DEVELOPMENT OF SYMPTOMATIC BEHAVIOUR SCREENING TOOL (SymBest) FOR EARLY IDENTIFICATION OF DEVELOPMENTAL DELAYS AMONG CHILDREN AGE 3-4

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SULTAN IDRIS EDUCATION UNIVERSITY
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RECOGNITION

This is an expression of gratitude to the almighty, the most merciful for his guidance and blessings upon me to complete this doctoral thesis. I want to express my gratitude to the people around me as it would have been impossible for me to complete without their endless support.

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ABSTRACT

This study aimed to develop a Symptomatic Behaviour Screening Tool (SymBest) for early childhood education (ECE) educators to identify symptomatic behaviours among children aged 3 to 4 years old. Three main objectives of this research were identified; the needs to development SymBest, to develop SymBest based on expert's opinions and to test the usability of SymBest. This is a design and development study based on the model of Richey& Klien (2007) with 3 phases. In phases (I), 434 ECE educators was selected for an online need analysis survey and the data was analyzed with descriptive statistics for mean score and percentage. In phase, (II) 18 experts were selected for constructs and items validation using the Fuzzy Delphi Method (FDM). In phase (III) to test the usability of SymBest, 21 ECE educators were selected and the Modified Nominal Group Technique was employed to analyse the responses. Data findings of phase (I) showed that educators are able to handle children's classroom behaviours (M=3.75, SD=0.68), uses behavioural management techniques in classroom (M=3.09, SD=1.28), receives support moderately from the school climate to manage children's behaviour (M=2.43, SD=1.25) and finally strongly agreed the needs of a screening tool for early identification of symptomatic behaviours (M=4.36, SD=0.60). Findings phase (II) reports, four constructs of child development is accepted because it has met the threshold value (d) $\leqslant$ 0.2 and the experts' consensus $\geqslant$ 70%. Further, the items are ranked in sequence based on the Fuzzy scores. Finally, in phase (III), all the constructs and items of SymBest has reached the agreement of usability according to the perception of the expert participants with group consensus $\geqslant$ 70%. As a conclusion, the development of SymBest encourages early childhood educators to practice early identification of developmental delays among children based on their symptomatic behaviours. This study implicates that the availability of SymBest can enhance educator's knowledge on the functions of behaviours among young children and suggest for medical referrals.

PEMBANGUNAN INSTRUMEN SYMPTOMATIC BEHAVIOUR SCREENING TOOL (SymBest) UNTUK PENGESANAN AWAL KELEWATAN PERKEMBANGAN DALAM KALANGAN KANAK-KANAK BERUMUR 3-4 TAHUN

ABSTRAK

Kajian ini adalah untuk merekabentuk satu instrumen pengesanan untuk pendidik awal kanak-kanak mengesan kanak-kanak berumur 3-4 tahun yang mempunyai tingkah laku bersimtom. Kajian rekabentuk ini adalah berdasarkan kepada model Richey & Klien (2007) yang melalui tiga fasa. Di fasa I seramai 434 pendidik awal kanak-kanak telah dipilih untuk satu tinjauan analisa keperluan dan dapatan dianalisa dengan statistik deskripsi untuk skor min dan peratus. Di fasa II, sekumpulan pakar (18 orang) telah dipilih untuk pengesahan konstruk dan item menggunakan kaedah Fuzzy Delphi. Di fasa III, untuk menilai kebolehgunaan SymBest, 21 orang pendidik awal kanak-kanak telah dipilih dan dapatan telah dianalisa dengan menggunakan kaedah *Modified Nominal Group Technique*. Dapatan kajian fasa I menunjukkan pendidik dapat mengendalikan tingkah laku mencabar kanak-kanak di dalam kelas (M=3.75, SD=0.68), menggunakan strategi-strategi pengurusan tingkahlaku di kelas (M=3.09, SD=1.28), menerima sokongan untuk menguruskan tingkahlaku mencabar kanak-kanak daripada organisasi sekolah secara sederhana (M=2.43, SD=1.25) dan secara keseluruhannya menyokong keperluan satu instrumen pengesanan awal di peringkat sekolah (M=4.36, SD=0.60). Dapatan kajian fasa II menunjukkan konstruk sensori & motor, bahasa & komunikasi, sosial & emosi dan kognitif diterima dengan nilai threshold (d) ≤ 0.2 serta kesepakatan pakar ≥ 70%. Manakala konstruk kreativiti telah ditolak kerana tidak memenuhi syarat nilai threshold dan kesepakatan pakar yang ditetapkan. Seterusnya item-item yang diterima masing-masing telah disusun secara urutan mengikut nilai fuzzy skor yang diperolehi. Dapatan kajian fasa III pula menunjukkan kesemua item yang diuji telah diterima dengan nilai kesepakatan ≥ 70%. Kesimpulannya, pembangunan SymBest menggalakkan pendidik awal kanak-kanak untuk mempratikkan pengesanan awal dan kaedah saringan untuk kelewatan perkembangan kanak-kanak berdasarkan tingkahlaku bersimptom. Implikasi kajian ini, SymBest meningkatkan kefahaman pendidik awal kanak-kanak tentang tingkahlaku kanak-kanak yang mencabar serta memberi laluan untuk rujukan pakar perubatan secara formal.

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LIST OF ABBREVIATIONS

DAP	Developmentally Appropriate Practice
DDR	Design & Development Research
DSW	Department of Social Welfare
ECCE	Early Childhood Care and Education
ECE	Early Childhood Education
EFA	Education for All
FDM	Fuzzy Delphi Method
IDEA	Individuals With Disability Education Act.
MOE	Ministry of Education
MOH	Ministry of Health
MRRD	Ministry of Rural and Regional Development
MWFCD	Ministry of Women, Family and Community Development
NAEYC	National Association for the Education of Young Children
NCDRD	National Child Development Research Centre
NGT	Nominal Group Technique.
SymBest	Symptomatic Behaviour Screening Tool
TABIKA	Taman Bimbingan Kanak-Kanak
TASKA	Taman Asuhan Kanak-Kanak
UDHR	Universal Declaration of Human Rights
UNCRC	United Nations Convention on the Rights of the Child
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund

YPKT Yayasan Pembangunan Keluarga Terengganu

APPENDIX LIST

CHAPTER 1

INTRODUCTION

1.1 Introduction

Development is the progressive, orderly, acquisition of skills, and abilities as a child grow (Hussain Iman Muhammad Ismail, Ng & Thomas, 2017). The developmental process of young children involves an integral process of three significant aspects: biological, cognitive and socio-emotional. This integral developmental process is very much affected by their characteristics. Hence, the developmental process of each human being is unique. Biological process refers to the changes that occur in one's body and is significantly influenced by inherent genetic from parents (Shute & Slee, 2015) while the cognitive process is defined as the gradual growth of one's experience in thought, intelligence, and language. The socio-emotional process, on the other hand, is the changes in an individual's relationship, emotions, and personality. Many times the child development in one domain will have a direct bearing on their attainments in other

domains (Bukatko & Daehler, 2012). When developmental skills are delayed beyond the family and cultural norms, the child and his or her family can experience problems as a result. However, in evaluating and promoting optimal child development and well –being, the domains of development and behaviour must be considered together as they are not separate constructs but rather parts of the whole (Weitzman & Wegner, 2015). Behaviour problems among children are deviations from the accepted pattern of behaviour (Bheemreddy Raghu Nandan Reddy, Pawar, Aundhakar, Lekha Mishra & Pankaj Goyal, 2016). In recent years, we have observed more children coming to school with behaviour problems than ever before, and teachers face the challenge of managing children's behaviour (Beazidou, Botsoglou & Andreou, 2013). Most schools wait for children to be referred to when problems are detected, unlikely to be proactive by identifying the problems before it becomes significant. Therefore, the objective of this study is to develop a symptomatic behaviour screening tool for young children as a screening procedure for early identification. This chapter describes the background of the study, problem statement, purpose of the study, objective, research questions, theoretical framework and conceptual framework, significance, operational definitions, and its limitations.

1.2 Background Of The Study

Earlier identification of the developmental delays in children gives more significant focus on general assessment and the resultant awareness on the developmental norms (Robinson & Dunsmuir, 2010). In Malaysia, screening of children with developmental delays or special needs is shouldered by the Ministry of Health (MOH). The ministry

is also entrusted to provide early intervention programs. Hence, in order for the ministry to strategize, develop appropriate intervention programs and cater to the demand, early identification and data pertaining to early identification are vital. Legislatively, only doctors and paramedical personnel are qualified to certify an individual as being a person with special needs. The concept that is being cultivated in Malaysia is that the screening of an individual for special needs is usually done by medical professionals rather than educationist by using psychometric assessment tools (Haniz Ibrahim, Siti Eshah Mokshein, Ardzulyana Anal & Syamsinar Abd Jabar, 2014). Medical assessment will later results' in giving out a diagnosis or child labelled into categories of special needs depending on the types of disability detected. Once the child is detected with special needs conditions, monitoring the child's progress over early intervention programs will take place. Besides the medical assessment, educators can also carry out a screening in the classroom before a child is referred for medical assessment.

With the increasing number of children with special needs in Malaysia, the importance of early identification and the needs for screening within the education system itself is evident. The primary database maintained by the Department of Social Welfare (DSW) contains data obtained from the registration system for individual with disabilities, established under the Person's With Disability (PWD) Act. Under this Act, the registration as PWD is done with one's discretion. As such, the fears and worries of children being stigmatised upon registering as a 'person with disabilities' has resulted in low number statistics of PWD. Currently, the DSW, Ministry of Health (MOH) and Ministry of Education (MOE) maintain a separate database on children with disabilities. Their data, however, is not being collated into a single source (UNICEF, 2014). According to the statistic report 2016 from the DSW, a total number of 409,269

individuals have registered as a ‘person with disabilities’. Out of total number, 11,621 are children below the age of 6 years old, whom are registered as children with special needs in Malaysia (Jabatan Kebajikan Masyarakat, 2016). On the other hand, the number of preschool children registered with the government preschools throughout the nation in the year of 2017 is 1031, which is 78 more children than the previous year (Bahagian Pendidikan Khas, 2017). Registering with the PWD is not a pre-requisite requirement of enrolments at by the government. Therefore, the headcount by MOE may not represent the total population of children with special needs enrolled in the special education preschools in Malaysia (Kementerian Pendidikan Malaysia, 2015). In the year 2015, the DWS estimated around 4.2 million people with disabilities that are yet to register and the estimation is based on the population statistics totalling 30.1 million in the previous year (Baqutayan, Shamsul Khalil, Baharum, & Abu Hasan, 2016). Thus the actual number of children with disability in Malaysia is not reflected (Amar Singh, 2008).

Screening tools need to be developed in order to identify children with a disabilities’ under the Individuals with Disabilities Education Act (IDEA), Screening is also a method of gathering valuable information that will help to determine the child’s educational needs as well as to guide decision making for an appropriate educational program. IDEA Act states that there are at least two ways to determine if a child would require a formal evaluation by the MOH or otherwise. First is through the attentiveness of parents and second way is through observations from the school system. School, by all means, should notify parents if there are any signs of developmental delays observed in a child. Most common identification method adopted by the school system is by observation and through results from a given test in the classroom (IDEA, 2005).

Screening practice within the school system itself is essential as it allows educators to raise their concerns to parents with confidence and supporting evidence. Screening practices within the school system will also play a major role in enabling educators to recognise developmental red-flags in children. Educators can then address red-flags together with parents for referral recommendations.

Here and now, there is a lack of screening tools for early childhood programs in Malaysia, especially in the government aided child care centres. This minimise the capability to accurately identify children at risk of developmental delays. It is vital for schools and educators to utilise early identification methods through a comprehensive and user-friendly screening tool. Provisions have been established for identifying students with developmental delays and reading inabilities. Thus, similar provisions should be implemented in addressing the needs of students at-risk of emotional and behaviour disorders (Edwards, 2009). Explaining children's behaviour in a reliable way to parents, therapist, interventionist and other related personnel, supports research and evidence-based interventions. Referral of children for medical diagnosis or special educational programs needs robust evidence-based assessment from educators and schools to support the suggestion. Screening procedures are also a form of behaviour support that should be available to ECE educators. To bridge the existing gap, this study focused on developing a screening tool for ECE educators to identify symptomatic behaviours among young children in mainstream early childhood education centres in Malaysia. The screening tool will only be applicable to children aged 3 to 4years old.

1.3 Problem Statement

In recent years, there has been an increasing amount of literature on children with developmental delays. The first serious discussion on developmental delays is mostly about children's behavioural symptoms, early identification and diagnosis. However, there is a consensus among educators especially early childhood educators that they encounter more children with at-risk of developmental delays in their education centres and no proper procedures are available to assist them with formal early assessments. Ironically, behavioural symptoms are significantly visible in the environment when the child is three years old, and above, and educators are aware of those symptoms. However, several critical issues challenge the availability of early childhood behavioural screening in ECE centres.

The reality in Malaysia, developmental screening or commonly known as developmental surveillance is available and done by primary care practitioners alone (Hussain Iman Muhammad Ismail et al., 2017; Paediatric Department Hospital Ipoh, 2008). The reason being, the primary care settings are the place where most children younger than five years old are seen and ideal for developmental and behaviour screening (American Academy of Pediatrics, 2002). Commonly in medical, the screening procedure involves parents and the school's with questionnaires to complete in the process of gathering information about the child (Amar Singh, 2013; Shonkoff & Meisels, 2006). If primary health care settings are the most effective settings in terms of screening and diagnosing children, then children with behavioural symptoms that reflect risks of developmental delays shouldn't flow into school settings unnoticed. Since screening is commonly viewed to be MOH's responsibility alone (Faridah M.

Said, Jamilah Othman, Maimunah Ismail, Bahaman A. Samah & Khairudin Idris, 2011), usage of screening tools for early identification were not introduced to the school system at all education levels in Malaysia.

Currently in the education system, assessments are only available in the form of the checklists for literacy, numeracy, and writing. Very little assessments are available, to identify behavioural symptoms for developmental delays in children aged four years and below. As most of the behavioural symptoms arise and becomes visible between developmental ages of to 2 to 4 years old, in order to achieve this need, limitations concerning standard screening guidance and screening tools for nursery educators needs to be addressed. *Instrumen Saringan Pengesanan Murid Bermasalah Dalam Pembelajaran (IPMBDP)* was introduced by the MOE in the year 2011 to screen all children in government preschools and primary schools for learning difficulties. In a similar context, to identify pre-schoolers (5 & 6 years old) and primary school children for being at-risk of dyslexia, educators use the Dyslexia Screening Instrument (SDI), MOE. On the other hand, *Senarai Semak Pengesanan (SSP) Perkembangan Bayi/ Kanak-Kanak 0-6 Tahun* was introduced by MOE in 2014 to detect developmental delays in children below the age of 6. *Instrument Menentu Penempatan Murid Berkeperluan Khas (IMPak 4-6)* is another instrument that was introduced in the year 2014 by MOE for preschool teachers in the special education preschools. In line with all these screening procedures, the Permata Child Development Checklist was introduced by Genius Negara for ECE educators to monitor children and their development. The fundamental idea of Permata Child Development Checklist is similar to the objective of SymBest tool. There is no doubt that the Ministry of Education (MOE) have introduced some tools to assess and evaluate children. However, if we

analyse the available tools it is evident that none of them are focussed on early identification of behavioural symptoms especially in nurseries for children aged 4 and below. At the same time, adaptations or tweaked versions of the available tool would still not serve the stated purpose.

In Malaysia, pre-existing screening tools that caters for children below the age of 4 like the SSP checklist and the Permata Child Development Checklist have served their objectives of delivering overall developmental findings of children assessed. However, equal prioritization to the magnitude of findings is not present in the pre-existing screening procedures. The magnitude of deviation from the norm will determine the amount and frequency of intervention or therapy required. Thus, it is very important for screenings to contain elements that will aid in determining the magnitude of the deviation apart from its primary goal of detection & identification. The utilization of a dichotomous approach is the sole reason of imbalance in the pre-existing tools. In a dichotomous approach, there are only two answers to every question. The available options are 'Yes' and 'No'. This leaves the screener with only two choices to rate (Uma Sekaran, 2013). By utilizing a dichotomous approach, the screener will only be able to determine if there's a concern or otherwise, and nothing more. Despite being easy to use and fast scorings, this approach prohibits screener from determining the severity of the observed concerns or risks. In order to overcome the imbalance of dichotomous approach, a more dynamic rating approach such as the Likert scale is required. The Likert scale provides a range of responses on how strongly the subject agrees or disagrees with the presented statements (Uma Sekaran & Bougie, 2016). Since SymBest intends to go beyond identification and detection, and look into the magnitude

of symptomatic behaviors among children, the Likert scale responses suits the intention better.

Educators, who were the primary detectors of developmental delays have reported about lack of preparation and knowledge on early detection of children with social and behavioural needs (Stormont, Reinke & Herman, 2017). Since not all children at-risk of delays are identified by their parents at home (Zhang & Morrison, 2018), early detection in the educational setting is essential. When children enter school, educators become important individuals to seek and obtain information about children's behaviour and to recognise children who are without prerequisite skills, particularly behaviour skills (Colemen, Crosby, Irwin, Dennis, Simpson & Rose, 2014). The concerns that most ECE educators have are the behaviour problems exhibits and understanding the functions of the behaviours. Oberklaid and his colleagues supports the statement that early year settings offer the opportunity to observe a child's development over time and to recognise delays in development or difficulties in social interaction with peers, when they appear. Presence of, an universal ECE service would provide a platform to monitoring each child's progress and make timely referrals for functional assessments and intervention services that may be required (Oberklaid, Baird, Blair, Melhuish & Hall, 2013). Lack of knowledge about delays characteristics within the developmental domains often leaves the problems under-recognised (Nicholson & Palaiologou, 2016). Most early childhood educators are not formally trained or equipped to identify children's behaviour problems indicating delays (Brock & Beaman-Diglia, 2018) and this delays them from identifying children's behavioural functions. Therefore, educators often feel that they are unable to include children with behaviour problems in mainstream classroom because they lack in terms of exposure

and training for diversified learners in comparison to special education teachers (Nornadia Mohamad Razali, Hasnah Toran, Sazlina Kamalzaman, Norshidah Mohamad Salleh & Mohd. Hanafi Mohd. Yasin, 2013) As such, the availability of formalised early identification tools for ECE centres empowers educators to recognise the symptoms of behaviours that signifies delays among children. Moreover, it is also NAEYS's accreditation criteria that ongoing formal and informal assessment approaches are to systematically practice in ECE centres to provide information on children's learning and development (Blackwell, 2015; National Association for the Education of Young Children (NAEYC), 2005).

Finally, the lack of behavioural support from the school management is another reason why educators are facing challenges to manage children's behavioural problems (Miller, Smith-bonahue & Kemple, 2017). When managing children's behavioural problems, it is not possible for classroom educators to operate in isolation. It is undeniable that educators need support from the school management for resources and guidance (Nye et al., 2016). Proper supervision from the school management, access to mental health consultants and cooperation from co-workers can be excellent on the job support for ECE educators to address children's behaviour problems (Miller, 2014). On a positive note, empowerment received from the school management is found to increase greater self-confidence among educators to face children with behavioural problems in the classroom (Beaudoin, Mihic & Loncaric, 2018).

Hence to enhance ECE educators' knowledge in the behaviour problems management and early identification, there is a need to develop a screening tool that precisely screens children with behavioural issues. Thus, this study is about developing a screening tool for ECE educators to identify symptomatic behaviours that may relate to developmental delays among young children in early childhood education centres.

1.4 Purpose Of The Study

The primary purpose of this study is to develop a screening tool that identifies symptomatic behaviours to developmental delays among young children in ECE centres in Malaysia. The secondary purpose of the study is to identify the needs of a screening tool for ECE educators to identify children with symptomatic behaviours in ECE centres. The third purpose of this study is to test the suitability of the developed screening tool in the school practice and analyse ECE educators' responses on the usability of the developed screening tool.

1.5 Objective Of The Study

1. To identify the needs of developing a screening tool for early childhood educators to screen children with symptomatic behaviour to developmental delays

2. To develop a screening tool for educators in early childhood education centres to screen children with symptomatic behaviour to developmental delays.
3. To test the suitability of the screening tool and analyse educators' responses on the usability of the screening tool.

1.6 Research Questions

Based on the objectives of the study, the purpose of the study and problem statement, research questions for the study were formulated in three phases according to Design and Development Research procedures which are described in detail in Chapter 3. For Phase 1, in identifying the needs to develop a screening tool for ECE educators to screen children with behavioural problems, the need analysis phase seeks to answer the following research questions:

1. What are the needs to develop a screening tool to identify children's behaviour problems in the mainstream ECE in Malaysia?
    a) What are educators' perceptions in managing children's behaviour problems in the classroom?
    b) What strategies educators' use to manage children with behaviour problems in the classroom?
    c) What is the support from the school climate for educators to identify children with behaviour problems in the classroom?
    d) What are ECE educators' perceptions of the needs of a screening tool?

2. What is the design and development model of the screening tool to assess children's symptomatic behaviour?
    a) What are the suitable constructs of measurement for screening symptomatic behaviours by children based on experts' consensus?
    b) What are the suitable items in the constructs for screening symptomatic behaviour by children based on experts' consensus?
    c) What is the sequence priority of the items in the screening tool based on experts' consensus?
3. What is the usability and suitability of the screening tool to screen children with symptomatic behaviours from educators' opinions?
    a) What are educator's opinions on the suitability of the items under the section of child's details in SymBest
    b) What are educators' opinions on the suitability of the main constructs of SymBest?
    c) What are educators' opinions on the suitability of the items in each construct of SymBest?
    d) What are educators' opinions on the usability of SymBest overall to identify children's symptomatic behaviours to a disorder?

1.7 Rationale Of The Study

In the problem statement, several critical issues were identified to be barriers for ECE educators to efficiently manage children with behavioural problems. Based on the recent literature presented in the problem statement, absence of a reliable tool for early identification within ECE education system was identified as a major setback among others. The available screening tools are focused on measuring children's readiness in literacy, numeracy and handwriting none for early identification. However, there are no screening tools for early identification, especially for children aged 3 to 4 years. Other findings have exposed that educators are underprepared to manage children with behaviour problems, lacked behavioural management training and received insufficient support received from the schools they are attached to. Therefore, there is an obvious necessity to develop a screening tool for ECE educators who are teaching children of ages 3 to 4 years old specifically for early identification.

The study is necessary to assist ECE educators and centres with early identification screening tool. With the presence of such tool, ECE educators will be able to recognise behavioural symptoms indicates developmental delays among children aged 3 to 4. Since developmental delays are associated with medical and genetic conditions, it contributes to social and emotional problems and results in poor educational and functional outcomes (Guevara, Gerdes, Localio, Huang, Pinto-Martin, Minkovitz, Hsu, Kyriakou, Baglivo, Kavanagh & Pati, 2013). The nature and extent of developmental changes occurring during toddlerhood and the pre-school years underscore the potential of children single out on either a positive or adaptive developmental course or to develop adjustment problems that may be transient or

persisting (Campbell, 1995). Results obtained from SymBest will help educators to discuss with parents with evidence for further referrals or early interventions.

The development of SymBest as an early identification tool will assist ECE educators in recognizing behavioural symptoms like tantrums, defiance, aggression as well as the differences between typical and symptomatic behaviours occurring (Woolfolk, 2010) in the classroom. Recognizing children's behaviours and the causal factors will increase educators' competencies in managing challenging behaviours in the classroom. When educators can understand the functions of behaviour among children, identifying behavioural issue triggers are possible. If the reason for a behaviour is known, educators can devise ways of supporting positive behaviours that will serve the same "why" function. For most of us, behaviour itself becomes the primary focus till it prohibits us from understanding the underlying reasons that led to that behaviour in the first place. Going the extra mile, understand underlying reasons on for the challenging behaviours will empower the educators to handle the behavior smoothly (Durand & Merges, 2001).

The SymBest tool is developed for ECE educators to identify symptomatic behaviours that relates to developmental delays, specifically for children aged 3 to 4. The items under each construct are the red flags of developmental milestone of children within the age range mentioned above. In general, 2 to 6 years is a very important periods for children as they experience overall rapid growth like development of the body which becomes more extended and leaner, motor skills are refined, and children become more self- controlled and self-sufficient within this crucial period. Make-believe plays blossoms, supporting every aspect of psychological development.

Thought and language expand at an astounding pace, a sense of morality becomes evident, and children establish ties with peers (Berk, 2009). Developmental differences that are not evident at six months of age may appear gradually between nine to twelve months with distinct behavioural markers (Humphreys, 2012). Children average of 3 years old who diagnosed with developmental delays was found overactive, inattentive, discipline problems, and they continue to have problems at school and home at age 4 (Campbell, 1995). During the third years of life, behavioural symptoms like tantrum, temper and aggression toward adults and peers can be observed (Loeber & Hay, 1997). Similarly, the periods of 3 to 4 year is the time where most children are enrolled in early childhood care and education centres available within their environment. As such, the period of 3 to 4 years of age is a critical period for observations as symptomatic behaviours in children emerge within this period. Based on the stated rationales the development of SymBest was outlined from theories as a framework.

1.8 Theoretical Framework

The foundation of this research is based on Arnold Gesell's Maturational Theory, Piaget's Theory of Cognitive Development and Developmentally Appropriate Practices to assist the development of the constructs and items of the screening tool. This research will correlate several child development theories and the Developmentally Appropriate Practices Framework by considering the child as a dynamic individual with differentiated abilities.

1.8.1 Arnold Gesell's Theory of Maturation

Arnold Gesell, a developmental psychologist believe in individual differences, which means children differ by chronological ages and developmental ages. Developmental age is an age in years and half years, which best describes a child's collective behaviour and performances on a developmental scale. Developmental age can differ from a child's chronological age, in context of being lower or higher or the same (Guddemi, Sambrook, Wells, Randel, Fite, Selva & Gagnon, 2014). It is vital to know each child's developmental age so that parents and educators can provide developmentally appropriate learning experiences. Gesell's extensive research on children's verbal, motor, social, emotional and cognitive development enabled educators and parents to understand children and their development. He highlights that normative behaviour is just a guide of merely fraction in the spectrum of behaviours and abilities that falls within a healthy range. Gesell's theory was adopted as a significant guide in this research along with other developmental theories and practices.

1.8.2 Piaget's Theory of Cognitive Development

The cognitive theory is to support and to understand children's developmental milestones in all the development domains. Cognitive development and thinking pattern of children is strongly influenced by other developmental domains like motor, language and communication, social and emotion as well as creativity. Piaget believes that children are in a state where they want to make sense out of their experience, and, in the process of doing, so, they, construct their understanding of the world. In Piaget's

perception real learning experiences occurs when new experiences are assimilated into pre-existing schemas, and pre-existing schemas are accommodated to fit new experiences. As the thinking process starts to develop, children learn to plan for the desired target. However, to achieve the desired target, it is important to build adequate abilities. Otherwise, the planning will not add any meaning to it. Every action performed by children involves the integration of all the developmental domains, along with cognitive ability. To support precisely on children and their moral behaviour, the progression of children's developmental domains in the preoperational stages were studied. Social interaction within their environment, supports children's development like intellectual development, language and social skills. Children learn from the stimulation they receive from their environment, which is the interaction with adults and their peers. Development happens progressively when there is sufficient interaction. Children can perform better or reach a higher level of achievement when guided by a more skilled adult or peers (Kail, 2010).

1.8.3 Developmentally Appropriate Practices

Developmentally appropriate practices (DAP) is an approach based on the knowledge of how young children develop and learn. It was first adopted by the National Association for the Education of Young Children (NAEYC) in 1987 and was further revised in 2009. NAEYC's position statement on DAP is a framework designed to promote young children's optimal learning and development. The purpose of DAP is to have a clear understanding of appropriate practices that could be used by early childhood educators or programs, to focus on how to serve the needs of developing

children in the best ways possible. When educators make decisions, the NAEYC Position statement reminds us that three types of information and knowledge form the basis of decision making.

Educators are expected to know about child development and learning in order to plan the right program that will promote children's learning and development. Knowing and understanding the social and cultural context from where the child is from is a key component for educators to plan a meaningful education strategy for children (Position Statement NAEYC, 2009). Several principals that were addressed in DAP were utilised as the foundation of Symbest development study. One of the main principal addressed in DAP, distilled from literature is the importance of all the developmental domains. These include physical, social and emotional, cognitive and language, which are all closely interrelated. Children's development and learning must be recorded in order to recognise the sequence of child development. DAP framework guides the development of SymBest
in this research.

Finally, to support the design and development of the screening tool, model Richey and Klien, 2007 is adapted to guide the development process. The model outlines the conceptual framework for developing the symptomatic behaviour screening tool. Further details on the adoption of the theories and model are elaborated in Chapter 2.

1.9 Significant

It has been thoroughly verified that early identification of symptoms that indicate delays among young children is essential for early intervention. Children who receive early intervention has better accommodation level in their academic years later on. Based on the literature, screening plays a vital role in recognising symptoms of delay in children. Therefore, based on these areas, the main purposes of this study are to develop a screening tool, to test the suitability of the constructs and items framing the screening tool and to identify children with symptomatic behaviour to developmental delays in the ECE centres from the view of ECE educators. The study also aims to analyse overall responses from educators on the usability of the screening tool to identify children with symptomatic behaviours in the classroom.

First and foremost, the findings of the study supports' encouragement of ECE educators to practice early identification, assessment and intervention within their capacity. Behaviour problem management findings that were obtained from the perspective of educators using the need analysis can pave ways to develop a behaviour screening tool that is suitable for Malaysia's ECE system. When educators start to pay attention to children's behaviour, the need for early identification will be emphasized. Introducing the practice of identifying behaviour problems among young children through the education system with a screening tool is rare in Malaysia. Typically, screenings to identify children with developmental delays are only conducted by medical practitioners. However, in the public education system, we have rating scales for literacy and numeracy skills, but are yet to have some for behaviour problems, especially to know the function of behaviours.

The information obtained from the screening tool could re-direct ECE educators' beliefs in accommodating children who are diverse learners, especially those with behaviour problems in the mainstream classroom. This creates opportunities for mainstream ECE educators to acquire professional development courses in behaviour management and increase their competency to manage behaviour problems in the early childhood classroom. Competent educators often perform's well in their career. So, it is very important for ECE educators to recognise their strengths, in order to increase their competency in managing behaviour problems among young children in the ECE centres. A previous research has established the point that, educators assigned to classrooms with larger populations of children with behaviour problems may experience greater feelings of stress and are most likely to be inefficient managing groups that uncooperative (Friedman-Krauss, Raver, Morris & Jones, 2014). Educators must constitute beliefs that they can provide effective classroom instruction to reduce behaviour problems (Yildiz, 2015). In general, mainstream ECE educators have state concerns about not having adequate behaviour trainings and knowledge to manage behaviour problems in the classroom (MacFarlane & Woolfson, 2013).

This study could also enhance skills levels of ECE educators in recognising symptomatic behaviours among young children in Malaysian ECE centres and acquiring in-depth understanding of the issue issues faced. It is important for educators and administrators to address and document behaviour problems like non-compliance happening in their centres as early as the age of 2 to 5 years old. When behaviour problems of children in ECE centres are under-recognised and delayed for referrals or interventions, severe behaviour problems and poor academic achievement in the later years of the children are most likely to be the result. To prevent or minimise this

negative outcome, interventions targeting children's behaviour problems must promote appropriate, socially responsible behaviour and foster the development of children's self-discipline (Ritz, Noltemeyer, Davis & Green, 2014).

It is to be noted that inclusive education is relatively a new introduction by the government in the Malaysian Education Blueprint (2013-2025); the inclusive classroom must be practiced in all level of education including preschools. By the year 2025, 75% of children with special needs must be included into mainstreams schools (Ministry of Education Malaysia, 2017). The study is significant as it notifies school organisations to prepare, plan and carry out an effective inclusion programme as their support to the country's educational aspiration. The understanding about children's behavioural problems through SymBest, is expected to encourage educators to analyse and review their instructional practice and seek behaviour supports from their organisation. The school organisation plays a crucial role in empowering educators to manage an inclusive classroom. The extent to which school principals are approachable and supportive, determines both, direct and indirect contributions to educators' commitment and efficacy towards their career performance (Aldridge & Fraser, 2016).

Mainstream educators and administrators should and must acquire sufficient knowledge and understanding about school referral. School referral is a complex issue and must be handled rationally. Children attending early childhood programs are influenced not just by their educators and close peers but also by the less immediate and indirect features of early childhood environment including structural (teacher-child ratio), intrapersonal features (employees satisfaction) and procedural (hiring decisions)

of the centre in which the child's classroom operates (Zinsser & Curby, 2014). Behaviour problems are often the main reason schools suggest for a referral to parents.

Finally, although the development of the screening tool is for the 4 agencies under the Malaysian government, it is also expected to be proliferated to all the nursery schools in Malaysia.

1.10 Limitation

Several limitations were identified in this study as some extensive ideas need isolated further research in order to obtain the desired findings.

First, the researcher may not be able to assist with intervention plans for the educators. The intervention period is not included as a part of the study, as the study soughts to develop and analyse the usability of the screening tool in early childhood education classrooms, to identify symptomatic behaviours among young children.

Second, examining educators' competency in managing behaviour problem among children in their classrooms is not the prime attention of the study. Direct observations on management of classrooms were not carried out. Current support recognition that educators receive from the school to manage children's behaviour problems is another limitation of this study.

Third, analysing parental support to educators or the organisation was not a part of this study. Even though parental aspect is profoundly one of most the important contributions to behaviour problems, this study focuses only on developing a behaviour screening tool for early identification. The parental variable can be researched externally in the future. The sample size used does not include parents as well.

Finally, users selected to use the screening tool is limited to early childhood educators alone. This means the screenings will only be carried out within in the school environment. However, including parents as screeners to screen children in the home environment can also give a holistic view of the strength and weakness of the child.

1.11 Operational Definition

Several concepts that are widely used in this study require a specific definition for better understanding. Definitions and explanations of those concepts are given below.

1.11.1 Early Identification

Early Identification is a method teachers use to observe and assess children's progress in learning or development. The purpose of early identification is to gather information on children's development and use it as a basis for curriculum decision making, to be shared with all those who have a stake in the children's future and referral agencies for children with special needs (Ebbeck, Teo, Tan & Goh, 2014). Hence the development

of early identification for child's mental health and well-being must be both empirically sound and practically feasible (Deighton, Tymms, Vostanis, Belsky, Fonagy, Brown, Martin, Patalay & Wolpert, 2013). Educators are encouraged to use screening tools for early identification which will lead to further evaluation, diagnosis and intervention (American Academy of Pediatrics, 2006; Zhang & Morrison, 2018) In this study, the tool SymBest is developed as a screening medium for teachers to identify children's developmental delays based on their symptomatic behaviours. Teachers are encouraged to observe children's behaviours for a period of more than 3 months. If the behaviour persist for more than 3 months SymBest can be used as an early identification tool.

1.11.2 Developmental Domains

Early childhood development typically follows a series of developmental strands of achieving physical, cognitive, social-emotional, language and communication and creativity milestones within a specific age range. In the early childhood development period, which is from age 2 to 6, children's motor skills are refined, the body becomes longer and leaner, self-control increases and children learn to be self-sufficient. Psychologically children also develop progressively at this stage, where elements such as make-believe play blossoms. In the social aspect, children's thought and language expand at an astounding pace, a sense of morality becomes evident, and children establish ties with peers (Berk, 2009). Meeting the milestones of under each domains on a similar range commonly identifies developmental delays in young children. The process of identifying developmental delays and the range of severity is known as screening. There are five developmental domains were selected to form the constructs

of Symbest. The selected developmental domains are; sensorimotor, language and communication, social and emotional, cognitive and milestones is of children aged three to four years old. Selection of these domains are based on child developmental theories and Developmentally Appropriate Practice Framework (DAP).

1.11.3 Developmental Delays

In child development, Red Flags often outlines a series of functional indicators generally that are used to observe healthy child development alongside with at-risk traits. Red Flags will assist professionals in identifying when a child is at risk of not meeting the developmental milestones. It is namely intended to assist with decision making of when and where to refer for further assessment or intervention (Ontario Early Years Centre Lanark, 2007). Red Flags provides professionals with first-hand knowledge about children and their healthy developments according to developmental domains. In this study, the red-flags are the behaviours deviating from the developmental domains which are considered to be developmental delays. As such, the items in SymBest under each domains are the red-flags which is addressed as the behavioural symptoms. The items used in Symbest were adapted from; The Red Flags: A Quick Reference Guide for Early Years Professionals by York Region Early Identification Planning Coalition, 2009 (Easton, Green, Ollen, Mintz & Waddell, 2009).

1.11.4 Symptomatic Behaviour Screening Tool (SymBest)

The concept of symptomatic behaviour in SymBest is adopted from the childhood externalising behaviours. Symptomatic behaviour refers to the probability of children with certain characteristics or life experiences, being vulnerable to psychological, physical, or adaptive difficulties during their developmental years which is associated with behavioural problems when children are in their current and later years. It can also be comprehended as characteristics of a child or circumstances that are associated with the development of maladaptive behaviours (Jerome & Robert, 2006). Some symptomatic behaviours are strongly associated with developmental problems, whereas, association of some symptomatic behaviours to developmental problems remain vague (Wicks-Nelson & Israel, 2006). In SymBest the high scoring of symptomatic behaviours across developmental domains will indicate the developmental delays which furthers assessment from clinicians.

1.12 Summary

In this chapter, the objective of the study, which is the development of a symptomatic behaviour screening tool for behaviour problems in early childhood education, was discussed. Relevant research questions and research objectives of the study is also presented. It is very important to identify which children may need intensive and targeted supports for referral completion (Jennings, 2012). Educators must be supported within the organisation climate to ensure students achievement. The researcher focused on the problem statement contributed to the research questions to successfully find a

solution for the improvement of the public early childhood education system in Malaysia.