

Inclusive Education in Association of Southeast Asian Nations (ASEAN): Literature Review from 1995–2015

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Background: There are 93–150 million children with disabilities worldwide, and they are mostly excluded from education. Following the Salamanca World Conference, many countries sought to provide education for them. However, research concerning inclusive education (IE) among Association of Southeast Asian Nations (ASEAN) has not been thoroughly examined. Hence, in this study, a literature review was conducted comprising English-language research published between 1995–2015 to determine the status of the inclusion of children with disabilities among ASEAN members.

Methods: Relevant literature were searched by ScienceDirect, SpringerLink, Scopus, ERIC, and POPLINE. The references of identified articles were likewise searched in order to find relevant publications. Studies were selected if they were (a) published in a peer-reviewed journal, (b) written in English, (c) addressed one or more aspects of IE among children with disabilities in ASEAN countries, (d) published between 1995–2015, and (e) available online, either in the form of a comprehensive abstract or full text. The included articles were classified into four categories: (1) studies on attitudes toward IE, (2) studies on the difficulties of IE, (3) studies on the evaluation of IE, and (4) others. Each study was reviewed with respect to title, publication year, country, purpose, methods, and key findings.

Results: Twenty-seven publications were identified. Of them, 78% of the studies had been conducted in Malaysia and Singapore. The number of publication in (1)-(4) category was 9, 3, 8 and 7 respectively. Interest in IE has grown rapidly in recent years. Twenty-two (81%) of the articles were written in 2010 or later.

Conclusions: Interest in IE is growing rapidly in ASEAN countries; nevertheless, their collective IE-related research output has a disparity among the countries. Studies on attitudes toward IE were a key focus, and research in all of the categories utilized in this paper have increased significantly since 2010—particularly in terms of demonstrating the efficacy of IE by using objective scales.

Keywords: inclusive education, inclusion, disability, special education, Association of Southeast Asian Nations

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I. Introduction

This study surveys literature concerning inclusive education (IE) for children with disabilities (CWD) among the Association of Southeast Asian Nations

(ASEAN). The ASEAN is comprised of 10 countries with a combined population of over 620 million, and a gross domestic product exceeding US\$2.5 trillion. These nations have benefited greatly from being well integrated into the global economy. The formation of the ASEAN

Economic Community, which envisions a single common market and production base, should lead to a free flow of goods, services, investment capital, and skilled labor in the region. By extension, these changes should also impact education, including IE, which has garnered great interest among ASEAN in recent years.

According to the World Health Organization¹, there are 93–150 million CWD between the ages of 0–14 worldwide. CWD are among the most marginalized and excluded groups, and remain largely invisible to the mainstream population and education officials. In general, most countries' efforts to provide education or training to CWD were through separate special schools, which usually target specific impairments (e.g., schools for the blind or deaf). The reach of these institutions was often limited to urban areas, and they tend to isolate individuals from their families and communities.

This situation began to change after the Salamanca World Conference on Special Needs Education², at which the idea of IE was endorsed in 1994². The Salamanca Statement is one of the most significant international special education documents. It contends that regular schools with inclusive orientations are “the most effective means of combating discriminatory attitudes, building an inclusive society, and achieving education for all” and further asserts that such schools, “provide an effective education for the majority of children, and improve the efficiency and ultimately the cost-effectiveness of the entire education system” (para. 3).

Ensuring that CWD receive a quality education in an inclusive environment should be a priority for all countries. In 2006, the United Nations Convention on the Rights of Persons with Disabilities and its Optional Protocol was adopted, and opened for signature on March 30, 2007. As of January 2017, it has 160 signatories and 172 parties, including 171 states and the European Union. The convention was signed by all of ASEAN, and with the exception of Brunei, ratified in each nation. The convention asserts that CWD should be included in general education systems, and receive appropriate individual support. This requires modifying education systems so as to remove barriers, provide reasonable accommodations, and to create support services in order to ensure that CWD are not excluded from mainstream educational opportunities. Each ASEAN country is struggling to enact IE within the context of their respective cultures, educational systems, and budgets. There is also an absence of accurate and up-to-date information regarding disability, special education, and IE-related services in ASEAN countries, thus motivating

us to write this paper. The aim of this study was to review the literature in order to understand what IE research had been conducted among ASEAN countries following the Salamanca Statement.

There are two major obstacles to conducting a survey of this nature. First, many research reports in the region are available in hardcopy only, with no online versions. Furthermore, many are written in languages that are foreign to this article's authors. Hence, we limited our search to papers published in peer-reviewed, English-language journals. As a result, national reports and reports from international organizations concerning IE were excluded so that the study maintains a specific focus on the academic contributions within ASEAN. Second, since ASEAN have not reached a consensus regarding the definition of IE, its practice and perception by ASEAN policymakers and educators differs when compared to literature from other nations. Whereas some believe that IE entails providing students with specialized schools, others maintain that it involves teaching CWD in regular classrooms in an ordinary school setting. Despite progress made in educating CWD in recent years in ASEAN, these countries are still facing challenges in reforming their educational systems and transforming them into inclusive systems. The support for CWD in school is a major topic in school health.

II. Methods

1. Defining Disabilities and IE

In this study, disabilities are defined as any physical, psychiatric, behavioral, or language impairment occurring prior to 22 years of age, and includes intellectual disabilities, autism spectrum disorders, Down syndrome, language and learning disorders, and vision and hearing impairments^{3,4}. IE is defined as any type of education wherein CWD are accepted into schools.

2. Literature Search

A literature review of IE research in ASEAN countries was conducted. The selection criteria were relaxed. As IE is in its infancy in ASEAN, articles that did not meet the precise criteria for a systematic review were nevertheless important in obtaining an overview of the subject, and represent an initial step toward IE research.

3. Search strategy for relevant articles

In January 2017, ScienceDirect, SpringerLink, Scopus, ERIC, and POPLINE were used to search for relevant, English-language literature; reference lists of identified articles were likewise searched in order to find related articles. The search formula is as follows: education AND (integration OR inclusion OR “special needs education” OR “special education” OR disability) AND (Brunei OR Cambodia OR Indonesia OR Laos OR Malaysia OR Myanmar OR Philippines OR Singapore OR Thailand OR Vietnam).

4. Inclusion criteria

The titles and abstracts retrieved by the database search were screened using the following inclusion criteria:

- (1) Studies must address one or more aspects of IE for CWD;
- (2) Studies must be evaluated statistically;
- (3) Studies must be published in a peer-reviewed journal;
- (4) Studies must be written in English;
- (5) Studies must be published between January 1, 1995 and December 31, 2015;
- (6) Studies must be available online, either in the form of a comprehensive abstract or full text;
- (7) Studies must be conducted in ASEAN countries.

IE studies are rarely evaluated using the gold standard of randomized and controlled trials. More commonly used approaches are empirical or quasi-experimental natural experiments. We include any kind of experimental survey in this review. However, other publications, such as white papers, chapters from books, and presentations/conference papers were excluded. Likewise, studies pertaining to informal education in contexts such as refugee camps, international schools, and preschools were excluded.

5. Data Review and Analysis

Two reviewers (AN and MY) independently followed the same steps to search for articles and identified those that were relevant according to the inclusion criteria. Once a list of potential publications for inclusion in the study was prepared, the researchers collectively examined each one. When in doubt as to whether a given article met the inclusion criteria, the reviewers discussed

it and reached a consensus. Each publication that satisfied the inclusion criteria was reviewed with respect to its author(s), title, publication year, country of origin, purpose, methods, and key findings.

III. Results

1. Literature Characteristics

ScienceDirect yielded 41 articles. SpringerLink, Scopus, ERIC and POPLINE yielded 124, 5304, 11 and 562 articles, respectively. Twenty-seven publications concerning CWD in ASEAN (see **Table 1**) were identified, although no studies pertaining to Cambodia, Laos, Myanmar, and the Philippines could be located. There were also significant differences between countries with respect to data availability, as 78% of the studies had been conducted in Malaysia and Singapore. The most common reasons for exclusion were that studies did not address IE among CWD.

The included articles were classified into four categories: 1) studies on attitudes toward IE, 2) studies on the difficulties of IE, 3) studies on the evaluation of IE, and 4) others. With respect to the first category, these articles were further divided into positive, negative, and neutral groups depending on whether their IE positions were favorable, unfavorable, or ambivalent, respectively. In general, attitudes towards IE are ambivalent.

An overview of each study, including publication date, country of origin, sample size, purpose, methods, classification, and key findings is supplied in **Table 1**.

Table 1 Studies concerning inclusive education in ASEAN countries

Ref.	Classification	Title	Source	Author(s)	Year	Country	Sample	Purpose	Methods	Key findings
5	Attitudes toward inclusive education	Teachers' attitudes to signing for children with severe learning disabilities in Indonesia	Int. J Inol Educ	Kieron, S. and Budiyo	2014	Indonesia	89 teachers and educational professionals in Indonesia	To examine the attitudes of teachers toward manually signed language	Questionnaire and semi-structured interviews	A strong belief of teachers that using signed language would encourage speech (91% agreed children with severe learning disabilities were shown). Teachers held generally positive attitudes toward the possibilities of signing.
6	Attitudes toward inclusive education	An empirical study on teachers' perceptions towards inclusive education in Malaysia	Int. J Spec Educ	Ali, M.M. et al.	2006	Malaysia	235 mainstream / special-education teachers from public primary and secondary schools	To examine teachers' attitudes and perceived knowledge toward inclusive education in Malaysia	Questionnaire	Teachers agreed that inclusive education enhanced social interaction and inclusion among students. In addition, collaboration between mainstream and special-education teachers was important.
7	Attitudes toward inclusive education	Special education teachers' attitudes toward including students with SEN in mainstream primary schools in Singapore	Asia Pac. J Dev Differ	Weng, C.S. et al.	2015	Singapore	38 special-education teachers working with special-education students in mainstream classrooms	To examine special-education teachers' attitudes toward inclusive classrooms in mainstream Singaporean primary schools	Questionnaire	Teachers possessed positive attitudes toward inclusion in mainstream classrooms. There is a positive correlation between teachers' willingness to make adaptation to the curriculum and the placement of special needs education students learning in their classrooms.
8	Attitudes toward inclusive education	Pre-service teachers' views about inclusion in Singapore	J Int. Assoc. Spec Educ	Nonis, K.P. and Jennice, T.S.Y.	2011	Singapore	114 preservice general-education teachers	To identify preservice general-education teachers' views concerning the inclusion of children with special-education needs into general classrooms in Singapore	Questionnaire	Overall, participants held positive attitudes toward the inclusion of children with special education needs into their classrooms.
9	Attitudes toward inclusive education	Comparison of Brunei preservice students teachers' attitudes to inclusive and specific disabilities: Implications for teacher education	J Educ Res	Hag, F.S. and Murtida, L.	2012	Brunei	89 preservice Bruneian teachers	To investigate and compare Bruneian trainee teachers' attitudes toward specific disabilities and students with high support needs	Questionnaire	Participants were supportive of inclusion in general, but not to accommodating students with challenging behaviors or sensory, mental, or multiple disabilities.
10	Attitudes toward inclusive education	Inclusive education: Teachers perspectives from Malaysia	Int. J Inol Educ	Bailey, L. et al.	2015	Malaysia	Approximately 300 primary-school teachers in Malaysia	To survey the views of primary-school teachers regarding inclusive education	Questionnaire	Participants expressed generally positive views toward inclusion in principle; however, results also revealed that attitudes towards IE were ambivalent and bordered on the unfavourable.
11	Attitudes toward inclusive education	Attitudes of pre-service mainstream teachers in Singapore towards people with disabilities and inclusive education	Int. J Inol Educ	Traver, T. and Lim, L.	2014	Singapore	1538 mainstream preservice teachers	To survey the attitudes of preservice teachers toward disability and inclusive education	Questionnaire	The results indicated generally negative attitudes towards people with disabilities. The results also revealed that attitudes towards IE were ambivalent and bordered on the unfavourable.
12	Attitudes toward inclusive education	Pre-service teachers' attitudes, concerns and sentiments about inclusive education: An international comparison of novice pre-service teachers	Int. J Spec Educ	Sharma, U. et al.	2006	Singapore, Australia, Canada, and Hong Kong	97 preservice teachers in Singapore, and 963 preservice instructors in Australia, Canada, and Hong Kong	To examine the attitudes and concerns held by preservice instructors regarding inclusive education, in addition to their degree of comfort when interacting with people with disabilities	Questionnaire	Participants from Western countries tended to have more positive sentiments and attitudes toward students with disabilities.
13	Attitudes toward inclusive education	What concerns pre-service teachers about inclusive education: An international viewpoint?	KEDI J Educ Pol	Sharma, U. et al.	2007	Australia, Canada, and Hong Kong	93 preservice teachers in Singapore, and 510 preservice instructors in Australia, Canada, and Hong Kong	To identify the concerns of 603 preservice instructors regarding the inclusion of students with disabilities into regular schools prior to obtaining special-education training	Questionnaire	Participants from Hong Kong and Singapore were significantly more concerned about the inclusion of students with disabilities into their classrooms than their Australian and Canadian counterparts.
21	Difficulties of inclusive education	Correlation between self-esteem, coping difficulties, self-efficacy, and illness symptoms towards supported education for students with psychiatric disabilities	Procedia Soc Behav Sci	Yahaya, A. et al.	2010	Malaysia	30 students with psychiatric disabilities	To explore the need for supported education among higher education students with psychiatric disabilities	Questionnaire	The students were academically capable, and a strong correlation was found between their coping difficulties and performance.
22	Difficulties of inclusive education	The activities and participation of adolescents with autism spectrum disorders in Singapore: Findings from an ICF-based instrument	J Intellect Disabil Res	Poon, K.	2011	Singapore	20 adolescents with autism spectrum disorders attending Singaporean special schools	To examine participation and habits among Singaporean adolescents with autism spectrum disorders	Interviews based on established scales	Adolescents with autism spectrum disorders experienced greater difficulty with participation than engagement in activities, and struggled more with communication in community settings than at home.
23	Difficulties of inclusive education	Exploring the experience of children with disabilities at school settings in Vietnam context	SpringerPlus	Tran, K.V.	2014	Vietnam	269 children both with and without disabilities, in addition to parents and teachers	To examine the difficulties faced by students with disabilities at a Vietnamese school, and how to cope with them	Questionnaire and interviews	The most severe difficulties involved inadequate learning facilities, lack of empathy from other students, and physical barriers.
24	Evaluation of inclusive education	The implementation of inclusive education for students with special needs in Indonesia	Excel High Educ	Sunardi et al.	2011	Indonesia	186 inclusive schools	To evaluate the implementation of inclusive education in Indonesia	Questionnaire	Of the schools, 54% set a quota for students with special-education needs; only 19% utilized a selection process for student admissions, of which just half used specific procedures for special-education needs candidates. Roughly 50% modified their curricula using a variety of standards; nevertheless, many did not significantly alter their
25	Evaluation of inclusive education	Collaboration and individual education practices among secondary schools with special education in Peninsular, Malaysia	Procedia Soc Behav Sci	Khalid, G.B. et al.	2012	Malaysia	369 teachers and school principals from 120 secondary schools in Peninsular Malaysia	To evaluate collaboration between schools, parents, and communities with respect to secondary school special education	Questionnaire and interviews	Three dimensions of collaboration (i.e., communication, parenting skills, and learning at home) exhibited high levels; however, voluntarism, decision making, and community collaboration exhibited low levels.
26	Evaluation of inclusive education	Teacher leadership and classroom management practice on special education with learning disability	Procedia Soc Behav Sci	Ngang, T.K. and Abdullah, N.A.C.	2015	Malaysia	179 special-education teachers at elementary and secondary schools in Malaysia	To examine the effects of leadership and classroom management practices on special-education students with learning disabilities	Questionnaire	Instructors regularly adopted teacher leadership practices and their related dimensions, which had a strong impact on classroom management.
27	Evaluation of inclusive education	Monitoring progress using the Individual Education Plan for Students with Autism	Procedia Soc Behav Sci	Toran, H. et al.	2010	Malaysia	10 autistic students at an autism learning laboratory established by the National University of Malaysia	To investigate the Individual Education Plan's effects on learning among autistic students	Monitoring by teachers	Student achievement ranged between 40–100% when compared to the Individual Education Plan's objectives.
28	Evaluation of inclusive education	Challenging behaviors among children with autism spectrum disorders and multiple disabilities attending special schools in Singapore	Res Dev Disabil	Poon, K.	2012	Singapore	Teachers of 32 and 132 children with autism spectrum disorders and multiple disabilities, respectively, at Singaporean	To understand factors that impact challenging behaviors among children with multiple disabilities and autism spectrum disorders	Questionnaire	When compared to children with multiple disabilities, children with autism spectrum disorders exhibited elevated levels of challenging behavior in all areas.
29	Evaluation of inclusive education	The effectiveness of Orton-Gillingham-based instruction with Singaporean children with specific reading disability (dyslexia)	Br J Spec Educ	Hwee, N.C.K. and Houghton, S.	2011	Singapore	77 primary school aged, Singaporean children	To evaluate the efficacy of Orton-Gillingham-based instruction among dyslexic Singaporean children	Reading tests	Orton-Gillingham-based instruction brought about significant improvements in word recognition (i.e., aural-visual decoding) and word expression (i.e., visual-oral decoding) performance.
30	Evaluation of inclusive education	The development of social interaction of children with autism in inclusive classrooms	Procedia Soc Behav Sci	Runcharoen, S.	2014	Thailand	8 autistic children studying in a full-inclusion setting	To promote social interaction among autistic children in inclusive classrooms	Questionnaire and interviews	Autistic children exhibited increased development in social interaction, both with respect to communication skills and group activities. In addition, students from the normal classroom generally accepted and helped their autistic peers.

Ref.	Classification	Title	Source	Author(s)	Year	Country	Sample	Purpose	Methods	Key findings
31	Evaluation of inclusive education	A professional learning program for enhancing the competency of students with special needs	Int. J. Whole Sch	Kantavong, P. et al.	2010	Thailand	106 teachers, 16 administrators, and 68 parents from eight different schools	To present a model professional-learning program designed to enhance the competency of special-needs students	Observations, interviews, and pre/post training achievement tests	The post-test scores revealed a slight improvement in reading, spelling, and mathematical skills among students taught by instructors who partook in the professional learning program.
32	Other	Teacher's perspective on infrastructure of special education's classroom in Malaysia	Procedia Soc Behav Sci	Yasin, M.H.M. et al.	2010	Malaysia	554 teachers and administrators	To explore teachers' knowledge of the infrastructure required for special education, and to obtain their opinions concerning it	Questionnaire and interviews	Of the respondents, 37.7% were unsure of the infrastructure required, whereas 52.4% believed that the infrastructure was inadequate.
33	Other	School-to-work transition service for students with disabilities in Malaysia: Organizations' views on policy and practices	J Res Spec Educ Needs	Abdullah, M.N.L.Y. et al.	2011	Malaysia	23 governmental and non-governmental organizations involved in the education and training of students with disabilities	To investigate the transitional services provided by educational organizations to Malaysian students with disabilities	Questionnaire and semi structured group interviews	Only 38.1% of the organization supported the school-to-work transition. The organizations were aware of the lack of transition support. Organizations were aware that transitional support was lacking, and highlighted the importance of instituting a national policy for transitional services, as well as employment support for students with disabilities.
34	Other	Profile of low vision children in the special education schools in Malaysia	Med J Malays	Omar, R. et al.	2009	Malaysia	139 children with visual impairments from Malaysian special schools	To examine the causes of visual impairment, and the use of low-vision devices among children studying at special schools	Visual acuity test	Near-visual acuity ranged between M4-N64 in 71 children, whereas 68 could not read the N64 chart or were totally blind. Only 8 students used low-vision devices; cataracts were the major cause of impairment among 17% of the participants.
35	Other	Comparison of vision disorders between children in mainstream and special education classes in government primary schools in Malaysia	Singap Med J	Abu Bakar, N.F. et al.	2012	Malaysia	30 schoolchildren from mainstream classes, and 30 from special-education classes	To compare vision disorders between Malaysian children with and without learning disabilities	Eye examinations	Convergence insufficiency was prevalent among children enrolled in special-education classes.
36	Other	Stress among special education teachers in Malaysia	Procedia Soc Behav Sci	Ghani, M.Z. et al.	2014	Malaysia	92 special-education teachers	To investigate factors that contribute to stress and occupational stress among Malaysian special-education teachers	Questionnaire	Overall, respondents' stress levels were moderate. Among the five stressors examined, pupil misbehavior was the strongest determinant of teacher stress.
37	Other	Support for students with visual impairment in higher education in Singapore: Considering university publicity materials conveying disability services and support	CAISE Rev	Wong, M.E.	2014	Singapore	Six Singaporean universities	To examine online resources that reflect the state of support for students with visual impairments in Singaporean institutions of higher education	Examination of each university's online resources	Information was presented holistically to address the general needs of students with disabilities, but lacked specific details pertaining to the support available for students with visual impairments.
38	Other	Breaking barriers: Building research partnerships between special education teachers and universities in action research in Singapore	J Int Assoc Spec Educ	Nonis, K.P.	2008	Singapore	102 teachers undergoing preservice training in special education	To gauge special education teachers' interest in participating in action research	Questionnaire	Most Year-one and Year-two instructors were interested in participating in action research; however, they were concerned about the level of support they would receive in doing so.

2. Studies on Attitudes toward IE

Nine publications investigated the attitudes toward IE of several groups, including special and regular education teachers, administrators, parents, and children. Four of the studies⁵⁻⁸⁾ reported positive attitudes toward IE, whereas three⁹⁻¹¹⁾ found negative attitudes or a lack of knowledge toward it, and two studies¹²⁻¹³⁾ reported neutral or mixed attitudes.

Sheehy et al.⁵⁾ used a 25 item questionnaire, derived from Sheehy and Duffy's research¹⁴⁾, to reveal a strong belief among teachers that using sign language would encourage the speech of children with severe learning disabilities (91% agreed), whereas the responses obtained from interviews with the same teachers were more ambivalent and, at times, expressed markedly different beliefs about the effect of signing.

Ali et al.⁶⁾ used questionnaire which was made by researchers and measured teachers' perceptions of IE. Their study showed that approximately two-thirds (66%) of respondents were in favor of the notions that special needs and mainstream students should be integrated into mainstream classes/community and that the students would benefit from inclusive classes. The results also showed that the collaboration between the special education teachers and regular teachers was vital to the implementation of IE. However, almost half (49.8%) of the respondents stated that the implementation of IE is ineffective.

Weng et al.⁷⁾ used the Multidimensional Attitudes Toward Inclusive Education Scale¹⁵⁾ to measure teachers' attitudes toward IE. Their study showed that special education teachers displayed positive attitudes toward inclusion in mainstream classrooms. There is a positive correlation between teachers' willingness to adapt the curriculum and the placement of special needs education students learning in their classrooms.

Nonis et al.⁸⁾ used a modified version of a questionnaire, developed previously by Nonis¹⁶⁾, to reveal that pre-service teachers believed that both children with (55%) and without special education needs (79%) would benefit from interaction with each other.

Haq et al.⁹⁾ constructed a three-part self-report instrument which showed that trainee teachers supported inclusion but were not in favor of accommodating students with sensory, mental, or multiple disabilities or challenging behaviors.

Bailey et al.¹⁰⁾ used the Attitude Toward Inclusion Instrument, developed by Swain et al.¹⁷⁾. Their results showed that overall attitudes were weakly positive

towards inclusion. However, the vast majority (95%) believed that CWD were best served through special classes.

Thaver et al.¹¹⁾ measured the attitudes of pre-service mainstream teachers in Singapore using the Attitudes Towards Disabled Persons Scale (ATDP) and the Attitudes Towards Inclusive Education Scale (ATIES)¹⁸⁾. The results of ATDP indicated generally negative attitudes towards people with disabilities. The results of ATIES revealed that attitudes towards IE were ambivalent and bordered on unfavorable.

Sharma led research for two articles. First article published in 2006 used the ATIES¹²⁾, along with modified version of the Interaction with Disabled Persons Scale¹⁹⁾ and the Concerns About Inclusive Education Scale (CIES)²⁰⁾ to compare teachers' attitudes towards IE in Australia, Canada, Hong Kong, and Singapore. The results showed that participants from Western countries tended to have more positive attitudes toward CWD. The article published in 2007¹³⁾ used only the CIES and showed that participants from Hong Kong and Singapore were significantly more concerned about IE than their Australian and Canadian counterparts.

Overall, attitudes toward IE were a key issue addressed in many publications. Positive attitudes were more prevalent than negative attitudes in ASEAN countries. Nonetheless, numerous studies highlighted the inadequacy of resources or training for regular instructors and preservice teachers^{5,7,9-11,13)}.

3. Studies on the Difficulties of IE

Three publications²¹⁻²³⁾ addressed the difficulties/requirements associated with implementing IE. Yahaya et al.²¹⁾ utilized the Elements of Supported Education Inventory, Coping Difficulties Inventory, Rosenberg's Self-Esteem Scale, School Self-Efficacy Scale, modified Colorado Symptom Index, and Support for Supported Education Scale. Their study revealed that higher education students with psychiatric disabilities were intellectually capable and a strong correlation was found between their coping difficulties and performance.

Poon²²⁾ explored the challenges encountered by schoolchildren with autism spectrum disorders (ASD). He adopted the Vineland-II forms of the Vineland Adaptive Behavior Scales, as well as the Activities and Participation Rating Scale in his study measuring the difficulties of students from their parents' perspectives. Adolescents with ASD were rated as having more difficulty with communication and community

environments than at home and were rated more poorly on participation than in their ability to perform activities.

Tran²³⁾ studied CWD in Vietnam using a questionnaire consisting of three questions on knowledge, awareness, and practice towards disabilities and five questions on daily activities of CWD. The results showed that the most significant disadvantages and difficulties expressed by CWD were the limitations of learning facilities, and almost all difficulties faced by CWD at school were socially constructed.

4. Studies on the Evaluation of IE

Eight publications²⁴⁻³¹⁾ focused on the evaluation/implementation of school programs for CWD. Sunardi²⁴⁾ evaluated IE settings from six different perspectives: management, students, curriculum, instruction, evaluation, and external support (as defined by the Indonesian National Guidelines for the Implementation of Inclusive Education). The results showed that 54% of the schools set a quota for students with special-education needs; only 19% utilized a selection process for student admissions, of which just half used specific procedures for special-education needs candidates. The results also showed that roughly 50% of the schools modified their curricula using a variety of standards; nevertheless, many did not significantly alter their organizational structure.

Khalid et al.²⁵⁾ used a modified version of the Epstein Questionnaire and interviews with parents to evaluate levels of parent-community collaboration. The results showed a high level of communication, parenting skills, and learning at home, however, a low level of volunteerism, decision-making, and collaboration with the community were also found.

Nang et al.²⁶⁾ used questionnaires to evaluate teacher leadership in special-education classrooms, finding that several components of teachers leadership namely meeting and minimizing crisis dimension, securing environment dimension, building capacity dimension and creating energy in the classroom dimension were significantly and positively associated with classroom management practices.

The other five publications²⁷⁻³¹⁾ evaluated the effectiveness of education for CWD in some way. Toran et al.²⁷⁾ evaluated the individual education plan (IEP) for autistic students by percentage of learning objectives achieved. The results showed that students' achievement ranged from 40% to 100% of their IEP objectives.

Poon²⁸⁾ evaluated the education of ASD and multiple disabilities (MD) students in a special school using the

Developmental Behavior Checklist, Teacher Version. The results showed that ASD students elevated levels of challenging behavior in all areas, relative to MD students.

Hwee et al.²⁹⁾ evaluated the special education system for dyslexia, namely Orton-Gillingham-based instruction using reading tests. The study found that the system resulted in improvements in word recognition scores and word expression scores, however, no improvement was found in sentence reading age score.

Runcharoen³⁰⁾ evaluated the development of social interaction of children with autism (CWA) in inclusive classrooms. The study used a checklist of social interaction for autistic children, which was adapted from the thesis of Kamolrat Sriwised at Khon Kaen University, Thailand (the authors could not confirm the contents of this paper), the self-made questionnaire of development for CWA's social interaction in inclusive classrooms, and interviews to observe autistic children socially interacting with teachers, parents, and regular students in inclusive classes. The results showed that CWA increased the development of social interaction in their communication skills and group activities. In addition, students in the normal classrooms generally accepted and helped CWA.

Kantavong et al.³¹⁾ evaluated the impact of a professional learning program for teachers of students with autism, attention deficit hyperactivity disorder, and learning disabilities. Interviews with teachers, parents, and school administrators; observation; and achievement tests for reading, spelling, and arithmetic were used. The results showed that there was slight improvement in the reading, spelling, and mathematical skills of students taught by teachers who participated in the professional learning program compared to the control group. Trained teachers in inclusive classrooms had well-prepared lesson plans with clear directions and explanations.

5. Others

Seven publications^{32–38)} could not be classified into any of the aforementioned groups. Yasin et al.³²⁾ investigated teachers' perceptions and knowledge of special-education classroom infrastructure, finding that 37.7% of the respondents were unsure of the infrastructure required, whereas 52.4% believed that the infrastructure was inadequate.

Abdullah et al.³³⁾ evaluated the school-to-work transition services for CWD by questionnaire and interview with government organizations and Non-governmental organizations, finding that only 38.1% of organizations supported the school-to-work transition.

The organizations were aware of the lack of transition support and highlighted the importance of instituting a national policy for transitional services, as well as employment support for CWD.

Omar et al.³⁴⁾ measured visual acuity in special-education schools. The results showed that near-visual acuity ranged between N4–N64 in 71 children, whereas 68 could not read the N64 chart or were totally blind. Only 8 students used low-vision devices; cataracts were the major cause of impairment among 17% of the participants.

Abu Bakar et al.³⁵⁾ compared vision disorders between children in mainstream and special education classes. The refractive error, lag of accommodation, and convergence insufficiency were measured. Only convergence insufficiency was found to be associated with children in special education.

Ghani et al.³⁶⁾ measured stress among special-education teachers. The results showed teachers' stress levels were moderate. Among the five stressors examined, pupil misbehavior was the strongest determinant of teacher stress.

Wong³⁷⁾ evaluated different university websites with respect to their accessibility to visually impaired users. The results showed that information was presented holistically to address the general needs of students with disabilities, but lacked specific details pertaining to the support available for students with visual impairments.

Nonis³⁸⁾ explored the potential for special-education teachers and universities to engage in collaborative research. The results showed that the majority of teachers from both year one and year two were interested in research. However, teachers were concerned about the level of support they received when participating in research projects.

IV. Discussion

This study surveyed English-language publications from 1995–2015 pertaining to the IE of CWD in ASEAN and categorized each one according to country of origin, publication year, and purpose. Interest in IE has grown rapidly in recent years. Twenty-two (81%) of the articles were written in 2010 or later. A significant disparity with respect to each country's research contribution was also found. Malaysia and Singapore produced 78% of the studies. Moreover, Cambodia, Laos, Myanmar, and the Philippines were not represented in any of the studies surveyed. However, this does not mean that efforts toward IE are nonexistent in these countries, but

that the topic is not a key focus for some researchers. In fact, as in other ASEAN these nations did produce relevant research studies of IE, but none were measured statistically or national report which made by government or international NGO³⁹⁻⁴⁵).

Attitudes toward IE were a key focus in many of the studies surveyed, and the results were largely inconsistent. This finding mirrors that of other studies involving non-ASEAN countries⁴⁶⁻⁴⁸). Nevertheless, teachers' perceptions of IE become increasingly positive when relevant training is provided, which subsequently improves their understanding of disabilities. If teachers' attitudes are shaped by day-to-day classroom practices, then strategies to encourage effective IE practices ought to be promoted⁴⁹). Thus, educational planners and policymakers must incorporate practical and effective IE instructional techniques into their teacher preparation and professional development programs. The findings further revealed that IE research in ASEAN increased significantly since 2010, particularly with respect to demonstrating teacher's attitudes or IE's efficacy by using objective scales. Given these trends, we believe that IE research will continue to expand in ASEAN.

Evaluation of IE was new trend of the survey. Five of eight studies evaluated the effectiveness of education for CWD. All of five studies showed positive effects of IE for CWD in some way. These types of study may increase and show the strong and weak point of present IE curriculum. They will provide lots of suggestion for IE policy and system with the study on the difficulties of IE.

V. Conclusions

Interest in IE is growing rapidly in ASEAN; nevertheless, their collective IE-related research output has a disparity among the countries. Studies on attitudes toward IE were a key focus, and research in all of the categories utilized in this paper have increased significantly since 2010—particularly in terms of demonstrating the efficacy of IE by using objective scales.

In reflecting on this study's findings, certain limitations should be taken into account. Given that it was limited to English-language studies and empirical research published online in refereed journals, the results cannot be considered exhaustive. These requirements resulted in the exclusion of potentially relevant studies published in languages other than English, in addition to non-academic sources, such as national reports or those

from international organizations. Therefore, it must be emphasized that this study does not reflect the extent of each ASEAN's IE-related efforts, but rather the interests and tendencies of their respective researchers.

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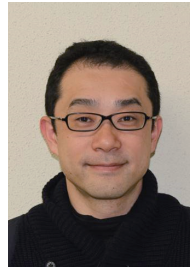
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