Teacher’s Knowledge, Skills and Attitudes towards the Implementation of Preschool Curriculum Innovations

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Abstract: This article reports the results of a study on the Teacher’s Knowledge, Skills and Attitudes towards the Implementation of Preschool Curriculum Innovations. The implementation of curricular innovations is a complex process. Studies on curricular changes have shown that teachers play a pivotal role in the success or the failure of implementation projects. The study focuses on teachers’ perceptions and attitudes toward the implementation of the newly introduced National Preschool Curriculum Standards (NPCS) in Malaysian preschools. The study uses the survey method involving preschool teachers set to explore the teachers’ level of knowledge about the curricular innovations, the teachers’ level of skill in implementing the curricular innovations, and the teachers attitudes towards the change. Data was gathered using questionnaires that captured teachers knowledge, skills and attitudes towards NPCS. Findings showed that teachers had high mean score on knowledge of NPCS and positive attitudes towards the curricular innovations. However the low to moderate mean score on teachers’ skills in implementing curricular changes indicate that they are not ready and lack in proficiencies to implement the changes as required. The results suggest that teachers need professional development promoted by personal learning and understanding, support and guidance as well as planned intervention programs in order to equip them with the necessary skills to ensure the grounded change in curriculum can be successfully initiated and the NPCS is a reality.

Keywords: Curricular innovation, teachers’ knowledge, teachers’ skill, teachers’ attitudes, National Preschool Curriculum Standards, Malaysia

1. Introduction

Recent studies indicate that the implementation of curricular innovation initiatives demand systemic change and involves a wide range of factors whose inter-relationships are not fully understood (Nik Salmi Nurulhuda, 2020; Ruslan, 2018; Romarzila, 2017; OECD, 2016; Senussi Mohamed, 2013; Darling-Hammond, 2009). Most studies of educational change in particular curricular innovations report on disappointments from the projects’ outcomes (Zimmerman, 2006; Collinson, 2010).

According to Fullan (2015) implementation is a process which put into practice new ideas, programs, or set of activities and structures in the people attempting or expected to change. It is not easy to implementing a new curriculum (Sahlberg, 2005). Success of curriculum of reform or change depends on a number of factors at the implementation stage. Fullan (2015) identifies nine factors affecting implementation process and he classifies these factors into three groups namely characteristics of change, local characteristics and external factors. These factors affecting implementation are defined as “system variables” which lead to success or failures of the implementation. Teacherisa one of the factors affecting implementation and placed the teacher as a factor under the local characteristics (Nik Salmi Nurulhuda, 2020). However the eight factors closely interact with the teacher as factors affecting implementation. Fullan views that the teachers as the most crucial that influences the success of any educational change. It is indisputable that teachers are key to the success of curriculum reforms (Nurhamimi. 2020; Bantwini, 2010; Ma et. al, 2009).

Beginning in 2017, the Ministry of Education introduced National Preschool Education Standards (NPCS, 2017) nationwide. In line with the National Philosophy of Education, the NPCS focuses on the holistic and balanced development of the child to prepare them to be a young learner with positive attitudes towards learning as well as acquire sufficient basics skills in preparation for primary schooling. The curriculum focuses on standard content and standard learning processes. Standard content is defined as specific statements on aspects that a child should know and be able to do at a specific point of schooling. These aspects consist of knowledge, skills and values. The standard learning process is defined as specific criterion or indicator of achievement in the form behavioural objectives that ensure the mastery of standard content. The curriculum adopts a modular approach of teaching and learning – namely, the Basic Module and the Thematic Module. The Basic Module
consists of four components: languages (Bahasa Melayu, English, Chinese, Tamil), mathematics, physical and health education, and Islamic education/ moral education. The aim of the module is acquisition of mastery in early 4R (i.e., reading, writing, arithmetic, and reasoning) literacy. Time allocated for teaching and learning of the Basic Module ranges from 35% at the beginning of the school year to 50% at the end of the year. Meanwhile, the Thematic Module consists of all learning strands in the curriculum. Teachers can develop theme suitable for be students, locality, and events. Examples of the suggested themes include my country, exploring the living world, and exploring the physical world. Time allocated for teaching and learning the Thematic Module ranges from 0% at the beginning of the year to 50% at the end of the year (Curriculum Development Division, 2017).

The NPCS is mandatory for all preschool centres, both public and private. The curriculum is organized using standard content and standard learning processes appropriate for the age level of four to six year olds. The teaching and learning process is meaningful, using activities that make learning fun for the children. Child-centered inquiry and discovering learning using project work will provide children with sufficient acquisition of basic concepts and skills, self-confidence, and positive attitudes in preparation for primary schooling. The NPCS is based on six strands or areas of learning: communication; spiritual, attitude, and values; humanism; self efficacy; science and technology literacy; and physical and aesthetics development. The six strands or learning areas will be extended to the first two years of primary school curriculum to ensure continuity (Curriculum Development Division, 2017). To prepare teachers for implementation of the NPSC, in-service training were conducted to expose teachers and school administrators to the curricular changes.

With the introduction of the new curriculum, it was expected to bring changes in the role of teachers. According to Ginige (2008) the new transformational roles of the teacher characterized by student-centered and activity-oriented approaches will call for teachers to plan their own activities. A massive effort is needed to engage teachers in the change process (Muhamad Fakri, 2019; Marsh, 2002) and evaluating the teachers continuously in a curriculum change process is one of the required efforts.

The pivotal role of the teachers’ perspectives and beliefs are found to the best predictors students’ achievements. Fullan (2015) reiterated the three major success factors that affect the success of implementing change are: 1) the teachers’ knowledge of the curricular innovations, 2) the teachers’ skills in implementing the curricular changes, and 3) the teachers’ attitudes towards change. This study explores these three factors in the context of a systemic change related to the implementation of the innovation in NPCS.

2. Literature Review

The discussion of the review of the current literature is divided into several subsections as follows:

2.1. Appropriate Practices for Child Development

The National Association for the Education of Young Children (NAEYC) states that it is vital for the teaching and learning process of early childhood education to fulfill the basic needs of young children by focusing on six domains as follows: (i) physical: health, security, food, coarse motor development, and fine motor development, (ii) cognitive and intellectual: thinking skill, conceptual development, and the use of symbols, alphabets, and numbers, (iii) language and literacy: verbal and non-verbal communication skills, (iv) emotion: the ability to manage, control, and express positive feelings, (v) social: social and interpersonal skills, and (vi) spirituality and moral values: the nurturance of virtuous personal values and the ability to differentiate between right and wrong behaviors. Hence, it can be argued that the teaching and learning process based on best practices of ECE will be more effective compared to other learning processes. Such a process is expected to be highly effective because it stresses on teaching and learning processes based on students’ age, self-development, ability, talent, and interest (Romazrila, 2017; Essa, 2011).

2.2. Cognitive and Intellectual Development

Studies of academic performances have shown that students engaged in active learning, such game-based learning or inquiry-based learning, outperformed their counterparts who learned conventionally (Almon, 2004). Such findings suggest that active participation in such learning can help further develop students’ cognitive skills. Also, such learning that allows students to explore learning objects and perform certain interesting activities can render learning fun and enjoyable. By engaging in more challenging activities, students can become more skillful in solving problems and articulating their ideas more effectively (Nurhamimi, 2020).

2.3. Language and Literacy
According to Ruslan (2018), Fullan (2015) Roskos et al. (2003), literacy does not only concern the ability to read but also the ability to comprehend texts that help develop literate individuals. Lately, some studies have shown that there are at least three critical aspects in early literacy development of children, namely spoken language, phonological awareness, and knowledge of printed concepts. Such aspects can be nurtured through learning activities in which students learn to speak, discern the spoken words, comprehend their meanings, and use words in expressing or composing their ideas. Surely, they can further improve their language skills by engaging in complex activities that allow them to use a wide array of words to express their views or opinions. In addition, thorough active participation in learning, students can learn new vocabularies and linguistic rules as well as diversify the use of newly learned words.

2.4. Social Development

Certainly, learning takes place when children interact with the environment, friends, and adults. In particular, they learn how to socialize as they carry out activities with the peers. In fact, the notion of such learning concept based on social interaction has been addressed by several learning theories, notably the social learning theory of Vygotsky (Nurhalimah, 2020). Essentially, this theory emphasizes the important role of adults and friends in enhancing students’ literacy skills through enriched social activities. According to Vygotsky (cited in Cristie & Roskos, 2009), children learn literary concepts and acquire literary skills through daily experiences with other children in addition through activities involving book reading and ‘make-believe’ plays. In such activities, their social skills can be further improved as they try to emulate acts performed by adults or by their peers. In this regard, active involvements with their peers can help children to gain strong confidence and personality (Nurhamimi, 2020; Almon, 2004; Cristie & Roskos, 2009).

As children grow up, they will start playing with friends, learn how to control their behaviours in a particular situation, and learn to share gaming tools and materials. Through a variety of activities, they can learn to appreciate other individuals’ needs and get along with their friends, which ultimately helps nurture strong understanding among themselves and attain emotional maturity. Given that children like to share stories and experiences with one another, it is vital that teachers use activities in which children can interact to help build strong relationships among themselves (Romarzila, 2017). A case in point is best exemplified by a study in China in which school principals of early childhood education schools were able to earn the respect of children under their care by attentively listening to what the latter had to say and by paying greater attention to the latter’s needs (Rieg, 2007).

2.5. Emotional Development

Emotional development includes aspects of knowing, managing one's own emotions, achieving positive emotions, building positive self-concept, building interpersonal skills and social skills. Children learn about social rules and how to interact with their peers through games. Through social interaction, children learn how to control and express their emotions. They also learn how to resolve conflicts with other individuals and find solutions to problems (Ruslan, 2018). In preschool curricula, for example, emotion recognition activities are done in the form of activities and sketches. Children are invited to identify and discuss why at times we feel sad, happy, scared and shocked. Through these activities, children are taught to control their own emotions and to identify their peers' emotions.

2.6 Physical Development

Physical development is closely related to the growth of an individual’s physique, such as height, weight, and motor ability (Arce, 2000). In any physical activities, children use almost all parts of their bodies to move around in space. In this respect, preschool children (who are growing up fast) can perform various physical activities either individually or in a team (Nurhamimi, 2020). By doing so, they learn to control, balance, or coordinate their movements. More specifically, activities such as pouring, digging, weaving, mixing, and patching can help improve children’s fine motor skills. It is therefore important for preschool children to attain an appropriate level of physical development as they enter the education realm.

Lacking such development can impair their learning as, for example, they will not be able to grasp a pencil firmly during writing or to keep hold a brush securely during drawing. In addition, the lack of strong physical development can severely affect their ability to perform certain sport activities or use musical instruments (NPCS, 2017). Surely, with well-developed fine motor skills, they can use the pencil to write down words legibly and neatly. Thus, children should be exposed to activities that help enhance their fine motor skills as
early as possible before teaching them how to write. Such activities can strengthen the muscle joints of their fingers such that they will be able to hold a pencil firmly as they begin to learn to write.

2.7. Spiritual and Moral Development

Strong spiritual and moral values and positive attitudes of children must be nurtured continually. Thus, the teaching and learning process has to be carried out based on the principle that emphasizes the needs for children to develop noble values at their early age, which ultimately help them to develop into highly sociable and responsible individuals. In particular, they need to learn the acceptable social norms and the proper communication style as a tool for moral development and self-expression. Hence, the teaching and learning of morals at the elementary level should focus on enriching students’ vocabulary and honing their spoken language that are morally correct, which can help them develop strong morals. As such, teaching and learning activities should include problem solving, selections of alternative solutions, and feasibility study that help expose children to socially acceptable behaviors, which have to observe in their daily lives (Muhamad Fakri, 2019).

Effectively, such activities provide students the tool for moral reasoning that can help them develop and nurture noble social values, with which they can harmoniously live in a society. In addition, such values can guide them to behave in morally upright ways, not in ways that merely conform to vague and continually changing codes of behaviors. Given such importance, Malaysia’s Ministry of Education (2017) emphasizes the application of appropriate principles, practices, and learning theories for the development of NPCS to help achieve the following objectives:

a) Students should acquire knowledge through teaching, not through spoon feeding.
b) Students must have sufficient opportunities to think and solve problems.
c) Teachers should take into account individual differences among students.
d) Students learn at their own pace.
e) Teachers should relate their teaching activities with students’ experiences.

3. Methodology

3.1. Research question

This study aims to answer the following research questions:

1) What is the teachers’ level of the knowledge of the NPCS?
2) What is the teachers’ level of skills of in implementing the NPCS?
3) What is the teachers’ attitudes towards NPCS?

3.2. Research Design

This is qualitative study, a structured questionnaire was the main data collection instrument, primarily because a survey method approach was considered to give the best chance of exploring teachers’ perceptions and beliefs of what constitutes of the curricular innovations in the NPCS. Furthermore, majority of the teachers had attended in-service trainings to expose and become familiarised them with the NPCS (2017).

3.3. Sample

The participants for the study were 58 preschool teachers from Ministry of Education preschool centres. The teachers were selected from the national type primary school in the state of Kelantan. The sample included group of teachers dispersed across the whole range of age, academic qualifications, teaching experiences and involvement in curricular innovations. To ensure that participants were well informed about the proposes anf procedures of the study, voluntary informed consent, with guarantees of confidentiality and anonymity was established through invitation letters.

3.4. Instrument

The instrument was designed to focus on thr three main factors identified that affect implementation of curricular innovations: 1) knowledge – the contents of the NPCS (10 items); 2) skills – changes in teaching strategies that teachers need to adopt in their practices (10 items); and 3) teachers’ attitudes towards change and their readiness to became active partners in implementation of NPCS (10 items). Approximately equal numbers
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3.5. Reliability and Validity of Research

A pilot study of the instrument was conducted with 20 selected teachers in another district of the Kelantan state to ensure the instrument has acceptable reliabilities and validity. The Cronbach alphas was used to examine the seven scales which represent the different stages of concern. Analysis of the pilot test showed the Cronbach alphas were sufficiently high (0.777). The value of the alphas indicate that the instrument has acceptable reliabilities for the sample of the study.

3.6 Data Analysis

Descriptive statistics descriptive statistics of frequency count, mean and standard deviation were employed for data analysis in the study. The scale of intensity is set at 1.00-2.34 (low); 2.35-3.67 (average); and 3.68-5.00 (high).

4. Results and Discussion

4.1. Teachers’ Profile

The demographic profile of the 58 respondents showed a dispersed range in terms of age, teaching experiences, academic qualifications, professional qualifications, and opportunity to attend in-service trainings. In terms of age 39.7% (n=23) were 41-45 years old and 3.4% (n=2) were above 45 years. The other respondents were 19.0% (n=11) aged between 36-40 years, 32.8% (n=19) aged between 31-35 years, and 3.0% (n=3) aged between 26-30 years. The teaching experience as preschool teachers showed 12.1% (n=7) had served less than five years, 31.0% (n=18) had served 6 to 10 years, 22.4% (n=13) had served 11-15 years, 31.0% (n=18) had served 16 to 20 years and 3.4% (n=2) had teaching experience of more than 20 years. Apparently many of the respondents, 53.4% (n=31) indicate that they had school certificate and higher school certificate as their highest academic qualification. The rest are diploma holder, 20.7% (n=12), bachelor degree 24.7% (n=14), and a master degree 1.7% (n=1). Data on professional qualifications show 22.4% (n=13) received Certificate in Teaching, 55.2% (n=32) received Diploma in Teaching, while 10% (n=6) were degree holders, and 12% (n=7) had obtained post graduate diploma in education. A large number of the respondents 84.4% (n=51) also indicate they had attended in-service training in NPCS in the range 1 to 6 times. Only 5.2% (n=3) claimed that they had never attended any in-service training on the NPCS, and 10.3% (n=6) claimed that they attended more than in-service training on NPCS.

4.2. Research Question 1: What is the teachers’ level of knowledge of the NPCS?

The overall mean score of 4.09, SD .70 showed that teachers’ level of knowledge of the curricular changes introduced in the NCPS is high. They were all acquainted with the new curricular changes probably through the in-service trainings they had received on the NPCS. A descriptive analysis of the responses on all ten items on teacher, knowledge of the NPCS highlights a pattern that majority of the respondents are disposed to the curricular changes introduced in the NCPS. The responses on the item statements on knowledge of the NPCS are as follows: language and literacy development mean score of 4.05, SD .60; moral and values development mean score of 4.13 SD .51; creativity development mean score of 3.82 SD .72; social and emotional development mean score of 4.03 SD .70; early mathematics and early science mean score 4.31 SD .70; cultural awareness and personal competence mean score 4.05 SD .66; humanities and civic consciousness mean score 4.22 SD .71; time allocation for physical activities mean score 4.01 SD .63; time allocation for basic module and thematic module mean score 4.13 SD .71; component of the basic module mean score 4.12 SD .72.

Standing alone, the high score on knowledge of the NPCS suggest that the teachers are ready to engage as active partners in the implementation of curricular changes. However, other factors which exert influence on implementation of curricular innovations showed that matters are not cut and dry (Walsh & Gardner, 2006).

4.3. Research Question 2: What is the teachers’ level of skills in implementing the NPCS?

The overall mean score of 3.36 SD .35 indicated that teachers level of skills to implement the NPCS is average. The mean score ranging from 3.03 SD .95 to 3.67 SD .65 of all ten items on teachers’ skill indicate they do not yet have the necessary skills to implement the NPCS and practise the changes in teaching and learning.
processes required by curriculum planners. A descriptive analysis of the responses on all ten items on teachers' attitudes showed that the majority of the respondents lacked the skills and not ready to implement the curricular changes introduced in the NPCS. The responses on the item statements on teachers' skills are as follows: using English language mean score 3.03 SD .95; using ICT mean score 3.21 SD .69; student assessment mean score 3.32 SD .65; materials preparation mean score 3.36 SD .94; learning through play mean score 3.56 SD .56; using project approach mean score 3.67 SD .65; using teaching aids provided by the authority mean score 3.13 SD .92; sand and water play mean score 3.50 SD .53; mastery learning mean score 3.46 SD .73.

There is a clear indication here that all is not secure in terms of teachers’ skills for successful implementation of the NPCS. The findings further suggest that all is not well for the introduction for the more active learning culture such play-based, project approach, using ICT. It would appear that the respondents are not fully equipped to enable effective implementation of the innovations.

4.4. Research Question 3: What is the teachers’ attitudes towards NPCS?

The third research question deals with teachers’ attitudes toward NPCS. Analysis of all item statements on teachers’ attitudes showed that the teachers were positive towards change. However the overall mean score of 3.83 SD .27 could not be considered as high level in attitudes to accept changes. It was anticipated that the respondents would show a higher mean scores since they had received in-service trainings and were teaching in government school. The responses on all item statements on teachers’ attitudes are as follows: accept change as good for child development mean score 4.15 SD .58; implementation is easy mean score 3.96 SD .64; become more professional mean score 4.10 SD .43; produce balanced children mean score 4.03 SD .62; learning is fun mean score 4.03 SD .41; confident in changes mean score 3.01 SD .94; feel overloaded using English mean score 3.37 SD .89; meaningful learning mean score 4.05 SD .63.

Teachers are change agents and educational changes depend on what teachers do and think. Their beliefs and attitudes influence their thinking and action. A lack of appreciation of the innovation would lead to implementation failure. The low mean score on some item statements with regard to teachers’ attitudes towards the NPCS suggest a clear indication that some teachers are not ready for change but feel honour-bound to agree and accept since the NPCS is mandatory.

5. Discussion

The purpose of the present study is to investigate the three major factors that affect the implementation of curricular innovation in schools. The three factors are: 1) teachers’ knowledge; 2) teachers’ skills; and 3) teachers’ attitudes. The objective of the study firstly, is to explore the level of teachers’ knowledge regarding of the implementation of a curricular innovation. Second, to examine teachers’ skills required in order to implement the curricular innovations. Last but not least to explore teachers’ attitudes toward the curricular change. A structured questionnaire was used to report teachers’ knowledge, skills and attitudes on the new curricular change at preschool level with the introduction of the NPSC beginning 2010. The NPSC is mandatory for all preschool teachers and preschool centres.

The findings from this study confirm that implementing changes effectively in curriculum and classroom practice is a complex task and one that produces many challenges and concerns for teachers involved. Although the teachers surveyed reported the highest score in terms of knowledge of the innovations but an average score on level of skills to implement the innovations indicate the well reported-gap between teachers feelings of control in the content they teach, as opposed to feelings of inadequacy, helplessness and loss of control when they implement the curricular innovations in their teaching. Following Romarzila et al. (2018) and Shulman’s (2004) definition of good teaching practice, in educational projects the teachers’ perception of their knowledge is considered as a critical success factor. Content knowledge refers to knowledge of facts and proofs in a specific domain; knowledge bases of the subject taught. Pedagogical knowledge consist of extensive knowledge of the teaching and learning processes and methods that includes educational goals, values and targets. A teachers with thorough pedagogic knowledge understands how students construct their knowledge, acquire skills and develop learning habits, and thus knows which methods to use so that students understand. Pedagogical content knowledge embraces the core for teaching, learning, curriculum, evaluation and reporting and demands flexible lesson planning and implementation. The interaction of content and pedagogy (skills of teaching) is a Knowledge that teachers must master in order to ensure effective implementation of the curricular innovations (Nurhalimah, 2020; Cunningham, 2009).
In general, the teachers’ attitudes towards the change were found to be positive. The fact that the highest scores in attitudes towards change clearly indicate the readiness of teachers to participate in the implementation of educational change and to actively work for creating change and make a success. As implementers of government policies, teachers are expected to possess the knowledge, information, and capabilities to meet demands of the innovations. A highly motivated teachers are the valuable asset of the school system since they can identify goals that they want to accomplish, focus on things they would like to change or achieve (Ruslan, 2018).

Findings from the study indicate the pivotal role teachers in the process of curricular implementation. There is a general consensus within the literature that change depends on the actions, values and beliefs of the individuals and the view that it is the teachers, not the curriculum design that must ultimately change classroom practice. Studies have shown that 90 percent of new curricula failed to be implemented because stakeholders in education system lack the knowledge and skills necessary to deliver the new curriculum (Ornstein & Hunkins, 2018; Romarzila. 2017; Anderson 2010; Fullan, 2015; Tubin, 2004).

In the Malaysian context numerous curricular innovations had been initiated at levels of schooling. Various initiatives and efforts have been undertaken to facilitate the nation’s aspirations transform into a fully developed by the year 2025 (Malaysia Educational Ministry, 2013-2025). Government expenditure on education and training had increased substantially for development of intellectual human capital. The NPCS consists of many ideas that teachers need to acquire, and the curriculum is still in the early stage of implementation. Nur Halimah (2020), Nurhamimi (2020), Romarzila (2017), Senger (1999) and Spillane (1999) believe that curriculum reforms may be fragile and transient, and educational planners should develop programs and support for the teachers.

In the light of the literature on managing effective change (Hall & Hord, 2011; Fullan, 2015; Tubin, 2004), which emphasises the role of practising teachers in the change process, the finding of the present study do not seem to auger well for the future of NPCS. If the views of the sample teachers in this study are representative of the wider preschool teaching community in the country, then the findings suggest that preschool teachers are not ready to adopt the curricular changes in the NPCS.

Enforced change challengers long-held belief and practices. People are willing change if they “know the stake are worth it” which Fullan (2015) refers to this process as teachers making meaning of change. One way to ensure that teachers make meaning of change would be to encourage them to reflect more closely on their teaching practices and effectively become learners themselves. Profesional development is promoted by personal learning and understanding. Teachers also need time to try out the new ideas (Muhamad Fakri, 2019; Alicia, 2016; Kogilan, 2016). Once the community of teachers begins to make meaning of change, then only innovations in curriculum can be successfully implemented. In the Malaysian case, it is the responsibility of the Ministry of Education to take actions of providing information, continuous supervision, support and training to enable teachers to change their perceptions and beliefs. Winning teachers’ hearts and minds would help increase the prospects of success in the curricular innovations.

References