



The Case Study Method to Examine How ICT and Parental Involvement May Help Narrow the Literacy Gap Among Malay Pre-Schoolers

Thomas Chong ¹, Neil Anderson ² and Robyn Anderson ³

¹ c/o 797 Woodlands Drive 72, #12-59, Singapore 730797. SINGAPORE.

James Cook University, Australia, PhD candidate

² James Cook University, P.O. Box 6811, Cairns, Queensland, 4870, AUSTRALIA

³ 600 Upper Thomson Road, Singapore 574421. SINGAPORE.

James Cook University, Singapore, Lecturer

Abstract

There is a (literacy) gap among Malay pre-schoolers i.e. pre-school children aged 4-6 years are not reading at their grade level. The Singapore Parliament Report (2009) highlighted that “over the last 5 years, around 12% to 14% of the children who entered Primary 1 have very weak oral English and literacy skills....they were not able to recognize simple English words (or) understand very simple oral instructions in English” (para 42, n.p.). Singapore’s Minister for Muslim Affairs Dr Yaacob Ibrahim suggested helping affected families with “parenting skills” (Ibrahim, 2010, p. 3).

This paper focused on the use of the case study method to examine how information communication technology (ICT) and parental involvement might help narrow this gap. It started with a discussion on Singapore’s state of ICT- readiness, the choice of preschool, access and potential bias, assumptions, delimitations of this study and a short review of the literature before discussing why this method is preferred. This case study included a documentary analysis, a survey and an analysis of narratives of Malay parents who are an aboriginal group commonly found in this part of South-east Asia comprising Malaysia, Indonesia, Brunei and Singapore.

The case study site is a group of 3 Singapore preschools and is representative of preschools serving low-income families. Thirty-one teachers and 45 parents or care-givers of children from these pre-schools participated in interviews. Through this case study method, the issues were more clearly understood so that recommendations were made to enhance literacy levels of pre-school children or pre-schoolers among the Malays, who are over-represented among the poor and the under-performers in school.

There is also a discussion on triangulation of data and the advantages and disadvantages of the case study design. Triangulation took the form of a documentary analysis of related parliamentary speeches on pre-school policies as well as media releases from the Ministry of Education (MOE), Ministry of Community Development, Youth and Sports (MCYS), Ministry of Social and Family Development (MSF), Ministry of Manpower (MOM), Infocomm Development Authority (IDA) followed by a narrative analysis of interviews with teachers and parents.

Broadly speaking, case studies are complex because they generally involved multiple sources of data and consequentially tended to produce large amounts of data for analysis. Nevertheless, with a more in-depth understanding of key questions such as ‘why’ and ‘how’, the critical success factors were identified. As was expected, a pattern emerged and several repeated themes surfaced from the narrative analysis including a somewhat unexpected factor, ‘religious upbringing’. Indeed, if past racial riots in Singapore served as reminders, then inter-religious and inter-racial relations must be managed sensitively, and this highlighted the importance of advocacy groups such as the Inter-Racial and Religious Confidence Circles (or IRCCs).

This paper focused on the case study as a preferred research method to answer the “why” and “how” research questions. It also briefly demonstrated the technique of discussing the case around several themes before making suggestions for further research.

Keywords: Case Study, Parental Involvement, Malay, Pre-schoolers

Introduction

The statistics on reported literacy gap

There is a (literacy) gap among Malay pre-school children, i.e. they are not reading at their grade level. The Singapore Parliament Report (2009) highlighted that “over the last 5 years, around 12% to 14% of the children who entered Primary 1 have very weak oral English and literacy skills....they were not able to recognize simple English words (or) understand very simple oral instructions in English” (para 42, n.p.). Minister Dr Yaacob Ibrahim suggested helping affected families with “parenting skills” (Ibrahim, 2010, p. 3).

Drilling down to micro-level ICT-readiness data

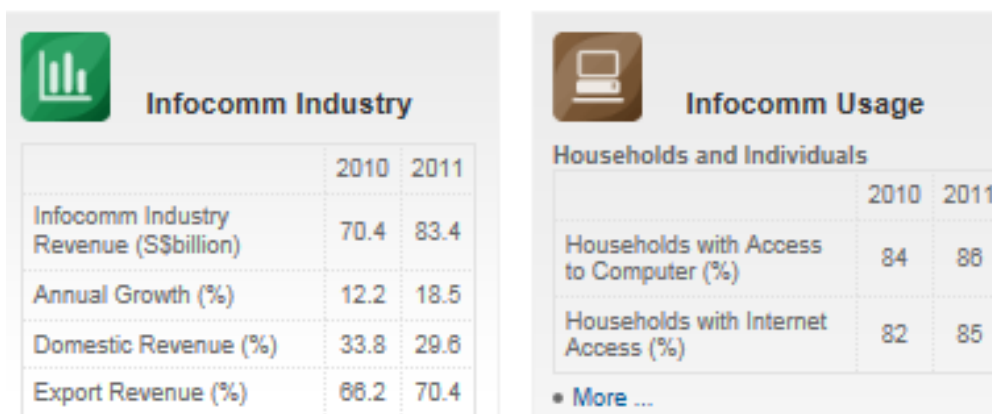
While the term ‘ICT-readiness’ or e-Readiness of countries had been investigated by researchers such as Kraemer and Dedrick (2002), and usually in terms of ICT infrastructure, pervasiveness of broadband or even narrow band internet access (p. 31), such research had not drilled down to the ICT-readiness of specific populations such as pre-school teachers or children in Singapore.

Even the iDA, a Singapore government agency, did not have such statistics of pre-school teachers or children because it published statistics at the *macro*-level as illustrated in Figure 1 (iDA, 2012). This is where the case study method could be useful as it investigated “a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident” (Yin, 2009, p. 18).”

Figure 1:
Singapore Infocomm Statistics at Macro-level (iDA, 2012, n.p.)

Singapore Infocomm Statistics at a Glance

This section highlights key infocomm statistics and charts to illustrate Singapore's infocomm development.

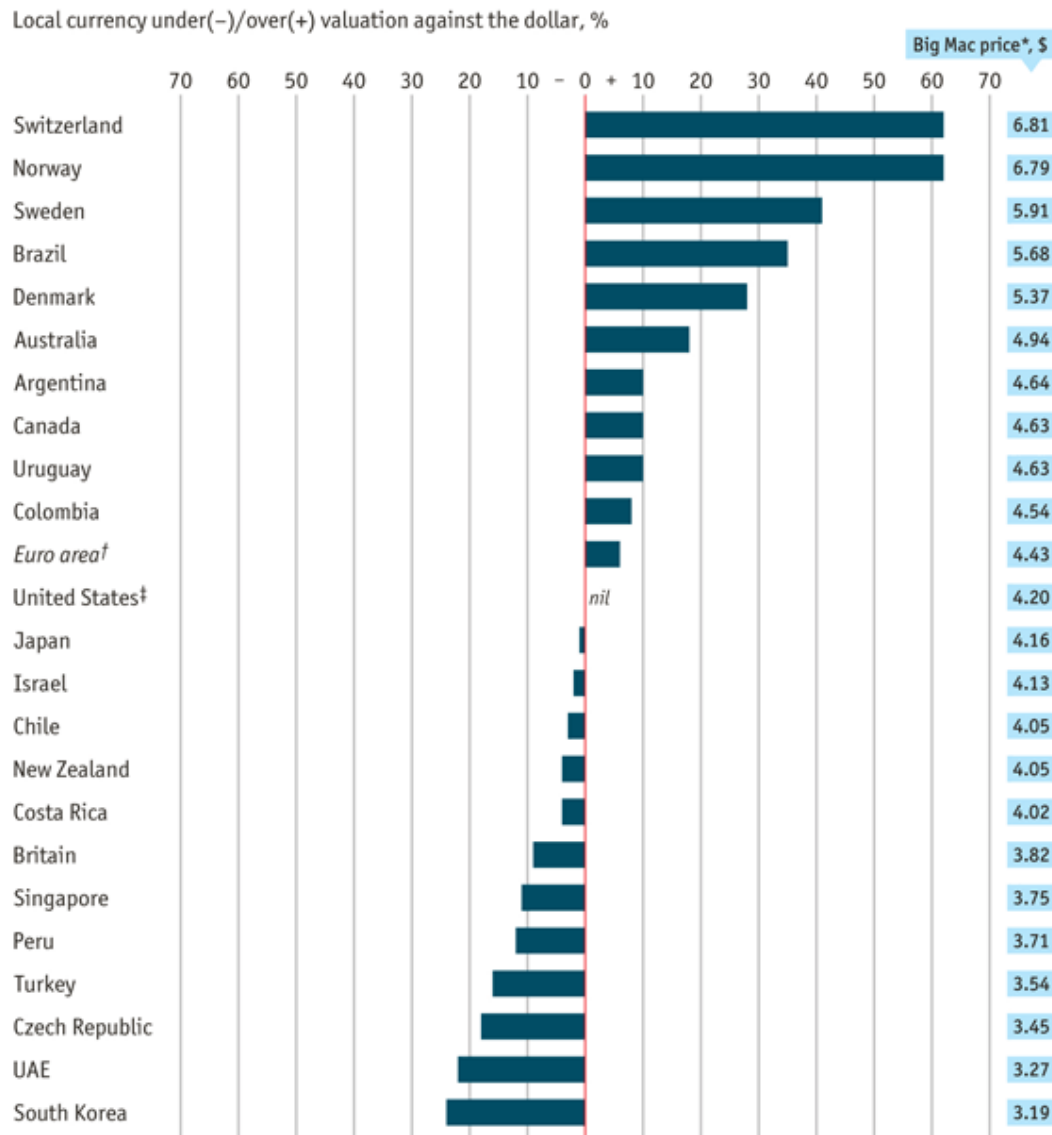


This study could thus potentially present an opportunity to grow and further develop the theoretical and knowledge bases relating to teacher ICT-readiness as we gathered more empirical data so as to understand how ICT and parental involvement might address the literacy gap of Malay pre-schoolers.

Choice of pre-school group

This group of pre-schools is located in the northernmost part of Singapore, where there is a sizable population of Malay families. The group catered to the heart-landers (Chinese, Malay, Indian and other ethnic minority groups living in government-built apartment blocks) whose household monthly incomes were below \$8000 (Housing and Development Board, 2014). However, families who enrolled their children in these preschools tended to have monthly household incomes not exceeding \$3000 and the per capita income is less than \$600 per month. This is comparatively low, based on the theory of purchasing-power parity such as *The Economist's* Big Mac index whereby “in the long run, exchange rates should adjust to equal the price of a basket of goods and services in different countries” (Economist, 2012, n.p.). The Big Mac Index is indicative of the relative size of the monthly per capita income of \$600.

Figure 2:
Big Mac Index (Source: Economist, 2012, n.p.).



Sources: McDonald's; *The Economist* *At market exchange rate (January 11th 2012) †Weighted average of member countries
‡Average of four cities §Average of five cities **Maharaja Mac

Each of the 3 preschool centres in the participating group operated 2 kindergarten sessions from 8 a.m. to 12 noon, and the afternoon session from 1 p.m. to 5 pm. Each class had no more than 20 children nurtured by a qualified pre-school teacher with a Diploma in Preschool (Teaching).

This preschool group is chosen as the case study site because there is easy access, secured from the Group Chairman who is also the Member of Parliament in the constituency and the Senior Parliamentary Secretary (SPS) for the MOE as well as the MOM in Singapore. Moreover, the composition of teacher population at this pre-school Group is representative of the national population of pre-school teachers, in terms of professional qualifications and experience, in alignment with public policy (MCYS, 2011). Furthermore, the population of

its Malay pre-school children comprising mostly of children from low-income families, is also representative of the population of pre-schools in Singapore.

Access and Potential Bias

Access is strictly for the purpose of research involving the pre-school group. Typically, applying for permission to conduct educational research in a pre-school is a very difficult and tedious process. While much time was spent with the teachers who are voluntarily participating in this case study, it is also important not to be *too* familiar with the teachers or what Luttrell (2003) called "deep hanging out" so as to avoid any bias (p. 147).

The participants

Thirty-one teachers and 45 parents in the participating preschool group answered questions in a semi-structured interview. Non-teaching staff members had not been included because they did not carry out any teaching tasks.

Key Assumption

For this case study, the key assumption is that valuable and reliable information on pre-school teachers' ICT-readiness and parental involvement could be gathered from interviews and the derivative narrative analysis.

Definition of Key Terms

According to Lincoln and Guba (1985), "while the literature is replete with references to case studies and with examples of case study reports, there seems to be little agreement about what a case study is" (p. 360). Since 1985, proponents of case study method such as Yin, Stake and Merriam have clarified and further defined the method. Yin (2009) defined a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident" (p. 18). Stake (1995) described case study as "the study of particularity and complexity of a single case, coming to understand its activity within important circumstances" (p. xi). The use of ICT in Singapore pre-schools is a contemporary phenomenon and it is complex as there are many reasons why and how ICT is being used or not used in pre-schools.

Delimitations

While more sites may be selected and examined to see if the findings could be replicated, no two cases are the same. A population, of course, comprised many of such individuals or 'cases'. Suffice it to state that a single case is not representative of an entire population and hence is not a good basis for generalization even though Stake (2005) made an argument for "naturalistic generalization" if the aim is to "generalize to similar cases", and not to a population (p. 64).

Review of the Literature

The Single Case Study Method

The single-site case study method is used to examine how ICT and parental involvement might help narrow the literacy gap among Malay pre-schoolers at a group of 3 pre-schools. In semi-structured interviews, questions were asked on order to get a better understanding of pre-school teachers' ICT-readiness, how teachers are equipped with ICT skills and why they are at this state of ICT-readiness.

The Case Study as a Research Method

Rather than using samples and following a rigid protocol (strict set of rules) to examine limited number of variables, case study methods involved an in-depth, longitudinal (over a long period of time) examination of a single instance or event: a case. It provided a systematic way of looking at events, collecting data, analyzing information, and reporting the results. Thus, we might gain a clearer understanding of why the instance happened, and what might become important to look at more extensively in future research. Case studies lent themselves to both generating and testing hypotheses (Flyvbjerg, 2011). However, Cronbach (1975) cautioned that "once we attend to interactions, we enter a hall of mirrors that extends to infinity" (p. 119).

Case study research could mean single and multiple case studies, and could include quantitative evidence. In this case, the study was a single case method. It depended on multiple sources of evidence, and it benefitted from the prior development of theoretical propositions.

Case studies can also be based on any mix of quantitative and qualitative evidence. Single-subject research provided the statistical framework for making inferences from quantitative case-study data (Yin, 2009). While case studies highlight details in a context and inter-relationships which may not surface as easily from a quantitative method of research (e.g. survey), critics quite fairly question how the study of a small number of cases could establish generalizability of the findings.

Naturalistic Generalization

While an individual person is seldom the target or object of a social inquiry, such an individual or single object is what is considered 'a case'. Stake (1980) had earlier proposed that the case study method might be in sync with the professional reader's experience and thus be a "natural basis for generalization" (p. 64); hence the term "naturalistic generalisation" was coined.

There were also 'aha' moments that arose from the interviews, e.g. when at least 2 parents spoke of their children's new interests in reading primarily because their children's teacher had put in place a good practice of having 'lap-times' at the beginning and end of the day. These were times when the children in the pre-school would take turns to sit on the lap of the teacher to read a Big Book to the class. Children, inevitably, associated reading to something "nice, warm and full of love", according to these parents during an interview (Field Notes, 3 March 2014). How much of such insights would surface in a quantitative

survey is unclear but the case study with narrative analysis helped to uncover such best practices happening in our pre-schools.

Hence, case study could offer a perspective of a situation and provide well-written field notes describing a phenomenon in a way that is more detailed, rich in insights and later subject to deeper analysis. After all, unlike quantitative surveys, field notes could serve as a helpful record of questions, testimonies, stories, illustrations and narratives, what is felt and works-in-progress.

According to Wilson (2009), field notes might also alert us to “impending bias” because of the detailed exposure of the client to special attention, or give an early signal that a pattern is emerging (p. 209). When conflicting perceptions surfaced, a closer examination could be carried out expeditiously. Focused, short, repeat interviews might be necessary to gather additional data to “verify key observations or check a fact” (Wilson, 2009, p. 209).

Advantages and Disadvantages

The case study method might be used to build upon theory, produce new theory, dispute or challenge theory, explain a situation, provide a basis to apply solutions to situations, and describe an object or phenomenon (Yin, 1994). Yin (1994) preferred the case-study to surveys, experiments, and other research strategies especially “...when a 'how' or 'why' question is being asked about a contemporary set of events over which the investigator has little or no control” (p. 9). The essence of the case-study approach is to collect many different types of data and use them “in a triangulating fashion” (Yin, 1994, p. 13) to converge on an explanation of what happened.

Furthermore, as multiple sources of information converged into a certain pattern, it provided insights on how policy and practice might enhance teachers’ ICT-readiness and what results (in terms of children’s literacy development) might be achieved.

On the other hand, a typical case study research could generate voluminous data and become unwieldy. As such, systematic organization of the data is critical otherwise the entire research might crumble due to lack of focus and inability to handle such massive data. Moreover, much effort, listening skills, discipline and time are required to record, categorize, sort, store, and retrieve these sources of evidence for analysis.

Sources of Evidence

Evidence for case studies is generally derived from several sources including and not limited to documentation, archival records, interviews, direct observations, participant-observation and physical artefacts. No source of evidence is regarded above the others as many of them complement one another.

Case Study Design

As stated earlier, this study employed a mixed method case study design to answer the research questions. Qualitative and quantitative methods are not necessarily “antagonistic”, but could complement each other and thereby strengthen the study. According to Fraenkel and Wallen (2006), a case study might be broadly described as “an in-depth investigation of an individual, group or institution to determine the factors, and relationship among the factors, influencing the current behaviour or status of the subject of

the study” (p. 580). In case studies, Smith (1978) suggested that the entity under investigation is a *bounded system*, that is, there are boundaries around the unit of analysis whether by time, place, context or components comprising the case.

Case studies might be single or multiple cases. Single case studies contained one case or site that is often a unique case, a typical case or one to test a theory (Yin, 2009). Within a single case study, multiple sites might be used. However, if the whole study contained several sites or cases that are *treated separately*, it is referred to a multiple case study. Studies that *combined results* are single case studies whereas studies that regarded each case separately are multiple case studies. As such, this study is a single case study.

Because this paper set out to discuss the use of the case study method to examine how ICT and parental involvement addressed the literacy gap among Malay pre-schoolers, the focus remained so although other critical factors that emerged are also discussed briefly so as to demonstrate the usefulness of the case study method.

Triangulation

Yin (2009) listed 4 types of triangulation namely data triangulation, investigator triangulation, theory triangulation and methodological triangulation. Data triangulation based on different data sources e.g. journal articles, newspaper articles, books, etc. and data collected from interviews (qualitative data) and questionnaire (quantitative data) could strengthen a study (Crowther & Lancaster, 2008).

Merrell (1999) praised the use of multiple informants to derive a more comprehensive, reliable and valid representation of the child, accommodating *different* perspectives on the child’s behaviour. A few interviews revealed this: a parent related her child’s lamentations about how *little* his teacher used ICT in class whereas the teacher reported otherwise. Upon verification, it turned out that both had their own perspectives. It was found that the child did not get *called upon* to use the smart-board during the whole-class teaching segment of the lesson even though he had one-to-one hands-on opportunities on the computer thereafter. So the child’s notion of ‘frequent usage’ was equated with ‘being called upon to show to the whole class’. Would this have been easily uncovered in a quantitative research method? Quite aptly, Bronfenbrenner (1989) argued that an individual’s understanding is enhanced when research designs incorporated systematic comparison of observations made in different contexts by different informants who had diverse relationships with the individual.

Data Triangulation Chart

In Singapore, many years ago when it was uncovered from the interviews that parents were clocking long days in the office and leaving their children unsupervised by an adult, policy-makers moved quickly with after-school care (ASC) programs, complete with government subsidy so that the children would be supervised, provided food and even coaching in their studies while their parents were at work. ASC programs had also been introduced in the primary (elementary) schools for added convenience to the parents needing such a service. The following simple data triangulation chart captured the main afore-said points (see Figure 3).

Figure 3:

Sample data triangulation chart

Source 1	Source 2	Source 3
Survey with parent	Interview with Parent	Media articles or Government press releases on Parental Involvement
Parent indicates how much (or little) time they spend with their children who return to the house in the afternoon with no one at home.	The interview may reveal that parents are lamenting the lack of time with their children and the lack of quality after-school care (ASC) for the child.	Media may uncover the long hours (working) parents spend at the office, and the lack of ASC facilities in certain parts of the country.
<p style="text-align: center;">Interpretation</p> <p>Trigger: Stress at work for working parents.</p> <p>Consequence: Little time for the children who are latch-key (in the afternoons).</p> <p>Recommendation: To have more centres offering ASC and ways for parents to still connect with the children in the afternoon (using technology e.g. Face-time on the iPhone or equivalents such as Skype and MSN).</p>		

Another data triangulation chart had been produced, based on the semi-structured interviews. It addressed the heavy teachers' workload and related it to teacher shortage and retention issues (see Figure 4).

Figure 4:
Sample data triangulation chart

Source 1	Source 2	Source 3
Survey with teacher	Interview with Teacher	Media articles or Government press releases on Teachers' woes
Teacher indicates the sheer volume of admin tasks and work which takes away time from lesson planning	The interview may reveal how stressed teachers are	Media may uncover the high attrition rate of teachers in the preschool sector.
<p style="text-align: center;">Interpretation</p> <p>Trigger: The admin work has piled up what with various Ministries requiring different reports e.g. MOE on attendance, Ministry of Health on prevention of HFMD, MCYS on fee subsidies, etc.</p> <p>Consequence: Teachers are too bogged down with non-teaching tasks, and leave the service.</p> <p>Recommendation: To provide teacher-aides, admin assistants and to use technology to record children's attendance and temperatures.</p>		

When it was uncovered during the interviews that teachers “feel so jaded”, a closer examination of the issue was taken. What were they tired of or unhappy about? A problem-solving approach led to the hiring of teacher-aides (who are readily available) and the use of ICT to complete administrative work or non-teaching tasks such as marking attendance and recording of children's temperatures in case they are running a fever.

Despite such initiatives, the child-care and preschool industry is still suffering from a high staff attrition rate. Press releases from government agencies did not discuss teacher shortage at length but focused instead on scholarships and bursaries to attract talent into the profession (Heng, 2012). Attempts to attract more into the profession via scholarships had yielded dismal results, based on repeated newspaper advertisements (from the same groups of preschools seeking to fill immediate vacancies) which leave tell-tale signs about the continued dire shortage of preschool teachers.

The Interview

Denscombe (1983) considered the interview as an expressive medium that should highlight the performance factor, performed with dramatic intonation, pauses, gestures, facial expressions and body positions, complete with interesting figures of speech. Some narratives show a variety of stylistic devices such as figures of speech, rhyme, varied tempos, pitch and intonation – data which could not be captured in documentary analyses or surveys. Via "a conversation with the data" (Merriam, 1988, p. 131), patterns and themes might be identified. Moreover, such face-to-face interviews were used to establish rapport, and soothe any anxieties respondents might have about confidentiality.

There is a growing interest and effort in equipping Singapore children for the digital age especially when parents favoured ICT use to “prepare their young children for the digital

age” (BECTA, 2008, p. 46). This study documented narratives told by 31 teachers and 45 parents who provided insights and perspectives which could aid our understanding of how to mind the literacy gap

Narratives

The literature on narratives is not new. As long ago as the 1960s, Labov, Cohen, Robins, and Lewis (1968) listed 6 parts to a fully-formed oral narrative of personal experience: the abstract initiated the narrative by summarising the point; the orientation provided details of time, persons, place and situation; the complication marked the turning point or problem; the evaluation highlighted the point of the narrative, the reason for telling the story; the result described the resolution to the problem; and the coda marked the close. This same 6-part framework is still in use today; recently by Seck (2009) in his work on oral narratives of an aboriginal group.

Narratives are viewed and talked about differently by different people. Barnlund (1975) observed that people “talk differently, about different topics, in different ways, to different people, with different consequences” (p. 435). Researchers in the 1980s such as Polanyi (1985) viewed ‘narrative’ as “a kind of discourse in which a precise time line is established through the telling, comprising discrete moments at which events occur”. Connelly and Claudinin (1988) defined narratives as “the making of meaning through personal experience by way of a process of reflection in which storytelling is a key element and in which metaphors and folk knowledge take their place” (p. 16). Teachers’ reflections are studied so as to “get inside teachers’ heads to describe their knowledge, attitudes, beliefs, and values” (Connelly & Claudinin, 1988, p. 14).

Chafe (1990) viewed narratives “as overt manifestations of the mind in action: as windows to both the content of the mind and its ongoing operations” (p. 79). Even a pause or an interruption, intended or otherwise, is important. Chase (2010) described this kind of unexpected narrative interruption as an opportunity “to understand how people create meanings out of events in their lives” (p. 218). Bruner (1996) proposed “that skill in narrative construction and narrative understanding is crucial to constructing our lives and a ‘place’ for ourselves in the possible world we will encounter” (p. 40) and suggested we “convert our efforts at scientific understanding into the form of narratives” (p. 125).

Indeed, it is important to listen to teachers’ opinions and frustrations or listen to their “voice”. As more is expected of teachers, teachers needed to be empowered and be given more voice. As Cortazzi (1993) suggested, “many teachers’ narratives have strong performance qualities, most of which are lost on paper: voice quality, gesture pitch and pace disappear in transcription” (p. 110). Thus, narratives enabled a phenomenon to be described in a way that is deeper in analysis, more detailed, and more insightful.

In a magazine article entitled ‘Winning Women’, Chong (2012a) listened to these award-winning preschool professionals and found out what motivated them are not just recognition but also “the full support of teachers, principals and the Management Committee”, “work-life balance” and “proximity between home and the workplace” (pp. 36-37).

Many researchers, over the years, also argued that understanding how these voices conducted themselves with respect to events, processes, and other voices could provide insights into how they viewed and felt about schooling (Xu, Connelly, He & Phillion, 2007). Interestingly, these (pre-schoolers’) stories and views were not permanent but might evolve

over time and across contexts and interpretations (Cook-Sather, 2007). It is thus important to listen for and attend to these shifting or conflicting accounts.

Documentary Analysis

A documentary analysis on various documents posted online by government and relevant agencies facilitated the examination of how much had been done to promote teacher ICT-readiness and parental involvement. Most of the documents were released by MOE, MCYS and another government agency - the newly-formed Early Childhood Development Agency or ECDA.

If the study by the Economist Intelligence Unit (EIU) on international ECE is to be taken seriously then Singapore “seems to be falling short when it comes to teaching its toddlers” especially when it had been ranked “just 29th out of some 45 countries across the globe” (EIU, 2012, n.p.). Singapore actually scored as poor as “30th out of 45” for quality, but fared slightly better in affordability (21st out of 45) and availability (25th out of 45). Quality is based on student-teacher ratio, average preschool teacher wages, preschool teacher training and linkages between preschool and primary school.

ICT

According to the IBM Annual Report 2002, (IBM, 2014), ICT is either the main cause for the gap between the world’s information ‘haves’ and ‘have-nots’, or it is actually our best chance for bridging the gap. Citing the growing affordability of internet access and the pervasiveness of ICT (with 5 million new cell-phone users per month for China alone), Gonzales (2002) cautioned that “we must not lose sight of an equally serious source of disparity” and added that “no amount of bandwidth and processing power will close the gap between the advantaged and disadvantaged until every child has access to a high-quality education” (p. 7).

Siraj-Blatchford and Siraj-Blatchford (2006) stressed that when integrated to support early learning across the curriculum, ICT could “support the development of positive dispositions towards learning” (p. 5). Moreover, since “ICT has shifted some amount of teaching and learning from ‘chalk and talk’ to ‘click and drop’”, ICT became more prevalent in our day-to-day routines and the Singapore pre-school classroom (Chong, 2012a, p. 21). According to Chong (2012a), “what’s more important is to harness such technology to raise the quality of teaching and learning ...and to focus on the art of leading and nurturing the children in the development of higher-order thinking (HOT) skills, such as analysis and discussion” (p. 21).

Parental Involvement

Chong (2012c) related the motivations of a parent-volunteer in one of the pre-schools: “I feel it is the parents’ responsibility to give back to the preschool. It also helps parents build rapport with the teachers and other parents as a community” (p. 22). Another father of a pre-schooler, a professional photographer, explained: “The teachers nurtured my children, so this is my modest way of giving back – by volunteering and capturing their happy moments on video and in photos” (Chong, 2012c, p. 21).

Findings

Repeated Themes Dorming a Pattern

Socio-economic status (SES) emerged as an often-repeated theme. Parents explained they wished they could spend more time with their children but had to be away at work most of the time just “to pay the bills” (Field-notes, 3 March 2014). It was also found that the care-givers did not read to the children because they did not know how to or were themselves too busy with household chores. Another interesting finding is how a Malay child repeatedly spelled the word ‘pencil’ as ‘pensil’ (the latter is the way this piece of stationery is spelled in the Malay language). This is informative and provided a rich enough empirical data base upon which to check interpretations (Xu, Connelly, He & Phillion, 2007).

Use of ICT

While Anderson and Baskin (2002) highlighted that ICT or the on-line environment is “not a panacea for better teaching and learning outcomes”, they expressed hope that ICT might serve as “a catalyst to other elements of school reform” (p. 126).

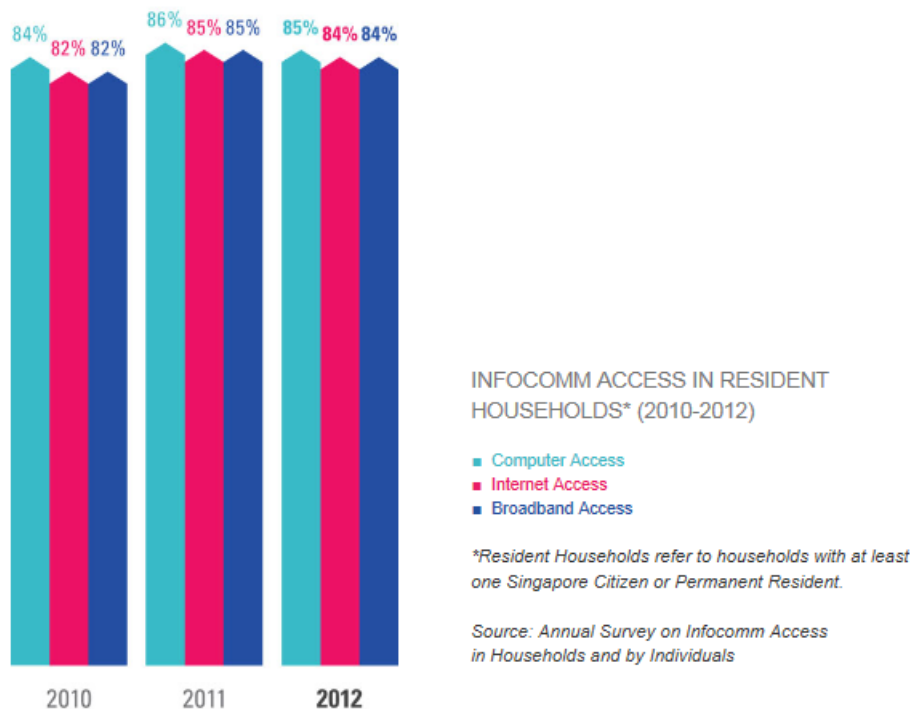
All 31 teachers registered their appreciation for teaching resources such as computers, smart-boards and a suite of learning videos and CD-ROMs. As many as 7 teachers thought these could be used more often, as they “have very little time for ICT-based lessons as we have other things to finish and got to multi-task” (Field notes, 20 December 2013). Teachers are not keeping up with ICT and not harnessing ICT to make their lessons engaging. For instance, mindmaps, simple semantic webs or ICT-based tools like Popplets might be used to help the children build more words or increase their vocabulary but they were not used at all (Field notes, 3 March 2014).

According to the iDA (2014), “as much as 85% of Singapore household have computers at home” which tells us that the remaining 15% do not. See Figure 5 below.

Figure 5
Infocomm Statistics – Infocomm Usage (iDA, 2013).

INFOCOMM USAGE

85% of households had access to a computer while 84% had access to the Internet.



As many as 36 out of 45 parents or 80% said they did not have computers at home. This implied that these parents were among the 15% of the country's population who did not have computers at home.

Parental Involvement

As many as 10 out of 45 parents who were interviewed also articulated how difficult it had been as single parents to support their children especially when their spouse is seldom around to share the responsibility and to serve as a male role-model. They related how they had to juggle full-time work as well as duties as a single parent. One parent spoke about the ills of drug abuse and how it had affected her family so badly that she had to juggle a few jobs to support the family.

SES

As many as 31 out of 45 parents or slightly more than two-thirds shared how difficult it had been for them to deal with 'bread-and-butter' issues every day. This brought to mind Darling-Hammond's (2010) point that "...socio-economic background most affects student outcomes". There seemed to be a pattern woven around threads of themes such as SES, teachers' growing workload, use of ICT, religious upbringing, parental involvement, and a shared responsibility among parents, school, teachers and society. Indeed, in a study on

aborigines in Queensland, Australia (which seemed to have similar success factors as this case study), McGinty (2002) had encouraged researchers to look at (factors) “such as community development, at partnerships, and at the role of government and the role of the non-government sector in the development of learning communities”...and to seriously consider “a more collaborative approach to its policy production and implementation” instead of “a ‘top-down’ approach” (p. 65).

Teachers’ Growing Workload and Staffing Issues

As many as 20 out of 31 teachers lamented the heavy workload but almost immediately added that “it is the love for the children” that made them happy and stay in the job. They also liked the “helpfulness of colleagues” which made the heavy workload a little easier to bear and made them stay in their job, heavy workload notwithstanding. One teacher confided how tired she was at the end of each day: “When I work, I think of deprived sleep and when I sleep, I think of work!” (Field Notes, 13 December 2013)

Religious Upbringing

While parents expressed the importance of school work and the child’s ability to read, they articulated that these must not be at the expense of religious classes and teachings. After all, as many as 32 out of 45 parents or slightly more than 70% insisted that attendance at religious classes is a must. One parent argued that “it takes only one afternoon a week” and another parent insisted religion “is part of our lives” (Field Notes, 28 February 2014). Another parent stressed the importance of adhering to their religion: “Religion must not be forgotten no matter what; religion will keep my children on the straight path so they won’t be crooked (colloquial term for ‘becoming crooks’)” (Field Notes, 3 March 2014).

Twenty-nine out of 45 parents or almost two-thirds wanted “a more balanced education” and “a curriculum that looks at more than just studies and exams” (Field notes, 3 March 2014). This is aligned with the goals and aims of the Refreshed Kindergarten Curriculum Framework which also emphasised the “Holistic development of children (and) recognises that every aspect of a child’s development is important and inter-connected” (ECDA, 2013b).

A Shared Responsibility Among Parents, School, Teachers and Society

In calling for continual improvement to Singapore’s education system, Singapore’s Prime Minister (PM) Lee Hsien Loong appealed, “.....we need a much broader involvement – parents, alumni, the community, all coming together to support our schools” (Lee, 2011, n.p.).

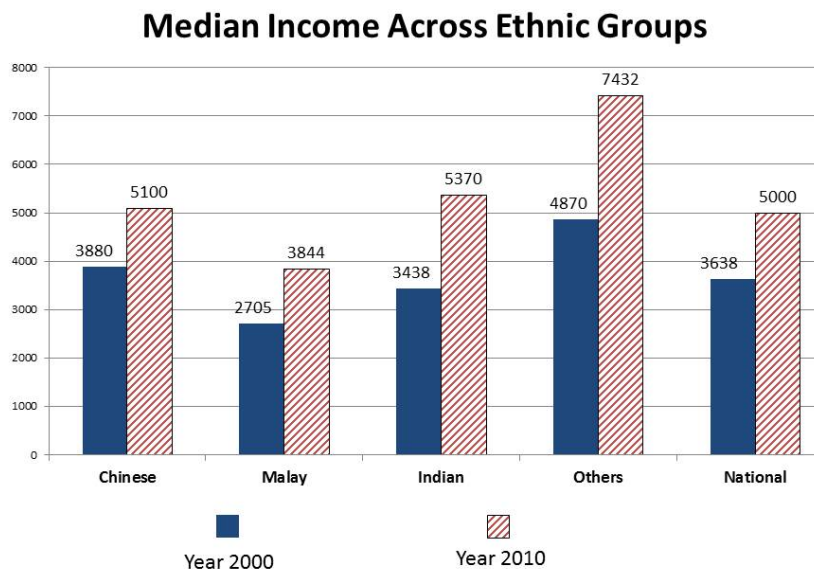
In his reply to questions at the MOE Financial Year 2012 Committee of Supply Debate, SPS Mr Hawazi Daipi highlighted the importance of stakeholders working together to achieve common desired outcomes (Daipi, 2012, n. p.). Indeed, the preschools and the teachers do not have to go it alone. After all, there are many companies such as Ednovation who specialises in providing multi-media resources to enhance teaching and learning in the pre-schools (Ednovation, 2014). Ednovation had partnered preschools by supplying “a wealth of educational multimedia resources” (Chong, 2011, p. 36).

How Themes are Supported by the National Committee

Minister Yaacob Ibrahim had spoken of the *Suara Musyawarah* Committee, an independent committee, set up to engage members of the Malay/Muslim community and produce a Report. A documentary analysis of that Report, published on 7 July 2013, highlighted the Malay/Muslim community's main areas of interest and concerns, as well as future hopes and aspirations. Unfortunately, a few stark realities remained e.g. this ethnic group's median income lagged behind its counterparts as well as the national median (See Figure 6).

Figure 6:
Median Income across Ethnic Groups

The median Malay household income increased by 1.9% (real average annual growth), from \$2,709 to \$3,844 between 2000 and 2010. While household income has increased over the years, Malays experienced a slower growth in their average and median monthly household incomes considering that the national median was \$5,000 in 2010.



From the interviews, we are able to listen to other critical factors and then verify the claims e.g. that children are disadvantaged because they come from challenging home circumstances such as absent fathers suffering from drug abuse. When the fathers are away from home for extended periods of time, the mother of the pre-schooler had to go to work to support the family, causing her to have little time for her pre-school children. Such low level of parental involvement meant less reading time, less interaction, and less of what is needed to help the children read at their age or grade level. The statistics in the *Suara Musyawarah* Committee Report (2013) showed the Malays to be over-represented among the drug abusers (Figure 7).

The ethnic composition of the resident population remained stable over the last few years. In 2013, the Chinese formed the majority at 74% of the resident population while the Malays and the Indians formed 13% and 9.1% respectively. The remaining 4% was formed by the other ethnic groups.

Figure 7:
Ethnic Composition of Resident Population

Year	Number ('000)					Share (%)				
	Total	Chinese	Malays	Indians	Others	Total	Chinese	Malays	Indians	Others
1990	2,735.9	2,127.9	384.3	194.0	29.6	100.0	77.8	14.0	7.1	1.1
2000	3,273.4	2,513.8	455.2	257.9	46.4	100.0	76.8	13.9	7.9	1.4
2010	3,771.7	2,794.0	503.9	348.1	125.8	100.0	74.1	13.4	9.2	3.3
2012	3,818.2	2,832.0	509.5	351.0	125.7	100.0	74.2	13.3	9.2	3.3
2013	3,844.8	2,853.8	512.8	351.7	126.5	100.0	74.2	13.3	9.1	3.3

Note: Data from 2003 onwards exclude residents who have been away from Singapore for a continuous period of 12 months or longer as at the reference period.

In his address to Singapore's Muslim professionals at their 3rd National Convention, PM Lee (2012b) highlighted the importance of the community "to continue to focus on improving the socio-economic performance of the community. The key to this is the fundamentals - education, strong families, financial skills. You get those right, everything else will follow - in the job market, in terms of your socio-economic attainment, in terms your housing, in terms of your leadership" (para 12).

Discussion

Critical Success Factors and 'How' Questions

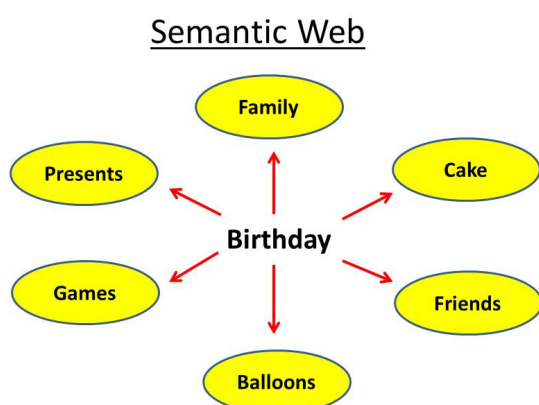
While a quantitative survey could investigate the possible effects of certain factors on the literacy gap of Malay pre-schoolers and therefore show trends, the answers to the 'how' questions are less obvious. For example, how might policy address the impact of critical success factors such as SES, teachers' growing workload, use of ICT, religious upbringing, parental involvement and a shared responsibility among stakeholders? How might we address teachers' growing workload such that teachers did not feel jaded and would not leave the profession? How could teacher retention help enhance the learning experience of pre-schoolers? Or how might we help single mothers who worked long hours, become more involved in their children's reading?

McGinty (2002) reminded us that "while the demand for change emerges from civil society, it is also apparent that there are other drivers; information technology not being the least of these" (p. 70).

Use of ICT

Since “ICT has shifted some amount of teaching and learning from ‘chalk and talk’ to ‘click and drop’”, we are not able to avoid ICT in our day-to-day routines and the learning environment (Chong, 2012, p. 21). Instead of avoiding ICT, ICT could be harnessed to “support the development of positive dispositions towards learning” (Siraj-Blatchford & Siraj-Blatchford, 2006, p. 5). In a study with older students, Chung, Anderson, Leong and Chow (2014) encouraged the use of “ICT-mediated scaffold via collaborative mind maps” (p. 46). Similarly, pre-schoolers might be coached to form their semantic webs and improve upon their vocabulary (Figure 8).

Figure 8
A Semantic Web to help pre-schoolers build more words



Moreover, since “ICT has shifted some amount of teaching and learning from ‘chalk and talk’ to ‘click and drop’”, we are not able to avoid ICT in our day-to-day routines and the learning environment (Chong, 2012, p. 21).

Parental Involvement

The interviews revealed that while there are parents who welcomed the homework given to their children by the preschool teacher (especially those on spelling), there are other parents who frowned upon such homework for their young children. The stress that parents talked about had been noticed by Singapore’s PM. While citing the many international awards earned by Singaporeans and how highly-sought after Singapore’s graduates are, PM Lee admitted “our system is not perfect – parents and students are still stressed about tests and key examinations” (Lee, 2012a, n.p.).

From the narrative analysis, ‘voices’ calling for more play and less homework were heard. In fact, the “gestures, pitch and tone of voice” provided more insights (Cortazzi, 1993, p. 110) as they showed parents’ exasperation and displeasure with the way their children are allegedly being hot-housed, meaning they are being “pushed into learning more quickly and earlier than is appropriate for their cognitive age” (Bainbridge, 2012, n.p.).

In a magazine article on Singapore pre-school children, Chong (2012c) suggested that “dads and mums who work closely with the school can form a vibrant community that is invaluable to the development of the child” (p. 20). Indeed, parents felt welcome and became more involved when teachers were more inviting of parents’ involvement (Anderson & Minke, 2007).

Impact of Inequality on Literacy

Darling-Hammond (2010) also highlighted that “inequality has an enormous influence on US performance. White and Asian students score just above the average for the European OECD nations in each subject area, but African-American and Hispanic students score so much lower that the national average plummets to the bottom tier” (n.p.).

The findings in this case study on Malay pre-schoolers seemed to be similar; after all, they were not able to recognize simple English words (or) understand very simple oral instructions in English” (Singapore Parliament Report, 2009, para 42, n.p.).

Teachers’ Growing Workload

Acting Minister Chan Chun Sing of MSF outlined the Singapore Government’s plan to enhance scholarships and training awards for the Early Childhood sector today. According to ECDA (2013a), “the changes will provide more support for new and existing early childhood educators and help operators better attract, develop and retain their staff” (n.p.). A total of US\$25 million (S\$30 million) shall be spent over the next 3 years on these efforts (ECDA, 2013a, n.p.).

Religious Upbringing

How much should be discussed around a theme such as ‘religion’? This paper suggested at least a brief discussion primarily because parents who were interviewed had cited religion as a factor that is as important as academic study and enrichment programs. Should religion be de-emphasised in the school curriculum if it is perceived to divide students instead of unifying them? Is ‘religion’ such a bad term? Should its use be discontinued? Why is the term ‘religion’ allegedly so divisive? Is it because people of religion tend to accentuate differences instead of similarities? If so, this would support the notion that religion is indeed divisive. Smith (2012), instead, recommended the use of more unifying terms such as ‘tradition’, ‘community of faith’ or ‘the believing community’ (n.p.).

A Shared Responsibility Among Parents, School, Teachers and Society

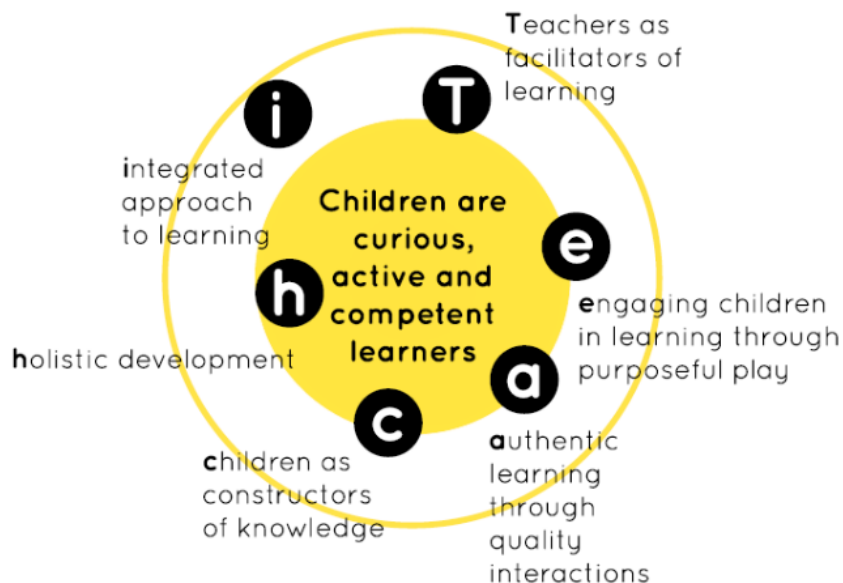
Daipi (2012) emphasised the role parents play “in providing a supportive environment for our children to learn”; he added that “communities can support and enrich learning in many ways” and that “partnerships augment the school efforts to meet the developmental needs of every student placed in their care” (n. p.). With the participation of leading education companies such as Ednovation, even parents without the requisite training might be able to work alongside their children on phonics and reading e-activities, and enjoy them together with their children (Ednovation, 2014). In an Australian study, Anderson (2013) suggested “a ‘difference theory’ (which is an attempt) to move explanations for some children’s low levels of readiness for school, and their consequent lack of success at school, away from the child and the child’s family to an increasing emphasis on schools and the wider community to prepare children for school” (p. 265).

The Curriculum

ECDA (2013b) articulated the importance of reading with understanding and for enjoyment which meant that the children should be able to “have print and book awareness, recognise upper and lower case letters of the alphabet, recognise beginning and ending sounds in words, recognise familiar/sight/high frequency words, and show understanding of the story/rhyme/poem by responding to questions and talking about the characters and events” (n.p.). Yunkaporta and Lowe (2012) reported “while many teachers will continue as they have in the past, to provide students with these learning experiences, this should surely be supported by an explicit, high-quality curriculum” (p. 12).

According to the ECDA (2013b), the aim of the Refreshed Curriculum Framework is to provide “guidelines for holistic pre-school education ... based on internationally-recognised ECE principles (and) strongly recommended for use by pre-school centres” (n.p.). Based on iTeach principles illustrated in Figure 9 below, it is interesting that teachers are listed as facilitators of learning and not dispensers of knowledge (ECDA, 2013b). In this way, they are better positioned to “focus on the art of leading and nurturing the children in the development of higher-order thinking (HOT) skills, such as analysis and discussion” (Chong, 2012a, p. 21).

Figure 9:
iTeach Principles (MOE, 2012)



Another possible factor worth discussing is the influence of the media in highlighting how Malays perhaps ‘*tak boleh*’ (Malay term for ‘cannot make it’). This is implied in a news report entitled ‘Malays *boleh*’ (Sunday Times, 6 March 2011, HOME p. 10). It is thus necessary for teachers to “set aside deficit logic” (Yunkaporta & McGinty, 2009, p. 55). Indeed, in studies involving aborigines (and Malays are aborigines in this South-east Asian region), more could be done to “unpack and reject this deficit logic” and to help us to be careful in how “low expectations were communicated informally through the curriculum, the school design and the organisational structure” (Yunkaporta & McGinty, 2009, p. 70).

Conclusion

There must also be a concerted effort to synergise all pertinent factors, including and not limited to SES, teachers' growing workload, use of ICT, religious upbringing, parental involvement and a shared responsibility among stakeholders for desired outcomes.

Case studies have highlighted details in a context and inter-relationships which might not surface as easily from a quantitative method of research (e.g. survey). The case study method is thus useful as it enabled researchers to examine the 'why' and 'how' questions, and "to retain the holistic and meaningful characteristics of real-life events" (Yin, 1989, p. 14). Thus, more could be uncovered besides the surface relationships between the two independent variables identified (i.e. ICT and parental involvement).

This study's preliminary findings supported the need to be involved in the children's literacy development as early as possible so as to achieve more powerful effects, and to leverage on available tools including and not limited to ICT. However, Chong (2009) cautioned that ICT could be "a good servant but a bad master". Hence, ICT is not a panacea of sorts but it could nevertheless be used to enhance teaching and learning.

Rose, Gallup and Elam (1997) pointed out the findings of a 1997 Gallup poll in which support from parents was cited as the most important way to improve the schools. Epstein (2001) revealed several ways for parents to be involved meaningfully: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. Not to be involved might cost the parents more, in the long run as "decades of research show that when parents are involved, students have higher grades, test scores and graduation rates lower rates of suspension, decreased use of drugs and alcohol, fewer instances of violent behavior" (Michigan Department of Education, 2001, n.p.). Nevertheless, parental involvement and ICT appear to be critical success factors and could become a cooperative focal point for children, parents and educators.

Usefulness of a Narrative Analysis

It was useful that this case study included a narrative analysis which helped uncover issues deemed important to the interviewees. Moreover, the semi-structured interview allowed the researcher to get off the beaten track as it were, to explore an emerging topic in the interview conversations. One such topic was 'play' of which Chong (2011) noted "is an under-optimised strategy for engaged learning" (p. 37). Another topic was 'religious upbringing' which had become more pronounced and according to Musa (2012) posed a "possible threat to good inter-religious relations" (n.p.). This accentuated the role of the IRCCs which are "local-level inter-faith platforms in every constituency, formed to promote racial and religious harmony" (IRCC, 2014, n.p.). After all, Singapore is geographical located between countries with 'Very High' and 'High' SHI rating, namely Indonesia and Malaysia, respectively (Pew Research, 2014). In short, the issue of religion is underestimated or mismanaged, at our own peril.

Suggestions for Further Research

Through the case study method, this paper had briefly outlined how more than two factors could address the literacy gap of Malay pre-schoolers. To consider all possible factors could reach encyclopaedic proportions and might go beyond the requirements of this paper. It is nevertheless suggested that more resources be set aside for such a worthwhile study. After all, a disenfranchised section of the population, especially if stratified along racial and religious lines at such an early age might pose social and political problems downstream. This case study could trigger further research to illuminate the issues and nip the problem at the bud, ensuring that “disadvantages must *not* be passed on to our children” (Shanmugaratnam, 2012, n.p.).

References

- Anderson, N. and Baskin, C. (2002). Can we leave it to chance? New learning technologies and the problem of professional competence. *International Education Journal*, Vol. 3 (3), No 3, 126-127
- Anderson, K. J., & Minke, K. M. (2007). Parent involvement in education: Toward an understanding of parents' decision making. *The Journal of Educational Research*, 100, 311-323
- Anderson, R. (2013). Incorporating Diversity in Preparing Children for School: An Australian Perspective. *International Journal of Diversity in Organizations, Communities and Nations*, *Volume 10 (1)*, pp.265-278.
- Bainbridge, C. (2012). Gifted Children: Hothouse Children. Retrieved on 18 February 2014 from <http://giftedkids.about.com/od/glossary/g/hothouse.htm>
- Barnlund, D. (1975), *Public and Private Self in Japan and the United States; Communication Styles of Two Cultures*. Tokyo: Simul Press.
- BECTA (British Educational and Communications Technology Association). (2008). Harnessing Technology: Next Generation Learning, 2008–2014. Retrieved on 4 February 2014 from http://partners.BECTA.org.uk/index.php?section=es&cat code=_es_ba_02
- Bronfenbrenner, U. (1989). Ecological systems theory. In R. Vasta (Ed.), *Annals of child development* (Vol. 6, pp. 187-251). Greenwich, CT: JAI Press.
- Bruner, J. (1996). Culture of Education. Retrieved on 4 February 2014 from <http://oaks.nvg.org/bruner-words.html>.
- Chafe, W. (1990) 'Some things that narratives tell us about the mind' in Britton, B. K. and Pellegrini, A. D. (Eds.) *Narrative Thought and Narrative Language*, Hillsdale, N. J., Lawrence Erlbaum, pp. 79-98.
- Chase, S. E. (2010). Narrative inquiry: Multiple lenses, approaches, voices. In W. Luttrell (Ed.), *Qualitative educational research: Readings in reflexive methodology and transformative practice*. New York, NY: Routledge
- Chong, T. (2011, November/December). PCF pre-schoolers learn HOT skills. *Young Families*, pp. 35-37).
- Chong, T. (2012a, May/June). What about Digital Art? *Young Families*, p. 21.
- Chong, T. (2012b, March/April). Winning Women. *Young Families*, pp. 35-37.

- Chong, T. (2012c, July/August issue). Parental involvement makes the difference! *Young Families*, pp. 20-22.
- Chung, T., Anderson, N., Leong, M., and Choy, W. (2014). Scaffolding Singaporean Students to write vividly in Chinese 'Mother Tongue', Mandarin. *Advances in Language and Literary Studies*, ISSN 2203-4714, 5 (1), pp. 40-52.
- Connelly, F. M., & Claudinin, J. (1988). Teachers as curriculum planners: Narratives of experience. Toronto, Canada: OISE Press (pp. 14-16).
- Cook-Sather, A. (2007). Resisting the impositional potential of student voice work: Lessons for liberatory educational research from poststructuralist feminist critiques of critical pedagogy. *Discourse: Studies in the Cultural Politics of Education* 28(3), 389-403.
- Cortazzi, M. (1993). Narrative Analysis. London, Falmer Press (pp. 108-116).
- Cronbach, L. J. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist*, 30: 119.
- Crowther, D. & Lancaster, G. (2008) Research methods: a concise introduction to research in management and business consultancy. Butterworth-Heinemann: Oxford
- Daipi, H. (2012). *Working Together: Values through Partnerships in Education*. MOE Financial Year 2012 Committee of Supply Debate. Speech by Mr Hawazi Daipi, Senior Parliamentary Secretary (Education and Manpower). Retrieved on 4 February 2014 from <http://www.moe.gov.sg/media/speeches/2012/03/08/fy-2012-committee-of-supply-debate-sps-hawazi.php>
- Darling-Hammond, L. (2010). Restoring Our Schools. *Adapted from Linda Darling-Hammond's The Flat World and Education: How America's Commitment to Equity Will Determine Our Future (Teachers College Press)*. Retrieved on 4 February 2014 from <http://www.thenation.com/article/restoring-our-schools?page=0,0>
- Denscombe, M. (1983)'Interviews, accounts and ethnographic research on teachers' in Hammersley, M. (Ed.) *The Ethnographic of Schooling*, Driffield, Nafferton (p.111).
- ECDA (2013a). *Government investing \$30 million over the next 3 years on manpower efforts in early childhood sector*. Retrieved on 12 February 2014 from [http://www.ecda.gov.sg/PressReleases/Pages/government-investing-\\$30-million-over-the-next-3-years-on-manpower-efforts-in-early-childhood-sector.aspx](http://www.ecda.gov.sg/PressReleases/Pages/government-investing-$30-million-over-the-next-3-years-on-manpower-efforts-in-early-childhood-sector.aspx)
- ECDA (2013b). Refreshed Kindergarten Curriculum Framework. Retrieved on 13 February 2014 from http://preschool.edu.sg/wbn/slot/u3251/For%20Operators%20and%20Teachers/Briefing%20on%20Refreshed%20Kindergarten%20Curriculum%20Framework_Pre-school%20Sector.pdf

- Economist (2012). *Big Mac index*. (Jan 14th 2012 edition). Retrieved on 4 February 2014 from <http://www.economist.com/blogs/graphicdetail/2012/01/daily-chart-3>
- Economist Intelligence Unit (2012). *Starting Well Index*. Retrieved on 29 June 2012 from <http://sg.news.yahoo.com/spore-scores-low-on-preschool-education.html>
- Ednovation (2014). EdnoLand: Phonics and Reading. Retrieved on 19 February 2014 from <http://www.ednoland.com.sg/ednolandweb/index.htm>
- Epstein, J. (2001). *School, family and community partnerships: preparing community educators and improving schools*. Boulder, CO: Westview Press.
- Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.
- Flyvbjerg B. (2011). "Case Study," in Norman K. Denzin and Yvonna S. Lincoln, eds., *The Sage Handbook of Qualitative Research*, 4th Edition (Thousand Oaks, CA: Sage), pp. 301-316.
- Fraenkel, J. R., & Wallen, N. E. (1996). *How to design and evaluate research in education* (3rd ed.). New York: McGraw-Hill.
- Fraenkel, J. R., & Wallen, N. E. (2006). *How to design and evaluate research in education* (6th ed.). New York: McGraw-Hill.
- Gillani, B.B. & Relan, A. (1997). Incorporating interactivity and multimedia into web-based instruction. In B. H. Khan (Ed.), *Web-based instruction*, (pp. 231-237). Educational Technology Publications: New Jersey.
- Gonzales, D. (2002). Bridging the Digital Divide. In IBM Annual Report 2002. Retrieved on 20 February 2014 from ftp://ftp.software.ibm.com/annualreport/2002/IBM_CRR_Our_World_02.pdf
- Heng, S. K. (2012) *Parliamentary replies: Preschool Education*. Retrieved on 14 February 2014 from <http://www.moe.gov.sg/media/parliamentary-replies/2012/08/preschool-education-1.php>
- Housing and Development Board (2014). Eligibility to buy new HDB Flat: Income Ceiling. Retrieved on 10 February 2014 from <http://www.hdb.gov.sg/fi10/fi10321p.nsf/w/BuyingNewFlatEligibilitytobuynewHDBflat?OpenDocument#IncomeCeiling>
- IBM (2014). Annual Report 2002 - Our World. Retrieved on 20 February 2014 from ftp://ftp.software.ibm.com/annualreport/2002/IBM_CRR_Our_World_02.pdf
- Ibrahim, Y. (2010). *Committee of Supply 2010 Debates: Muslim Affairs* (1 March 2011). Retrieved on 4 February 2014 from <http://app1.mcys.gov.sg/PressRoom/CommitteeofSupply2010DebatesMuslimAffairs.aspx>

- iDA (2012). *Facts and Figures*. Retrieved on 4 February 2014 from <http://www.ida.gov.sg/Publications/20061130175201.aspx>
- iDA (2013). *Annual Report 2012/13: Infocomm Statistics*. Retrieved on 14 February 2014 from <http://www.ida.gov.sg/Annual%20Report/2012/infousage.html#sth>
- IRCC (2014). Inter-Racial and Religious Confidence Circles. Retrieved on 16 February 2004 from <http://www.ircc.sg/>
- Kraemer, K. & Dedrick, J. (2002). Information Technology in Southeast Asia: Engine of Growth or Digital Divide. In Information Technology in Asia: New Development Paradigms edited by Siow, Y-C., and Jerome, J. (2002). Institute of South-east Asian Studies, Singapore (pp. 22-47).
- Labov, W., Cohen, P., Robins, C. & Lewis, J. (1968) A study of the non-standard English of Negro and Puerto- Rican speakers in New York City, Vol.2, Washington, D.C., Office of Education, U. S. Department of Health, Education and Welfare (pp. 286-333)
- Lee, H-L. (2011). Speech by Prime Minister Lee Hsien Loong at the 100th Anniversary Dinner of Zhonghua Secondary School, 9 September 2011 at Raffles City Convention Centre Fairmont Ballroom. Retrieved on 4 February 2014 from http://www.pmo.gov.sg/content/pmosite/mediacentre/speechesinterviews/primeminister/2011/September/Speech_by_Prime_Minister_Lee_Hsien_Loong_at_the_100th_Anniversary_Dinner_of_Zhonghua_Secondary_School.m.html
- Lee, H-L. (2012a). “*A New Model of Education, A New Pathway for Excellence*”. Speech by Prime Minister Lee Hsien Loong at Yale-NUS College ground-breaking ceremony. Retrieved on 4 February 2014 from http://www.pmo.gov.sg/content/pmosite/mediacentre/speechesinterviews/primeminister/2012/July/speech_by_prime_ministerleehsienloongatyale-nuscollegergroundbrea.m.html
- Lee, H-L (2012b). Malay Muslims have done well in S’pore: PM. Retrieved on 4 February 2014 from [http://www.pmo.gov.sg/content/pmosite/mediacentre/in the news /primeminister/ 2012/July/malay-muslims_havedonewellinsporepm.html](http://www.pmo.gov.sg/content/pmosite/mediacentre/in%20the%20news/primeminister/2012/July/malay-muslims_havedonewellinsporepm.html)
- Lincoln, Y. S. and Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Luttrell, W. (2003). *Pregnant bodies, fertile minds: Gender, race and the schooling of pregnant teens*. New York, NY: Routledge.
- McGinty, S. (2002). Sharing success, an indigenous perspective: papers from the second national Australian Indigenous Education Conference, Townsville, Queensland, July 2002 (p. 70).

- MCYS (2009). *Progress of the Malay community in Singapore since 1980*. Retrieved on 4 February 2014 from <http://app1.mcys.gov.sg/Portals/0/Summary/research/ProgressofMalayCommunity.pdf>
- MCYS (2011). *Government-Paid Maternity Leave Scheme*. Retrieved on 4 February 2014 from <http://app1.mcys.gov.sg/Assistance/GovernmentPaidMaternityLeaveScheme.aspx>
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. London: Jossey-Bass Publisher
- Merrell, K. W. (1999). *Behavioral, social, and emotional assessment of children and adolescents*. Hillsdale, NJ: Erlbaum.
- Michigan Department of Education (2001). *What research says about parent involvement in children's education in relation to academic achievement*.
- Ministry of Culture, Community and Youth (2013). *Response to Parliamentary Question on report by Suara Musyawarah Committee*. Retrieved on 4 February 2014 from <http://app.mccy.gov.sg/Newsroom/ParliamentaryqnonreportbySuaraMusyawarahCom.aspx#sthash.oiNxhLzJ.dpuf>
- MOE (2002). *Learning Support Programme*. Retrieved on 4 February 2014 from <http://www.moe.gov.sg/media/press/2002/pr20092002.htm>
- MOE (2004). *Singapore Tops The Trends In International Mathematics And Science Study (TIMSS) 2003*. Retrieved on 4 February 2014 from <http://www.moe.gov.sg/media/press/2004/pr20041214.htm>
- MOM (2014). *Government-Paid Childcare Leave scheme*. Retrieved on 18 February 2014 from <http://www.ecitizen.gov.sg/Topics/Pages/Child-care-leave-How-to-apply.aspx#sthash.j7IyvO6y.dpuf>
- Musa, M. A. (2012). 'Is religion a destructive and divisive force?' *The Straits Times*, page A42.
- Organisation for Economic Co-operation and Development (OECD). (2006). *Are Students Ready for a Technology-Rich World? What PISA Tells Us*. Paris: OECD.
- Pew Research (2014). *Appendix 3: Social Hostilities Index*. Retrieved on 15 February 2014 from <http://www.pewforum.org/2014/01/14/appendix-3-social-hostilities-index/>
- Polanyi, L. (1985). *Telling the American Story*, Norwood, NJ. Ablex Publishing Group.
- Rose, Lowell C., Gallup, Alec M., & Elam, Stanley M. (1997). The 29th annual Phi Delta Kappa/Gallup poll of the public's attitudes toward the public schools. *Phi Delta Kappan*, 79(1), 45

- Seck, M. (2009). *The Structure Of Wolof Sufi Oral Narratives: Expanding the Labovian And Longacrean Models to accommodate Wolof Oral Tradition*. Retrieved on 4 February 2014 from http://etd.fcla.edu/UF/UFE0024981/seck_m.pdf
- Shanmugaratnam, T. (2012). *Disadvantages must not be passed on to our children*. Retrieved on 4 February 2014 from http://app.mof.gov.sg/newsroom_details.aspx?type=speech&cmpar_year=2012&news_sid=20120628302058329651
- Singapore Department of Statistics (2013). Population Trends 2013. Retrieved on 20 February 2014 from http://www.singstat.gov.sg/publications/publications_and_papers/population_and_population_structure/population2013.pdf. ISSN 1793-2424
- Singapore Parliament Reports (Hansard) (2009). Parliamentary Debates, Singapore. Official Report of the Eleventh Parliament, Part IV of First Session, Volume 85, Monday 23 March, 2009. Column No.: 3469
- Siraj-Blatchford, I. & Siraj-Blatchford, J. (2006). A Guide to developing the ICT curriculum for Early Childhood Education. Early Education: London (pp. 3-14)
- Smith, L. M. (1978). An evolving logic of participant observation, educational ethnography and other case studies. In L. Shulman (Ed.), *Review of research in education*. Itasca, IL: Peacock.
- Smith, W. C. (1962). *The Meaning and End of Religion*. New York: Mentor Books
- Smith, W. C. (2012). Meaning and End of Religion. Retrieved on 4 March 2014 from <http://www.studymode.com/essays/Meaning-And-End-Of-Religion-979135.html>
- Stake, R. E. (1980). *'Generalizations'*. Paper presented at the annual meeting of the American Educational Research Association, Boston, April.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- Suara Musyawarah Committee (2013). *Suara Musyawarah : Conversations with the Community. Committee Report July 2013*. Retrieved on 4 February 2014 from <http://suaramusyawarah.com/musyawarah-report/>
- Sunday Times (2011, 6 March). 'Malays boleh'. HOME p. 10.
- Wilson, E. (2009). *School-based Research: A Guide for Education Students* (p. 209). New York: Sage Publications.
- Xu, S., Connelly, M., He, M. F., & Phillion, J. (2007). Immigrant students' experience of schooling: A narrative inquiry theoretical framework. *Journal of Curriculum Studies*, 39(4), 399-422

Yahoo!News (2012, 29 June). Singapore scores low in preschool education. Retrieved on 4 February 2014 from <http://sg.news.yahoo.com/s'pore-scores-low-on-preschool-education.html>

Yin, R.K. 1989, *Case Study Research Design and Methods*, Sage, Newbury Park.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.), Applied Social Research Methods (Series Vol. 5). Thousand Oaks, CA: Sage Publications.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, California: Sage Publications.

Yunkaporta, T & Lowe, K. (2012). The inclusion of Aboriginal and Torres Strait Islander content in the Australian National Curriculum: A cultural, cognitive and socio-political evaluation. *Curriculum Perspectives*, 33(1), 12.

Yunkaporta, T & McGinty, S. (2009). Reclaiming Aboriginal Knowledge at the Cultural Interface. *The Australian Educational Researcher*, 36(2), 55–72.