, the analysis likewise reveals that attitudes towards inclusion, including ideology conveyed by such statements as: ‘Inclusive education leads to a better quality of life for students with autism’ and ‘Educators are more proactive in teaching challenges’. These are perceived by teachers as indicators of the impact of inclusive education. Rusticus et al. (2023) have said that, a positive attitude and collaboration with colleagues create equilibrium and belief in oneself, significantly contributing to effective teaching and creating a warm and inclusive learning environment. Hence the results show general strong support in highly inclusive practices among teachers, but also display possible improvements. The high mean scores indicates teachers' willingness to make their schools more inclusive environments for students with autism, but the standard deviation also indicates the necessity to equalise the teaching supports among teachers. Therefore, improvement training and sufficient teaching resources to schools are the important factors that lead to the better outcome in teaching for students with autism.

Correlations

		Affecting_Teacher_Efficiency	Teacher_Training_and_Competency	Attitude_of_Teachers	Available_Resources
Affecting_Teacher_Efficiency	Pearson Correlation	1	.857**	.895**	.907**
	Sig. (2-tailed)		.000	.000	.000
	N	254	254	254	254

Teacher_Training_and_C ompetency	Pearson Correlation	.857**	1	.776**	.811**
	Sig. (2-tailed)	.000		.000	.000
	N	254	254	254	254
Attitude_of_Teachers	Pearson Correlation	.895**	.776**	1	.895**
	Sig. (2-tailed)	.000	.000		.000
	N	254	254	254	254
Available_Resources	Pearson Correlation	.907**	.811**	.895**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	254	254	254	254

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4.2: Correlation analysis

(Source: Self-developed)

The results of Table 4.2, the correlation analysis of the four variables of teachers' effectiveness, reveal the four variables are highly correlated with each other to some extent. It is clear that Effective Teacher Efficiency is positively correlated with three variables such as Teacher Training and Competency ($r = .857$), Attitude of Teachers ($r = .895$), Available Resources ($r = .907$), significantly at 0.01. Meanwhile, the variables of Teacher Training and Competency correlate positively with two variables like Attitude of Teachers ($r = .776$) and Available Resources ($r = .811$), both significant at 0.01. All of these mean that teachers' get good training. They get a better attitude, and available resources for teaching are crucial to improve teacher efficiency in teachings in inclusive classrooms.

Reliability Statistics

Cronbach's Alpha	N of Items
.959	20

Table 4.3: Reliability analysis

(Source: Self-developed)

The following 4.3 table below displays the reliability analysis showing that the Cronbach's Alpha for items included in the survey was .959. The alpha value was way above the expected threshold which is .77. This implied that the survey was highly reliable since all the questions were measuring the same item. Moreover, a Cronbach's Alpha value above .90, meant that the items in the survey were closely clustered and were contributing towards a unidimensional scale where items within a subset reflected a coherent concept. Reliability has been established; here ensuring a good and unbiased conclusion has been derived from survey.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.942 ^a	.887	.886	1.45512

a. Predictors: (Constant), Available_Resources, Teacher_Training_and_Competency, Attitude_of_Teachers

Table 4.4: Model summary

(Source: Self-developed)

The 4.4 table below summarises the results on model fit for the Regression. It is evident that the R of .942 indicates a strong positive relation between the, (Teacher Training and Competency, and Attitude of Teacher) and the dependent variable. Moreover, the R Squared of .887 indicates that approximately 88.7% of the variation in teacher efficiency is accounted for by the predictors. The figures shown above are high and indicate substantial impacts of the predictors on the dependent variable. Adjusted R Squared is .886, which is a slight decrease in the value containing the same meaning of the R Squared figure with higher value .887 but accounted for the number of predictors in the regression. The Std. Error of the Estimate is found as 1.45512. This figure shows the average distance that the observed values are being estimated from the regression line.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4173.982	3	1391.327	657.098	.000 ^b
	Residual	529.345	250	2.117		

Total	4703.327	253			
-------	----------	-----	--	--	--

a. Dependent Variable: Affecting_Teacher_Efficiency

b. Predictors: (Constant), Available_Resources, Teacher_Training_and_Competency, Attitude_of_Teachers

Table 4.5: ANOVA

(Source: Self-developed)

The following table 4.5 reveals the ANOVA result of the model that predicts teacher efficiency. The regression model's Sum of S173.982 with 3 degrees of freedom of d.f (df) and the Mean Square of 1391.327. The F-value at 657.098 shows that the model is significant at better than a .01 level, since the p-value (Sig.) is lower than .01. This explains that all the predictors (Available Resources, Teacher Training and Competency, and the Attitude of Teachers are sufficient to significantly explain variance in teacher efficiency. The Residual Sum of Squares of 529.345 with the 250 d.f are unexplained variances in the model. The total variance is 4703.327.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.319	.470		.679	.498
Teacher_Training_and_Competency	.291	.035	.305	8.247	.000
Attitude_of_Teachers	.340	.049	.340	6.998	.000
Available_Resources	.348	.051	.355	6.784	.000

a. Dependent Variable: Affecting_Teacher_Efficiency

Table 4.6: Coefficients

(Source: Self-developed)

Based on the unstandardized coefficients, it can be concluded that a one unit increase in Teacher Training and Competency translates to an efficiency level of 0.291 units. The Attitude of Teachers with the same increase as earlier translates into an efficiency level of 0.340, while Available Resources contributes 0.348, respectively. Comparing the two coefficients, it is noted that all the predictors in the equation are statistically significant in terms of the p-value at .000, which indicates strong evidence against the null hypothesis. In brief, both coefficients have absolute values of greater than 0.3, indicating strong evidence against the null hypothesis. Further analysis of the standardised coefficients (β) shows Available Resources ($\beta = .355$) is the strongest predictor of efficient teachers, followed by Attitude of Teachers ($\beta = .340$) and Teacher Training and Competency ($\beta = .305$).

4.4 Hypothesis testing

Hypothesis	Supporting Values from Findings	Met/Not met
H1: Educators with education on ASD will exhibit enhanced teaching productivity toward autistic learners due to specialised training in ASD classroom inclusion.	<ul style="list-style-type: none"> Mean score of 4.24 for "I feel adequately trained to implement inclusive education practice toward students with autism" (SD = 1.059). Strong positive correlation between Teacher Training and Competency and Effective Teacher Efficiency ($r = .857$). 	Met
H2: Teachers with a positive attitude toward integrated schooling will be more effective in mentoring the academic and social functioning of children with	<ul style="list-style-type: none"> Mean score of 4.27 for "The challenges I face in teaching students with autism directly impact my overall teaching performance." Positive correlation between Attitude of Teachers and Effective Teacher Efficiency ($r = .895$). 	Met

autism.		
H3: Accompanying resources like teaching assistants and adaptive technologies are associated with a higher level of teacher productivity in the context of teaching autistic kids in inclusion classrooms.	<ul style="list-style-type: none"> • Mean score of 4.27 for support from school administration regarding resources for inclusive education. • Mean score of 4.20 for “Insufficient resources hinder my ability to teach students with autism adequately.” • Highest correlation for Available Resources with Effective Teacher Efficiency ($r = .907$). 	Met

Table 4.7: Hypothesis testing

(Source: Self-developed)

4.5 Summary

In summation of this chapter, critical themes regarding teachers working with students from the ASD were identified to create a culture of understanding and to prepare them to support students' educational needs. The findings of the study involved asking 254 teachers how inclusive education in Malaysian primary schools was perceived by them. The findings were more optimistic overall, with average ratings of 4.03 to 4.33 on a 5-point Likert scale. Instructors felt competent (mean 4.24) and knew that difficulties were having an effect on teaching (mean 4.27). A correlation analysis found that teacher training, attitudes and resources were strongly related to teaching efficacy. Regression explained 88.7% of variance in teacher efficiency and resources availability was the best predictor ($r = .355$). The findings on statistical analysis suggest that teachers have more positive perceptions when they receive more training on ASD and are more aware of the educational impact for students with A of more structured and collaborative approach when working with students on the spectrum in a classroom.

Chapter Five: Summary of findings, discussion & recommendations

5.1 Summary of research findings

This research on Barriers to the Successful Implementation of Inclusive Education (IE) Among Students with Autism Spectrum Disorder (ASD) in Primary Schools in Malaysia investigated what is currently preventing IE practice from being successful, why it is challenging and what can be done to overcome it. The research question successfully highlighted key limitations to making IE work for students with ASD. The primary research question demands the answer regarding the existing barriers. The findings of the study successfully stated that there is no teacher training or ASD specific training. Teachers were concerned about not being equipped to meet autistic students' different needs and carrying the emotional cost of challenging behaviour. At the same time resources and administrative help were distributed in such a way as to make inclusive classrooms nearly impossible for teachers.

Furthermore, the second research question asks what are the causes of these problems, the study emphasises regular administrative and resources support. Teachers claimed that lack of special materials and the absence of communication between parents, teachers and experts reduce the learning experiences of ASD students. Such incoordination causes teachers to lose their engagement and makes it all the more difficult to teach autistic students effectively. On the other hand, the third research question asks what to do about these limitations. It has been identified that this research highlights the importance of special teacher training and professional development aimed at students with ASD. These kinds of programmes would make teachers more confident and more willing to engage in effective inclusive activities. Curriculum modifications based on the sensory and learning needs of ASD students are also suggested as well as bespoke learning plans.

Moreover, a more formalised approach between parents and educational experts is also important to creating supportive systems for students with ASD. This partnership can lead to greater access to the right kind of care and support in school and a better learning environment. Hence from the research findings it can be said that educators are in the minority who see good prospects for their professional development and the potential for inclusive education, but they still need better resources, administration and coordination. These can be better managed through specific training and adaptive measures, so that autistic students in Malaysian primary schools have a more equal education.

5.2 Discussion/Conclusions

This study has successfully investigated the challenges of inclusive teaching (IE) for students with autism spectrum disorder (ASD) in Malaysian primary schools, and the findings point to an important insight regarding how inclusive teaching is difficult to achieve. The results are consistent with what is known about the barriers to IE implementation by educators, but also provide some unexpected insights worth further investigation.

Conclusions

The main finding is that there is a need for greater teacher preparedness through special education. Despite the number of educators who were optimistic about their potential to serve students with ASD, a significant proportion reported that they felt inadequate to serve the students' unique needs. At the same time, ambivalence of certainty and uncertainty underscores the urgent need for full training programmes geared specifically to the challenges of teaching students with ASD. At the same time, because teachers talk about the psychological costs of behaviour management, professional learning also needs to include lessons on stress management and resilience for educators.

Surprise Results

The surprising result of the study is that the levels of administrative support vary considerably from school to school and, as a result, teachers' perceptions of their effectiveness seemed to vary a great deal. It has been identified that teachers described feeling supported, while others described a dismal lack of resources and staff dedicated to special education. This difference indicates that there is a systemic failure within the education system, where policy implementation and investment may be biased, with implications for ASD students. At the same time, they found that the work of parents, teachers and specialists is largely patchy, in contrast to the recognized importance of partnerships in inclusive learning. Teachers wanted more formal communication and regular expert input, which suggests the existing model could not provide the type of joint care that would be needed for student success.

Explanations

These results are also able to be explained by the larger educational reform scene in Malaysia, where the inclusive education movement is still in its infancy. Inequality in support and resources can stem from institutional barriers, including lack of funding and cohering policy arrangements. Furthermore, culture might be another reason why teachers do not embrace inclusive practices, advocacy and awareness initiatives may help spread a more inclusive mindset to all stakeholders. Overall, it can be said that the findings point to the importance of systemic training, resources and collaboration change to make inclusive education work for students with ASD.

5.3 Recommendations

In order to apply the findings of this study to the schools in Malaysia, we can make some simplistic suggestions to make our primary schools more welcoming for students with autism spectrum disorder (ASD). At the first time, professional development for ASD-specific teachers must happen to educate them about how to handle different needs in the classroom. Such education must involve behaviour management, sensory integration, and instructional methods designed for ASD students. On the other hand, school districts have to first pay its dues by attracting resources and money to support special education. This must include the provision of good resources and the hire of a support staff to assist with inclusive practices.

It is also important to have clear channels of communication between parents, educators and professionals. Schools should organize workshops and meetings on a regular basis, to be able to collaborate, with parents presenting experiences and experts offering guidance. On the other hand, there is such a thing as inclusive school culture. This can be accomplished by advocacy, raising awareness on the benefits of inclusive education, garnering everyone's commitment, and providing a space for ASD students. These are the best practices that can be implemented at schools in order to make learning fuller and fairer for all students.

5.4 Limitations of the Study

The study has a few drawbacks that we should be aware of. It can be said that the sample size of 254 teachers might not be representative of the varied experiences and opinions of all teachers in Malaysian primary schools, which could be a limitation of the findings. At the same time, the use of self-reports can lead to bias, because people might give more desirable responses than how they actually felt about inclusive education. On the other hand, it studies educators' views alone, which could leave out children and families with autism spectrum disorder. Furthermore, because the research was cross-sectional, its time-reference is too narrow to estimate the cumulative effects of identified obstacles and interventions on inclusive education.

5.5 Recommendations for Future Studies

In the future this research will need to include the experiences and voices of students with autism spectrum disorder and their families in order to better understand inclusive education. At the same time, long-term research would give good information about the long-term impacts of training and resources on the performance of teachers and students. In addition, studies from other places or education institutions might draw attention to success stories and novel forms of inclusive learning. Finally, research into how school culture and community engagement contribute to inclusive practices may further deepen our knowledge of what makes inclusive practices work in different environments.

Reference List

- Acton, K. S. (2021). School leaders as change agents: Do principals have the tools they need?. *Management in Education*, 35(1), 43-51. <https://journals.sagepub.com/doi/pdf/10.1177/0892020620927415>
- Alshoura, H. (2023). Critical review of special needs education provision in Malaysia: discussing significant issues and challenges faced. *International Journal of Disability, Development and Education*, 70(5), 869-884. <https://www.tandfonline.com/doi/abs/10.1080/1034912X.2021.1913718>
- Arias, C. R., Calago, C. N. S., Calungsod, H. F. B., Delica, M. A., Fullo, M. E., & Cabanilla Jr, A. B. (2023). Challenges and Implementation of Inclusive Education in Selected Asian Countries: A Meta-Synthesis. *International Journal of Research in Education and Science*, 9(2), 512-534. <https://eric.ed.gov/?id=EJ1392458>
- Attard, N., & Booth, N. (2023). Autism and mainstream education: The parental perspective. *International Journal of Educational Research*, 121, 102234. <https://www.sciencedirect.com/science/article/pii/S0883035523000988>
- Barroga, E., Matanguihan, G. J., Furuta, A., Arima, M., Tsuchiya, S., Kawahara, C., ... & Izumi, M. (2023). Conducting and writing quantitative and qualitative research. *Journal of Korean Medical Science*, 38(37). <https://synapse.koreamed.org/articles/1516083855>
- Bernacki, M. L., Vosicka, L., & Utz, J. C. (2020). Can a brief, digital skill training intervention help undergraduates “learn to learn” and improve their STEM achievement?. *Journal of Educational Psychology*, 112(4), 765. <https://psycnet.apa.org/manuscript/2019-54899-001.pdf>
- Binti Samian, S. S., & Bin Rohani, R. (2020, March). Challenges Faced by Student with Autism Spectrum Disorders in An Inclusive Environment: Lived Experiences in Malaysian Polytechnic. In International Conference on Special Education In South East Asia Region 10th Series 2020 (pp. 171-177). RedwhitePress. <https://series.gci.or.id/article/275/15/icsar-2020-2020>
- Chezan, L. C., McCammon, M. N., Wolfe, K., Drasgow, E., & Tabacu, L. M. (2023). Teachers’ familiarity, confidence, training, and use of problem behavior interventions for learners with autism spectrum disorder in school settings. *Journal of Developmental and Physical Disabilities*, 35(5), 863-887. <https://link.springer.com/article/10.1007/s10882-022-09885-2>
- Chin, M. (2023). The Zero Reject policy: a way forward for inclusive education in Malaysia?. *International Journal of Inclusive Education*, 27(4), 526-540. <https://www.tandfonline.com/doi/abs/10.1080/13603116.2020.1846800>
- Cook, A., & Ogden, J. (2022). Challenges, strategies and self-efficacy of teachers supporting autistic pupils in contrasting school settings: a qualitative study. *European journal of special needs education*, 37(3), 371-385. <https://www.tandfonline.com/doi/pdf/10.1080/08856257.2021.1878659>
- Cook-Sather, A., & Cook-Sather, M. (2023). From reporting to removing barriers: Toward transforming accommodation culture into equity culture. *Education Sciences*, 13(6), 611. <https://www.mdpi.com/2227-7102/13/6/611/pdf>
- Dehalwar, K., & Sharma, S. N. (2024). Exploring the Distinctions between Quantitative and Qualitative Research Methods. *Think India Journal*, 27(1), 7-15. <https://www.thinkindiaquarterly.org/index.php/think-india/article/view/20451>
- Ginja, T. G., & Chen, X. (2020). Teacher Educators' Perspectives and Experiences towards Differentiated Instruction. *International Journal of Instruction*, 13(4), 781-798. <https://files.eric.ed.gov/fulltext/EJ1270682.pdf>

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

- Gómez-Marí, I., Sanz-Cervera, P., & Tárraga-Mínguez, R. (2021). Teachers' knowledge regarding autism spectrum disorder (ASD): A systematic review. *Sustainability*, 13(9), 5097. <https://www.mdpi.com/2071-1050/13/9/5097/pdf>
- Howard, T. C., & Milner, H. R. (2021). Teacher preparation for urban schools. In *Handbook of urban education* (pp. 195-211). Routledge. https://ebrary.net/173072/education/teacher_preparation_urban_schools
- Istiyati, S., Marmoah, S., Poerwanti, J. I., & Mahfud, H. (2023). Comparative study of education for children with special needs in Malaysia and Indonesian primary school. *Jurnal Penelitian Pendidikan IPA*, 9(10), 7903-7908. <https://jppipa.unram.ac.id/index.php/jppipa/article/view/5210>
- Johnson, R. B., & Christensen, L. B. (2024). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage publications. https://books.google.com/books?hl=en&lr=&id=juYaEQAAQBAJ&oi=fnd&pg=PT21&dq=quantitative+primary+and+primary+qualitative+survey+and+interview&ots=3pBsufGj2V&sig=Hwxy6tXbCuxmpkf1Z0Zincv_MY8
- Khairuddin, K. F., Salleh, S. D., & Amin, A. S. (2020). Supporting students with autism in tertiary education: Malaysian lecturers' views and experiences. *Universal Journal of Educational Research*, 8(11). https://www.academia.edu/download/64871824/UJERA1_19591443.pdf
- Lessner Listiakova, I., & Preece, D. (2020). In-service education and training for teachers regarding autism spectrum disorder: a review of the literature. *Annales Universitatis Paedagogicae Cracoviensis: Studia Psychologica*, 12, 177-199. http://nectar.northampton.ac.uk/12943/1/Preece_David_and_Listiakova_Ivana_AUPC_2019_In_service_education_and_training_for_teachers_regarding_autism_spectrum_disorder_a_review_of_the_literature.pdf
- Lindner, K. T., & Schwab, S. (2020). Differentiation and individualisation in inclusive education: a systematic review and narrative synthesis. *International journal of inclusive education*, 1-21. <https://www.tandfonline.com/doi/abs/10.1080/13603116.2020.1813450>
- Lord, C., Brugha, T. S., Charman, T., Cusack, J., Dumas, G., Frazier, T., ... & Veenstra-VanderWeele, J. (2020). Autism spectrum disorder. *Nature reviews Disease primers*, 6(1), 1-23. <https://doi.org/10.1038%2Fs41572-019-0138-4>
- Low, H. M., Lee, L. W., & Che Ahmad, A. (2020). Knowledge and attitudes of special education teachers towards the inclusion of students with autism spectrum disorder. *International Journal of Disability, Development and Education*, 67(5), 497-514. <https://doi.org/10.1080/1034912X.2019.1626005>
- Mazon, C., Etchegoyhen, K., Saint-Supery, I., Amestoy, A., Bouvard, M., Consel, C., & Sauzéon, H. (2022). Fostering parents-professional collaboration for facilitating the school inclusion of students with ASD: Design of the "ToGather" web-based prototype. *Educational technology research and development*, 70(1), 231-262. <https://link.springer.com/content/pdf/10.1007/s11423-021-10073-w.pdf>
- Min, L. H., & Wah, L. L. (2020). Including Children with Autism Spectrum Disorder in Regular Schools: A Mother's Perspective. *Social Education Research*, 130- 135. <https://ojs.wiserpub.com/index.php/SER/article/view/268>
- Mitchell, F. (2023). The implications of a non-inclusive education for children and young people with autism. *Kairaranga*, 24(1), 33-42. <https://www.kairaranga.ac.nz/index.php/k/article/view/160>
- Molina Roldán, S., Marauri, J., Aubert, A., & Flecha, R. (2021). How inclusive interactive learning environments benefit students without special needs. *Frontiers in Psychology*, 12, 661427. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.661427/pdf>
- Molina Roldán, S., Marauri, J., Aubert, A., & Flecha, R. (2021). How inclusive interactive learning environments benefit students without special needs. *Frontiers in Psychology*, 12, 661427. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.661427/pdf>
- Murugesan, M. (2024, April 2). #CHILD: Acute need for autism services in Malaysia. NST Online; New Straits Times. <https://www.nst.com.my/lifestyle/heal/2024/04/1033304/child-acute-need-autism-services-malaysia>
- Naznin, N., Akter, A., & Islam, A. (2023). Opportunities & barriers in special education for children with autism. *Canadian Journal of Educational and Social Studies*, 3(1), 117-125. <https://cjess.ca/index.php/home/article/view/117>

- Nii Laryeafio, M., & Ogbewe, O. C. (2023). Ethical consideration dilemma: systematic review of ethics in qualitative data collection through interviews. *Journal of Ethics in Entrepreneurship and Technology*, 3(2), 94-110. <https://www.emerald.com/insight/content/doi/10.1108/JEET-09-2022-0014/full/html>
- Plantin Ewe, L., Holmqvist, M., & Bölte, S. (2023). Teachers' relational competence: perceptions of teachers and students with and without ADHD and ASD. *Emotional and Behavioural Difficulties*, 28(2-3), 198-215. <https://www.tandfonline.com/doi/abs/10.1080/13632752.2023.2255426>
- Pratiwi, H. (2024). Managing and Overcoming Barriers to Inclusive Education: A Case Study. *Indonesian Research Journal in Education/ IRJE/*, 8(1), 6-30. <https://online-journal.unja.ac.id/irje/article/view/25275>
- Rusticus, S. A., Pashootan, T., & Mah, A. (2023). What are the key elements of a positive learning environment? Perspectives from students and faculty. *Learning Environments Research*, 26(1), 161-175. <https://link.springer.com/content/pdf/10.1007/s10984-022-09410-4.pdf>
- Sek, C. T., & Min, L. H. (2024). Inclusive Education: Perception, Practice and Implementation within Malaysia. *Best Practices in Disability-Inclusive Education*, 3(1). <https://publication.seameosen.edu.my/index.php/diebook/article/view/393>
- Snell-Rood, C., Ruble, L., Kleinert, H., McGrew, J. H., Adams, M., Rodgers, A., ... & Yu, Y. (2020). Stakeholder perspectives on transition planning, implementation, and outcomes for students with autism spectrum disorder. *Autism*, 24(5), 1164-1176. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7311242/>
- Stephenson, J., Browne, L., Carter, M., Clark, T., Costley, D., Martin, J., ... & Sweller, N. (2021). Facilitators and barriers to inclusion of students with autism spectrum disorder: Parent, teacher, and principal perspectives. *Australasian Journal of Special and Inclusive Education*, 45(1), 1-17. <https://nottingham-repository.worktribe.com/preview/4961001/Facilitators%20and%20barriers%20to%20Inclusion%20AJSE%20revised%20ca%20May%202020.pdf>
- Taresh, S. M., Morett, L. M., Zaid, S. M., Roslan, S., Taresh Taleb, M., Song, P., ... & Noman, S. (2024). Preschool teachers' knowledge, beliefs, and self-efficacy concerning autism: A parallel mixed-methods study of an intervention to improve autism identification. *Autism*, 28(1), 239-253. <https://journals.sagepub.com/doi/abs/10.1177/13623613231211850>
- Wallwey, C., & Kajfez, R. L. (2023). Quantitative research artifacts as qualitative data collection techniques in a mixed methods research study. *Methods in Psychology*, 8, 100115. <https://www.sciencedirect.com/science/article/pii/S2590260123000061>
- Yazçayır, G., & Gürgür, H. (2021). Examination of inclusive education and resource room service in a preschool: Examination of inclusive education and resource room service. *International Journal of Curriculum and Instruction*, 13(1), 870-892. <https://ijci.globets.org/index.php/IJCI/article/download/619/279>

Appendix 1: Interview transcript

Interview question 1: Can you describe your experience with teaching children with Autism Spectrum Disorder (ASD) in an inclusive classroom setting? What specific challenges have you encountered?	
Teacher 1	Teaching children with ASD is interesting and fulfilling but also stressful. I deal with behaviour problems that affect the order in the class. Some need more support than I can grant in the bustling grade.
School Administrator 1	Our inclusive education model is still being developed: we've experienced pushback from various teachers who are afraid they aren't prepared to support.
Teacher 2	The experience was mixed, I guess. Some thrive while others struggle. There're just so many diverse needs in one classroom it goes nuts sometimes.
School Administrator 2	Teacher preparedness and understanding isn't there yet and not just inclusion, but understanding autism in general but it is just not there.

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

Teacher 3	Teaching ASD students has been eye-opening, but I think I struggle with behaviour management, and feel at a loss for how to address disruptive students.
School Administrator 3	Yes, we do some inclusivity and things, but not all the teachers will implement it and it is the problem. It will improve with a programme for all the staff, not just the teachers, to at least make us a little more aware.
Teacher 4	I have found that every child is different but it's hard to handle different needs at the same time.
School Administrator 4	We've but the biggest obstacle to this change is teacher training. We can educate parents and carers, but teachers need to catch up because awareness generally is very poor.'
Teacher 5	However, teaching ASD students is very satisfying. Yet, meeting some students' needs is complex and they can make the classroom overwhelm.
School Administrator 5	Inclusive education is a work in progress. Our efforts are constantly hampered by some staff members' resistance to implement it, which makes it difficult to support students with ASD.

Interview question 2: How prepared do you feel to teach students with autism? What kind of training or professional development would help you feel more equipped?

Teacher 1	I don't have any specific ASD training, things like training in effective teaching practices for autism would be helpful for my confidence.
School Administrator 1	I understand the importance of whole training programmes but teachers need very specific interventions to deal with the challenges of autism.
Teacher 2	I need further training in behaviour management techniques related to ASD. I feel workshops would be beneficial, when targeted.
School Administrator 2	Comprehensive training programs are essential. I advocate for ongoing professional development in ASD strategies.
Teacher 3	you would need some training to learn how to create an inclusive environment' Training in creating inclusive arrangements would be helpful. Training on best practices for supporting ASD students would also be helpful.
School Administrator 3	We need to give more resources to train teachers. Workshops on specific needs related to autism are needed.
Teacher 4	I feel like I am unequipped for some things. More classroom management training related to ASD students would be helpful.
School Administrator 4	I would like to see professional development in ASD on an ongoing basis. I know a lot of teachers who want to have some specific training.

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

Teacher 5	I need to learn more about behavioural management and intervention for ASD so that I may more successfully design an appropriate learning environment.
School Administrator 5	Extensive training is important. The teachers should educate themselves more on autism, so that they can adapt their teaching methods accordingly.

Interview question 3: How do you adapt the curriculum to meet the needs of students with autism? Can you share examples of any successful strategies or practices you've used?

Teacher 1	I use visuals and mini-lessons. I really use sensory breaks. Everything really helps focus.
School Administrator 1	We need to modify the curriculum. 'I've seen teachers get great results using a hands-on approach that seems to work better with ASD students than more traditional methods.
Teacher 2	I use differentiated learning plans for each student and if a student has trouble among the big groups but is good at communicating with small groups, then all I use to engage them is technology.
School Administrator 2	I also urge teachers to adapt lessons to children's needs and some have been adapting work for groups.
Teacher 3	I conduct lessons where all pupils work together. I've used peer support and the atmosphere is very good.
School Administrator 3	Teachers are expected to adapt to individual needs but some do not know what methods to use and they could take tips from each other if they swap ideas.
Teacher 4	I've altered lessons to incorporate more imagery. Use of technology has been very successful in working with ASD learners.
School Administrator 4	Adjusting the curriculum was necessary but teachers didn't feel they had the tools to do it, while sharing new approaches with staff would go some way towards improving practice.
Teacher 5	I differentiate and use peer tutoring and pairing kids with ASD with peers who are more empathetic works really well.
School Administrator 5	We believe in innovative adaptations to the teaching material. We promote teachers helping each other, in a supportive circumstance.

Interview question 4: What kind of support do you receive from your school administration and special education staff? Are there any resources you feel are lacking to effectively teach students with autism?

Teacher 1	Administrative support is very uneven. We need more specialised resources and personnel to ease the students' broad spectrum range of needs.
------------------	----------------------------------------------------------------------------------------------------------------------------------------------

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

School Administrator 1	We really do our best, but there are not enough resources. We need money to purchase teaching books for the students and additional special education personnel.
Teacher 2	Although I receive one-on-one support from special education staff, there are very few teaching materials which have been developed for autism, and these make a big difference.
School Administrator 2	We provide some resources but feedback says people want more stuff designed specifically for teaching ASD.
Teacher 3	I need a better support system with administration.
School Administrator 3	We can provide limited support, but having other resources and personnel would better fulfill students' unique needs within the spectrum of ASD.
Teacher 4	I enjoy the support from my peers, but, sometimes, I believe we truly need more resources for students with ASD.
School Administrator 4	We don't have a lot to offer. The teachers are actually always saying that they need specialised materials.
Teacher 5	Sometimes support is limited, especially materials-wise. More specialised resources would aid our teaching approaches greatly
School Administrator 5	While we try to support teachers, our capacity to get specialised materials is a problem; we need to improve this.

Interview question 5: How do you collaborate with parents and specialists (e.g., therapists, special education professionals) to support students with autism? How effective has this collaboration been in addressing the students' needs?

Teacher 1	Parental collaboration is usually a great experience, but very few people provide input from their specialisms. It would be good if we met more regularly with therapists. Regular contact could make a big difference.
School Administrator 1	Parents cooperate; some are involved, others are not. I encourage parents to regularly contact the specialists in order to help us implement our efforts.
Teacher 2	I like to work with parents but it's not clear that bringing in the specialists regularly works as an approach. I'd like to see regular, formalised workshops.
School Administrator 2	A good relationship with parents. This is important so that you can find new parents if a student leaves.
Teacher 3	Working with parents is not always easy. Regular communication with specialists could encourage greater collaboration and support.
School Administrator 3	Parent interest is crucial but specialist input can be slim pickings, and a semi-

IJETRM

International Journal of Engineering Technology Research & Management

Published By:

<https://www.ijetrm.com/>

	structured protocol could boost care for students.
Teacher 4	I think it is important to talk to parents all the time but I do not think that the specialists are available when we need them.
School Administrator 4	While parents are largely positive, real collaboration with specialists is patchy as more structured engagement will improve the support we give.
Teacher 5	Effective collaboration with parents has been beneficial, but I wish specialists would be more involved in the planning process.
School Administrator 5	We have a mixed experience with parent collaboration. Regular specialist involvement would enhance our overall support for students with autism.