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Professional Knowledge in Early Childhood Education Programs: Are the Preservice Early Childhood Teachers Ready for Inclusive Education?

幼儿教育课程专业知识：职前幼儿教师准备好接受全纳教育了吗？

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Abstract: Malaysia government has committed to provide inclusive education in the country after declared and signed the Salamanca Statement at World Conference on 1994. In addition, Malaysia Persons with Disability Act 2008 also stated clearly that for persons with disabilities, they shall not be excluded from the general education system regardless of their disabilities in all levels of education system in Malaysia. As early childhood education is part of the formal education system in Malaysia, early childhood centres in Malaysia are bound to practice inclusive education in their settings in line with the government policy. In view of this, early childhood teachers must be prepared with adequate special needs knowledge to effectively handle young children with different abilities and disabilities. In the Malaysian Qualifications Agency (MQA) programme standards for early childhood

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education, the essential special needs subject topics are listed clearly. Questions arise on whether the early childhood teachers are ready with sufficient knowledge to teach effectively in inclusive classrooms. To answer the above questions, Malaysia early childhood teacher training programme standard for special needs subject was analyzed. To make the comparison of the comprehensiveness, Singapore Preschool Qualification Accreditation Committee (PQAC) programme standard was used to add to the understanding of early childhood education teachers' preparedness in inclusive education teaching. Future research on experiences and challenges early childhood teachers face in real inclusive teaching environment is suggested.

Keywords: early childhood education programme, special needs elements, inclusive education

摘　要：马来西亚政府在 1994 年世界会议上宣布并签署《萨拉曼卡声明》后，承诺在国内提供全纳教育。此外，马来西亚2008年残障人法令也明确规定，在马来西亚各级教育系统中的普通教育系统，无论学生是否有残障，都不得将其排除在外。由于幼儿教育是马来西亚正规教育系统的一部分，马来西亚的幼儿教育中心必然会根据政府政策在其环境中实施全纳教育。有鉴于此，幼儿教师必须具备足够的特殊需求知识，以有效地处理不同能力和残障的幼儿。在马来西亚资格认证机构（MQA）的幼儿教育课程标准中，明确列出了基本的特殊需求教学主题。基于更好的了解幼儿教师是否准备充足以在全纳课堂中有效的进行教学，本文为马来西亚幼儿教师专业课程标准里的特殊需求学科进行了分析。为了进行更全面性的比较，新加坡学前教育资格认证委员会（PQAC）认证标准被采纳以增加对幼儿教育教师在全纳教育教学中准备情况的了解。本文末端也针对未来可进行的有关幼儿教师在实际全纳教学环境中面临的挑战的研究提出了建议。

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关键词：幼儿教育课程，特殊需求要素，全纳教育

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1. Introduction

Inclusive education is the global trend now aiming at building healthy learning environment in the society. Inclusive education is defined by the 2013 special education regulations as the process of strengthening the educational system's capacity to reach out to all learners and students, as well as an overarching principle that guides all educational policies and practises, based on the belief that education is a fundamental human right and the foundation for a more just and equal society. (Government of Malaysia, 2013). Most of the countries worldwide admit the importance and benefit of inclusive education to the nations, and policy that support inclusive education were also being enforced and rectify (UNESCO, 1994). To implement inclusive education successfully, it requires changes at all levels of society and education system (Schuelka, 2018, p.2).

 Malaysia moved towards to the implementation of inclusive education, after declared and signed the Salamanca Statement at World Conference on 1994 (UNESCO, 1994). Followed with the declaration, some policies and acts have been made to align with the decision made. One of the significant document that shows support to inclusive education is the Person with Disabilities Act 2008 that was enacted in late 2007 (Government of Malaysia, 2018). Recognizing that early childhood education plays an important part in children's later education success, inclusive education should start from very young (UNESCO, 2014).

In view of this, early childhood teachers play a vital role in ensuring the success of inclusive education. Early childhood teachers' knowledge and understanding in special educational needs will help in effective implementation of inclusive education (Alkalin et al., 2014). To prepare the teachers with adequate special educational needs knowledge, the training teachers received shall be comprehensive and relevant (UNESCO, 2014). Many countries' early childhood teachers' training programme standard stated clearly the topics for special educational needs subject, for example in Malaysian Qualifications Agency (MQA, 2014), and Singaporean Preschool Qualification Accreditation Committee (PQAC, 2008). These aim to help setting the guidelines for a comprehensive training content for special educational needs subject in each individual country.

In Malaysia, special needs education awareness is still growing slowly (UNICEF, 2017). Research in studying students and teachers' awareness of the Convention on the Rights of the Child, Children's Rights and human rights practises in schools in Malaysia showed that many students and teachers did not have good levels of knowledge of human rights education (Chong, 2017). There is a lack of awareness among the public regarding the equal access to education for persons with learning disabilities (Human Rights Commission, 2015). Peters (2010) study on inclusive education in primary education suggested that the lack of early childhood developmental screening programs negatively impact the special needs children's learning and primary education setting. All these research results imply that early childhood teachers may not have sufficient special educational needs knowledge

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to teach special needs children that eventually may affect the implementation of inclusive education in the nation. One of the main reason for the lacking of special needs knowledge might be due to the special educational needs contents taught in early childhood education programme that are insufficient to equip pre-service early childhood teachers for inclusive teaching. In view of this, the current research aims at evaluating the MQA early childhood education programme standard in special needs subject by referring to the Teachers' Knowledge Based Model (Guerriero, 2013). In addition, another early childhood education programme standard, the Preschool Qualification Accreditation Committee (PQAC) from Singapore - a developed neighboring country was also being evaluated to verify the comprehensiveness of the special educational needs subject contents in both the neighboring countries. By analyzing and evaluating the special needs elements in the training subjects the teachers received, the preparedness of the early childhood teachers to work effectively in teaching special needs children in inclusive settings can then be affirmed.

Over the years, there has been an increasing international focus on the topic mastery required for effective teaching (Fennema; Franke, 1992; Darling-Hammond, 2000; Krauss et al., 2008). Several authors have claimed that being a great teacher involves a strong foundation in pedagogical subject knowledge in addition to strong content knowledge. Literature indicated that teacher quality is an important factor in determining gains in student achievement (Kane, Rockoff & Staiger, 2008; Sirait, 2016). Teacher quality include the teacher's pedagogical knowledge in creating effective teaching and learning environments

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for students (Guerriero, 2013). Studies demonstrate that teachers with pedagogical and content preparation are able to engage students in the learning process (Kennedy, 1999). Recent studies found that teachers' knowledge in the psychological aspect is another important component that is essential for developing quality teachers (Voss, Kunter and Baumert, 2011; König et al., 2011). Psychological components explain the learning that occurs in a social context and justify that learning success depends on the general cognitive and affective characteristics of individual students. In conclusion, to equip teachers to teach effectively in classroom, teacher training programmes should cover both the content knowledge and pedagogical knowledge to ensure comprehensiveness in the programme.

2. Early Childhood Inclusive Education in Malaysia and Singapore

2.1 Historical Context and Legislation toward Inclusion in Malaysia and Singapore

Historically, children with special needs were placed in separated education system from the regular classroom following the medical model of disability that view the difficulty the child faced as being within the child (Wang, 2009). Then, the system was challenged due to the evolution of the human right movement (Tomaševski, 2001). Special education practices then moved into mainstream though integration approach where children with special needs were placed in a separated classroom within the regular school. Children with special needs being partially taught in the mainstream classroom, and they are

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required to "fit in" to what already exists in the school (Vielie, 2003). The main challenge in the mainstreaming is that there were still lack of organizational change in its curriculum, teaching and learning strategies (UNESCO, 2005). Recognizing that the difficulties children with special needs faced results from the ways the integrated schools organized and the rigid teaching methods, needs for reformation of schools' pedagogy were urged (UNESCO, 2005). The human rights movement resulted the concern to value and treat everyone equally and according to needs (Winter & O'Raw, 2010). A big transformation in special education happened in 1994 World Conference of Special Needs Education, held by Spain Government in co-operation with UNESCO. The delegates from ninety-two governments (including Malaysia and Singapore governments) and twenty-five international organizations pledged and reaffirmed their commitment to Education for All. Outcome from the World Conference, the Salamanca Statement and the Framework for Action were produced to give a clear note on the call for inclusive education (UNESCO, 2000). Inclusive education was recognised as the necessity and urgency of providing education for children, youth and adults with special educational needs within the regular education system (UNESCO, 2020).

In Malaysia, the significant document that shows the country's support to inclusive education is the Person with Disabilities Act 2008 that was enacted in late 2007 (Government of Malaysia, 2018). This legal and policy commitment towards inclusive education has been motivated by the need to comply with international conventions like the United Nation's Convention on the Rights of Persons with

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Disabilities which India ratified in 2007. The movement towards supporting inclusive education was then enhanced by the Rights of Persons with Disabilities Act (RPWD Act) 2016, that state clear and uniform framework for inclusive education in the country. The RPWD Act defines inclusive education as a system of education wherein students with and without disabilities learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities.

In Singapore, the first event that move the education towards inclusion was the Prime Minister Lee Hsien Loong order on "no one will be left behind" policy (Lee, 2004). The Ministry of Education responded to the order by focusing on issues such as teacher awareness, compulsory special needs pre-service training, and expanding the number of specialists in schools. The second major event contributing to Singapore's pragmatic move to an inclusive society occurred when the 2007-2011 Enabling Masterplan was released (Steering Committee on the Enabling Masterplan, 2007). The Masterplan ensured that human and financial resources were better dedicated to early intervention, to support for teachers and caregivers, and to transition planning – all critical areas for creating an inclusive society and ensuring that individuals with disabilities have a productive and beneficial future for both themselves and society.

Despite the policy support, to implement inclusive education successfully, it requires changes and supports at all levels of society and education system (Schuelka, 2018, p.2). Research has shown that early childhood is a time when developmental changes are happening

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that can have profound and lasting consequences for a child's future ((UNESCO & UNICEF, 2012). To enable children who are at risk to learn in inclusive settings, early childhood teachers play a vital role in ensuring each child has a right start in early education that promotes learning and development (NAEYC, 2009). As teachers are the driving force of the school curriculum, teachers' preparation to teach in inclusive settings will determine the success implementation of inclusive education (Andrew & Danladi, 2016). Teachers who receive training, support, plan and deliver instruction to all students will be great help in leading schools to include all learners (Mulford, 2003). The following sections will explore the importance of early childhood education and the link to the success implementation of early childhood inclusive education in Malaysia and Singapore.

2.2 The Importance of Early Childhood Education

Many research on early childhood education support the vital role early childhood education plays in young children development. The Asia-Pacific End of Decade Notes on Education for All (UNESCO & UNICEF, 2012) clearly stated that children who have participated in high quality of early childhood and care programme acquired in social, educational, health and intellectual development. Research also rectifies that high quality early childhood education does not only benefit the young children in short-term, but it also has long-term effect on individual's development (Shonkoff & Phillips 2000). A high quality early childhood stressed on the holistic development of young children with developmentally appropriate curriculum that enable children to develop as a whole-child (NAEYC, 2009). Despite catering for typical

children, research showed that early childhood education centres that work towards inclusive education will help bring about improvement in multiple areas of improvement in typical and atypical young children (Buysse, Goldman, & Skinner, 2003). Early childhood teachers who have acquired the professional training will be assumed to have enough knowledge for educating all children in inclusive settings. Research showed that learning programme that is adequately design will have great impact on the building of professionalism in students (Sparapani and Perez, 2015). The structure of special educational needs subject in the early childhood education programme should be given serious consideration in order to empower students to contribute to the wellbeing of the country.

2.3 Early Childhood Education and Teachers' Special Needs Training in Malaysia

In Malaysia, early childhood education is broadly divided into two main groups, which is the 0-4 years old and the 4-6 years old. Child care centre (TASKA, an acronym in the local language) offers care and education for children ages 0-4 years old. Preschool (TADIKA or TABIKA, an acronym in the local language) responsible for the education of children ages 4-6 years old. Although the early childhood care and education existed before the 1960's, the first legal document regarding early childhood education was drafted by the Ministry of Education only in the year 1972, namely the *Kaedah-kaedah Guru/ Kaedah-kaedah Kindergarten dan Sekolah Asuhan (Pendaftaran) 1972 Warta Kerajaan P.U. (A) 414*. This document provides guidance on the procedures regarding the registration of kindergarten, teachers

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and its board of governors (Ministry of Education Malaysia, 2007). There were few guidelines produced by MOE to be in line with global early childhood education development from 1986 until Education Act introduced in year 1996. In the Education Act 1996 (Act 550) Chapter One, preschool education was legally declared as part of the National Education System. All preschools are required to implement the National Preschool Curriculum formulated by MOE starting from 2003 ((MOE, 2007). In the recent education policy - the Malaysia Education Blueprint 2013-2025, to ensure the quality of preschool education, all preschool teachers are required to have at least a Diploma in Early Childhood Education minimum qualification to teach in preschool. This proved the Malaysia government determination in maintaining early childhood education standard in the country.

To ensure the early childhood education qualifications indicate the recognised level and types of knowledge, skills and competencies that early childhood education staff have received, the Malaysia Qualification Agency (MQA) has provided the Programme Standards for Early Childhood Education that outline the qualification and competencies needed by professional early childhood teachers to help in children development and learning (MQA, 2014). This programme standards offers guideline for different level of certification ranging from Certificate in ECE to PhD in Education (Early Childhood Education). Different core areas are included in the MQA programme standard. The MQA Programme Standard of ECE has identified the core knowledge and competencies of professional, competent early childhood teachers in five core knowledge areas, consisting 1) Child Devel-

opment, 2) Curriculum and Learning Environment, 3) Administration and Management, 4) Families and the Community, and 5) Professional Development. The special needs subject is built in the Curriculum and Learning Environment core area and the topics that need to be covered for special needs subject were stated clearly in the document (MQA, 2014). The topics for special needs subject comprise a) Foundations of Special Education, b) Detection, c) Early Intervention and Support, d) Planning and Instructional Strategies, e) Rights of Children with Special Needs, f) Basic Principles for Modifying Activities for Children with Special Needs, g) Strategies for Inclusion with Special Needs, h) Individualized Education Plan, i) Accommodation and Adaptation of Learning Environments, j) Learning Needs of Children with Special Needs, k) Concept of Least Restrictive Environments for Children with Special Needs, and l) Modifying and Adapting Activities.

2.4 Early Childhood Education and Teachers' Special Needs Training in Singapore

In Singapore, the rapid development of early childhood care and education were influenced greatly by welfare, economic, and population polices (Khoo, 2010). During the rapid industrialization of the 1960s and 70s, many centres were built to support the policy for encouraging women to work (Bull et al., 2018). Preschools that cater for children ages 5 & 6 years old were available via churches and the private sector during the colonial era and after World War II. In the mid-1980s, the PAP Community Foundation established affordable preschools to the public. Although early childhood education does not fall within

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Ministry of Education's (MOE's) centralized governance of the education system (Singapore's education system only comprised primary, secondary and tertiary education, MOE, 2016), the government still govern the quality of early childhood education closely. Despite paying attention to early childhood curriculum, Singapore MOE also stressed on the quality of early childhood teachers training (Tan, 2017). The minimum requirement of becoming a preschool teacher requires at least the completion of a Diploma in early childhood education or related field (Bull et al., 2018). Pre-service teachers training programmes are provided by public and private providers and the accreditation standard for the training programmes are governed by the Preschool Qualification Accreditation Committee (PQAC) and the Early Years Accreditation Committee (EYQAC) (Bull et al., 2018). These two committees are responsible for maintaining the minimal standards of quality for early childhood professional training.

There are six core modules in the PQAC Programme Standard of ECE based on the guiding principles of effective early childhood teachers training, including 1) Principles and Practices in Early Childhood Care and Education, 2) Child Development and Learning, 3) Curriculum Studies and Pedagogy, 4) Personal Growth and Professional Development, 5) Safety, Health, Hygiene and Nutrition, and 6) Partnership with Families and the Community. Special needs related subject topics are integrated in all of the core modules, and the topics include a) Early intervention, b) Provision of Assistance to Children with Special Needs, c) Strategies for Effective Teaching, d) Assessment and Evaluation of Children's Development, e) Planning

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for Learning Experiences including Lesson Plans, f) Design and Selection of Developmentally and Culturally Appropriate Learning Materials, g) Assisting Children with Special Needs, h) Setting Up Appropriate Learning Centres to Promote Physical, Intellectual, Emotional and Social Development, i) Integrate Learning Experiences in a Developmentally and Culturally Appropriate Early Learning Programme, j) Introduction to Children with Special Needs and Learning Difficulties, k) Individual Differences among Young Children, and l) The United Nations Convention on the Rights of the Child (UN-CRC).

2.5 Issues and Problems in Preschool Inclusive Education

Issues and problems concerning the proper development of inclusive education in early childhood education teachers training programme and the design of special education content that able to prepare the preschool teachers working in inclusive environment were being raised and studied (Qandhi & Kurniawati, 2018). Teachers with inadequate special educational needs knowledge may lead to failure of inclusive education in the education system (Akalin et al., 2014). The current research aims to find out whether the preschool teachers are well-prepared with the special educational needs knowledge in the pre-service early childhood education training programme, to help them work effectively in the inclusive education environment.

3. Method

3.1 Research Design

To find out whether the early childhood teachers are well prepared with the special educational needs knowledge in the

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pre-service early childhood education training programme, MQA and PQAC Programme Standards were analyzed to check on the appropriateness of the early childhood education content design. These two countries were chosen for the following reasons: both the countries share significant historical and cultural affinities, both are ethnically diverse, multi-religious, and multi-languages used in the countries.

3.2 Instrument - Teachers' Knowledge Base Model

Different teachers' knowledge base models have been created to add to the knowledge of understanding key underlying phenomena such as the process of teaching and learning, the concept of knowledge, and the implication of teachers' knowledge in the actual classroom (Shulman, 1987; Voss, Kunter & Baumert, 2011; König et al., 2011). The Teachers' Knowledge Base Model based on Voss, Kunter & Baumert and König et al. research was adopted for analyzing and evaluation purposes in this study (Voss, Kunter & Baumert, 2011; König et al., 2011) (Table 1). This model considers both the pedagogical and psychological components as the fundamental elements of teacher's knowledge. The six components in the model comprise 1) Knowledge of teaching methods; 2) Knowledge of classroom assessment; 3) Structure; 4) Adaptivity; 5) Knowledge of learning processes; and 6) Knowledge of individual student characteristics.

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Table 1. Teachers' Knowledge Base Model

Pedagogical components	Psychological components
Knowledge of teaching methods: having a command of various teaching methods, knowing when and how to apply each method;	Knowledge of learning processes: supporting and fostering individual learning progress by having knowledge of various cognitive and motivational learning processes (e.g. learning strategies, impact of prior knowledge, effects and quality characteristics of praise, etc.);
Knowledge of classroom assessment: knowledge of different forms and purposes of formative and summative assessments, knowledge of how different frames of reference (e.g., social, individual, criterion-based) impact students' motivation;	Knowledge of individual student characteristics: having knowledge of the sources of student cognitive, motivational, and emotional heterogeneity.
Structure: structuring of learning objectives and the lesson process, lesson planning and evaluation;	
Adaptivity: dealing with heterogeneous learning groups in the classroom.	

The special needs subject topics for both countries were analyzed using Teachers' Knowledge Base Model of Table 1.

4. Results & Discussion

Result from the analysis found that both the MQA and PQAC Programme Standards corresponds to the Teachers' Knowledge Base

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Model standard. Both the accreditation documents meet all the six teachers' pedagogical knowledge elements. For the teaching methods component, specialized teaching method such as early intervention, and strategies are included in both the programme standard outlines. In order to identify the children who are at developmental risk, the MQA's detecting topic and the PQAC's assessment and evaluation of children's developmental topic comply with the knowledge of classroom assessment component. For the structure: structuring of learning objectives and the lesson process, lesson planning and evaluation component, both MQA and PQAC cover this core module with topics related to lesson planning skills to help in catering for individual needs. As knowledge in understanding each individual learning styles are very important especially the learning style of special needs students, the principles of designing developmentally appropriate learning programmes are built which comply with the knowledge of learning process component. Realizing that for teachers to work effectively with children in inclusive environment, knowledge on modifying and adapting to the environment are very important and this component is incorporate in the adaptivity component for the two accreditation bodies. Besides complying to the pedagogical knowledge elements, the psychological knowledge elements are also met. Considering that various cognitive and motivational learning processes will have impact on the students learning, both the MQA and PQAC emphasized on the knowledge of integration of developmentally appropriate learning experiences in the programme standards. As individual student may have different cognitive and affective characteristics, learning about

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the differences of special needs children and the rights of the children with special needs are observed in both the accreditation boards.

Table 2 displays the detail analysis of the special needs elements in the early childhood education programme in MQA and PQAC programme standards, in relation to the Voss, Kunter & Baumert and König et al. Teachers' Knowledge Base Model.

Table 2: Analysis of Special Needs Elements in the Early Childhood Education Programme

Teachers' Knowledge Base Model Components	Malaysia MQA Programme Standard - Special Educational Needs Elements	Singapore PQAC Programme Standard - Special Educational Needs Elements
Knowledge of Teaching Methods	- Foundations of Special Education - Early Intervention and Support - Concept of least restrictive environments for children with special needs	- Early intervention - Provision of assistance to children with special needs - Strategies for effective teaching
Knowledge of Classroom Assessment	- Detection	- Assessment and evaluation of children's development (include infant and toddlers)
Structure: structuring of learning objectives and the lesson process, lesson planning and	- Planning and Instructional Strategies - Strategies for inclusion with special needs	- Planning for learning experiences including lesson plans - Design and selection

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evaluation	Individualized education plan	of developmentally and culturally appropriate learning materials
Adaptivity	- Accommodation and Adaptation of Learning Environments - Modifying and Adapting Activities - Basic principles for modifying activities for children with special need	- Assisting children with special needs - Setting up appropriate learning centres to promote physical, intellectual, emotional and social development
Knowledge of learning process	- Basic principles for modifying activities for children with special needs	- Integrate learning experiences in a developmentally and culturally appropriate early learning programme
Knowledge of individual student characteristics	- Learning needs of children with special needs - Rights of children with special needs	- Introduction to children with special needs and learning difficulties - Individual differences among young children - The United Nations Convention on the Rights of the Child (UN-CRC)

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Result from the analysis shows that both MQA and PQAC programme standards list of special educational needs subjects' contents met the Teachers' Knowledge Base Model requirement standard. This indicate that the curriculums are sufficient to prepare pre-service early childhood teachers to work in inclusive classrooms.

However, there are two limitations of this study. First, as only the subject topics are map to the Teachers' Knowledge Base Model, the mapping and the accuracy is limited. The content for each topic is not specified clearly in both the MQA and PQAC programme standard. Although the topics may show the relevant topics are covered in the curriculum, there might be missing contents that affect the preservice teachers full understanding of inclusive education. More detail analysis of the topic contents can provide a more comprehensive picture about the special needs curriculum.

Second, lacking of information on the trainer teaching strategies. Another important factor that may determine the success or failure of the training programme is the trainers' teaching strategies. Literatures recognized the strong relationship between strategy trainer used and the students' performance (Antonio, 2017). The trainer teaching strategies may affect the students understanding of the special educational needs topics that caused the ineffective practice of inclusive education in the classroom. Analysis on trainers' teaching strategies will help making the result more convincing.

Despite these limitations, the present study is an addition to the pioneering research on the knowledge of the special educational needs curriculum in the early childhood education training programme in both Malaysia and Singapore.

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5. Conclusion

This study was conducted to analyse the validity of the programme standards in preparing the preservice early childhood teachers to teach in an inclusive environment. Findings from the study show that the MQA programme standards for special needs subjects complied with the teachers' knowledge base for training professional preschool teachers. However, many researchers found that there was often disconnection of expectations of the education of profession and the actual realities in the classroom (Nahal, 2010; Keskin, Corlu & Ayas, 2018). Further studies will investigate on experiences and challenges the in-service early childhood teachers encounter in an inclusive teaching environment. Getting to know more about what teachers experienced would provide more opportunities to help pre-service teachers to develop a more realistic and holistic view of teaching young children with special needs and developing professional development programs to help in-services to become adaptive experts.

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