ETIC AND EMIC VIEWS OF EARLY CHILDHOOD EDUCATION IN SINGAPORE

Noel Geoghegan - University of Southern Queensland

Deborah Geoghegan - University of Southern Queensland

ABSTRACT

Well-qualified women in Singapore working in professional fields including banking and marketing have many views about early childhood education for their own children as well as in general. Our study examined the views and attitudes of a group of these women who were recently retrenched and had decided to retrain as child-care professionals. After a pre-treatment attitudinal survey, participants engaged in a five-day workshop exploring the SEARCH heuristic (Geoghegan, 2002). A post-treatment attitudinal survey was administered. Results indicated a consensus of what constitutes quality in Singaporean early childhood education. The consensus reflected humanistic perspectives that appear at odds with Singapore's international reputation for formal, academically-structured early childhood education.

INTRODUCTION

The role of education in society is reflected in the nation's general educational goals and philosophy. According to Wardle (2003), education in Australia could be identified as being characterised by the goals of active citizenship, fulfilling lives, active contribution to the workforce, overcoming disadvantages and achieving fairness in society. With regard to China, Wiles & Bondi (1998) suggest that China's main educational goals are to develop good moral character, develop love of the motherland, literacy and intellect, healthy bodies, and interest in aesthetics. In the landmark Third Session of the Eighth People's Congress that instigated reform through the Education Law of the People's Republic of China, Deng Xiaoping's *Thematic Quotations on Building Socialism with Chinese Characteristics* became part of the government's commitment to education:

> *Education is the most fundamental undertaking of a nation, the realisation of the four modernisations depend on knowledge, on skilled manpower. An error in policy can be rectified fairly easily, but knowledge cannot be acquired at once, nor skilled manpower can be trained in a few days, and this is the reason why education must be conducted in real earnest, and started from early childhood. (Deng Xiaoping cited in Ong, 2002, p. 1)*

In the U.S., educational philosophy tends to be driven by state-based rather than national goals. However, increasingly there are moves towards developing national curriculum standards (cf. Principles and Standards for School Mathematics by the National Council of Teachers of Mathematics, 2000). At the state level, there

has been a strong response across the U.S. to the six goals developed as part of the National Goals 2000 agenda. In Colorado for example the goals were interpreted as:

- Goal One – By the year 2000, all children in America will start school ready to learn.
- Goal Two – By the year 2000, the high school graduation rate will increase to at least 90%
- Goal Three – By the year 2000, American students will leave grades, four, eight, and twelve having demonstrated competency over challenging subject matter including English, mathematics, science, history, and geography. Every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.
- Goal Four – By the year 2000, American students will be first in the world in mathematics and science achievement.
- Goal Five – By the year 2000, every adult American will be literate and possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
- Goal Six – By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning (Wardle, 2003).

The results of TIMSS (Third International Mathematics and Science Study) conducted in 1995, along with the 1999 (TIMSS-R - Third International Mathematics and Science Study- Replicated) involving some 38 countries, provided a revealing 'challenge' for the U.S. Goals 2000 plan. For example, the 1995 TIMSS results suggested that the academic standards of eighth-grade U.S. students were well below the international average and that the performance of twelfth-grade U.S. students was close to the bottom of the mathematics standard. The United States was the only country whose students dropped from above the average in mathematics in fourth grade to below average in eighth grade. The fourth graders whose results were above the international average in 1995 and who would have constituted the thrust of a Goals 2000 platform for educational reform participated as eighth graders in 1999 and saw their results slip to well below average again.

Singapore contexts

Singapore students on the other hand, scored at the top in both the 1995 and 1999 TIMSS. Following such consistent international success, the educational approaches promulgated in Singapore have attracted considerable attention even to the point where many states in the U.S., although dominated by local book publishers, are now using primary and secondary school teaching programs and materials developed in Singapore.

With regard to achieving high educational outcomes, it might seem that Singapore has succeeded where other nations have failed. Nevertheless, despite international acclamation of student achievement in their country, the Singaporeans have not been satisfied to rest on their laurels. To further improve opportunities for developing the nation's wealth quantum, educational policy makers continue to work on new "curriculum recipes" in order to promote and develop "creativity" as a major aspect in their education system (Geoghegan, in press).

The recently released (2002) Singaporean film, "*I Not Stupid*" was so popular that it was made into a locally produced 18-episode television serial. The film portrayed the plight of three young boys and their families grappling with the social and cultural challenges and expectations of daily life and work in Singapore. The film poignantly mirrors an emic view of Singaporeans – a view that they have of themselves. Gall, Borg and Gall (1996) describe an emic perspective as the "participants' perspectives and understanding of their [own] social reality" (p. 758).

By highlighting the complexities of a bi-lingual, multi-dimensional and multi-cultural society, the film exposes some of the prejudices inherent in the ubiquitous nature of academic excellence demanded by Singapore's educational and cultural systems. The film is a self-effacing satirical comedy, depicting Singaporeans' high regard for academic excellence as the single most important objective of education. Children who achieve low grades are relegated to the EM3 class (the lowest class in primary school with EM1 being the highest and reserved for the very best and most talented children). To be an EM3 student means rejection, being discounted and labelled as a social outcast – a loser. Some quotes from the film include: "If they are in EM3 they are a lost cause. Forget it" "If I don't do well in this test, I am done for." "A promotion is not important to me now. I am only worried about my son; whether he can survive in a society that values only English and Maths." " Without a degree how are we going to survive?" "Once you cane them [the children] they will do their best."

The epitome of social despair surrounding the national competitive struggle for academic excellence culminates in the film when one of the threes EM3 boys contemplates suicide after failing a maths test rather than face his parents' wrath and another caning.

Strategically, the film "*I Not Stupid*" portrays the Singapore culture as a milieu of international competitiveness grounded in aspirations of cooperation, creativity and cultural sensitivity. The film's commentary on the adult business world is juxtaposed against the world of the three school-boys as they forage their way through an eduction system "in which the cognitive powers of children are disengaged from the cultural tools of society, and sidetracked into rote memorisation and the assimilation of fragmentary and detached pieces of knowledge" (Richardson, 2000, p. 196). The pursuit of knowledge is contrasted against the application of intelligence.

Interestingly, the film "*I Not Stupid*" struck a chord with audiences and families in Hong Kong as well. Reflecting what could possibly be a localised culturally-based mindset, the empathetic reaction in Hong Kong to the film is echoed in documentation developed by the Hong Kong Education Department (2000) titled, "Performance Indicators for Kindergartens" which states:

> *Kindergartens should aim to foster children's balanced development in the moral, cognitive, physical, social and aesthetic aspects. Some parents, however, place undue concern on cognitive development and tend to overlook the importance of a balanced development in all aspects. Some even carry the misconception that cognitive development means merely the accumulation of knowledge. In order to pamper parents' expectations, some kindergartens are inclined to emphasize rote-learning, repetitive and mechanical copying and recitation exercises. These activities will weaken children's creativity and interest in learning. (p. 59)*

Langer (1997) in her book, *"The Power of Mindful Learning"* asks the question of whether technique, assimilated through hours of drill, is indeed the essential or even the primary ingredient of mastery. She contends that "the more rigidly we learn…original information, the harder it may be to open up those closed packages to accommodate…new information" (p. 22). She then contrasts the idea of rigid rote learning with the notion of conditional learning; that teaching material conditionally allows students to manipulate information creatively in a different context. Langer highlights the classic Milgram study on obedience to authority. Obedience to authority is clearly portrayed as a significant cultural aspect in Singapore in the "*I Not Stupid*" film.

> *The more often we learn the basics with the recognition, from the start, that there are several, perhaps quite disparate ways of accounting for information, the more open we are to alternatives. (Langer, p. 20)*

What Langer argues is that learning "the basics in a rote, unthinking manner almost ensures mediocrity" (p. 14).

From the outside

An etic perspective is the conceptual and theoretical understandings formulated by looking into someone else's social reality (Gall, Borg and Gall, 1996). From the outside, Singapore presents as a highly productive and highly successful economy. Their education system boasts the highest levels of student achievement in the world. However, emic and etic views, provided and developed through such outlets as the film, "*I Not Stupid*," relate to different realities involving academic rigor and fundamental educational principles underpinning Singapore's society. Ericsson and Charness (1994 cited in Richardson, 2000) commented that talented individuals have…

> *…invariably been through periods of intense efforts to learn, involving high levels of commitment and self-sacrifice over long periods of time, usually with the support of parents who have given up almost everything to ensure that the specific ability is developed in their child or children. (p. 200)*

The amalgamation of Singapore's Ministry of Community Development and Sports (MCDS) and Ministry of Education (MOE) in 1999 demonstrated an effort to co-ordinate all government services relevant to the early childhood years - not just in terms of family services but in terms of total policy development ranging across family and children's issues. "Edu-care" (education + child-care) has become a common concept in Singapore even to the point that one child-care provider is called KinderWorld Educare.

Other indications that point to stimulated attention in promoting the importance of early childhood in Singapore include the government's allocation of nine million dollars to retrain well qualified retrenched workers as child care professionals in 2001, and the announcement by the Singapore International Enterprise (the newly established version of the old Singapore International Trade Board) in 2002 that early childhood education would be a priority area for overseas entrepreneurial activity. Are there then anomalies with the Singapore government's

initiatives, traditional teaching techniques, cultural expectations, frustrations and social prejudices? How does Singapore produce the best academic standards in the world?

METHODOLOGY

During September 2002, a group of forty-four well-qualified women in Singapore retrenched from professional fields such as banking, human resource management and marketing participated in a one-week, professional development program. The participants were nearing the completion of a locally delivered Diploma (Diploma of Pre-school Education – Teaching) that would qualify them as child-care workers in Singapore. After a pre-treatment attitudinal survey, forty-four participants engaged in a five-day workshop exploring the psycho-social pedagogical SEARCH heuristic (Geoghegan, 2002). Following the SEARCH program, a post-treatment attitudinal survey was administered to the forty-one remaining participants.

Both pre- and post-treatment surveys included a 3-page questionnaire covering two types of questions. One set asked participants to provide open-ended responses (e.g. “What particular aspects of childhood will you focus on when teaching?”). The second asked them to prioritise the importance of a list of criteria associated with a child’s education. The criteria were: knowledge of facts, ability to sing, good behaviour, writing, reading, solving problems, confidence, creativity, freedom, speaking, making meaning, learning rules, and happiness. Only the data associated with these criteria will be analysed in the current paper.

RESULTS

Analysis of the data indicated that certain criteria remained consistent before and after the SEARCH week-long professional development program, and that some criteria rose in priority. Table 1 indicates that the criterion of “happiness” remained consistent as the highest priority before and after involvement in the SEARCH program. Table 1 Set 1 shows the pre-treatment priority mean of 2.11 and priority mode of 1 and correlates with the post-treatment mean of 2.32 and mode of 1 shown in Table 1 Set 2 respectively.

Table 1 - Pre-treatment statistics

Set 1 **Happiness**

Statistics

Happiness

N	Valid	44
	Missing	0
Mean		2.11
Mode		1
Std. Deviation		1.528
Sum		93

Happiness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7	1	2.3	2.3	2.3
	6	2	4.5	4.5	6.8
	4	4	9.1	9.1	15.9
	3	6	13.6	13.6	29.5
	2	9	20.5	20.5	50.0
	1	22	50.0	50.0	100.0
	Total	44	100.0	100.0	

Table 1 - Post-treatment statistics

Set 2 **Happiness**

Statistics

Happiness

N	Valid	41
	Missing	0
Mean		2.32
Mode		1
Std. Deviation		2.115
Sum		95

Happiness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7	1	2.4	2.4	2.4
	9	1	2.4	2.4	4.9
	5	2	4.9	4.9	9.8
	3	3	7.3	7.3	17.1
	6	4	9.8	9.8	26.8
	2	6	14.6	14.6	41.5
	1	24	58.5	58.5	100.0
	Total	41	100.0	100.0	

Table 2 indicates that the criterion of “confidence” remained consistent before and after the SEARCH treatment. Table 2 Set 1 shows the pre-treatment priority mean of

2.41 and priority mode of 2 correlates with the post-treatment mean of 2.98 and mode of 2 shown in Table 2 Set 2 respectively.

Table 2 - Pre-treatment statistics
Set 1 **Confidence**

Statistics

Confidence

N	Valid	44
	Missing	0
Mean		2.41
Mode		2
Std. Deviation		1.300
Sum		106

Confidence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	4	9.1	9.1	9.1
	5	4	9.1	9.1	18.2
	4	7	15.9	15.9	34.1
	1	12	27.3	27.3	61.4
	2	17	38.6	38.6	100.0
	Total	44	100.0	100.0	

Table 2 - Post-treatment statistics
Set 2 **Confidence**

Statistics

Confidence

N	Valid	41
	Missing	0
Mean		2.98
Mode		2
Std. Deviation		2.150
Sum		122

Confidence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	2.4	2.4	2.4
	6	1	2.4	2.4	4.9
	7	1	2.4	2.4	7.3
	8	1	2.4	2.4	9.8
	9	1	2.4	2.4	12.2
	10	1	2.4	2.4	14.6
	4	3	7.3	7.3	22.0
	1	6	14.6	14.6	36.6
	3	7	17.1	17.1	53.7
	2	19	46.3	46.3	100.0
	Total	41	100.0	100.0	

Table 3 indicates that the criterion of "solving problems" increased in priority after the SEARCH treatment. Table 3 Set 1 shows the pre-treatment priority mean of 7.48 and priority mode of 9 rose to the post-treatment mean of 5 and mode of 4 shown in Table 3 Set 2 respectively.

Table 3 - Pre-treatment statistics

Set 1 **Solving problems**

Statistics

Solving

N	Valid	44
	Missin	0
Mea		7.48
Mod		9
Std.		2.663
Sum		329

Solving problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	11	1	2.3	2.3	2.3
	13	1	2.3	2.3	4.5
	4	2	4.5	4.5	9.1
	12	2	4.5	4.5	13.6
	2	3	6.8	6.8	20.5
	7	3	6.8	6.8	27.3
	8	5	11.4	11.4	38.6
	10	5	11.4	11.4	50.0
	5	6	13.6	13.6	63.6
	6	6	13.6	13.6	77.3
	9	10	22.7	22.7	100.0
	Total	44	100.0	100.0	

Table 3 - Post-treatment statistics
Set 2 **Solving problems**

Statistics

Solving problems

N	Valid	41
	Missing	0
Mean		5.00
Mode		4
Std. Deviation		2.377
Sum		205

Solving problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10	1	2.4	2.4	2.4
	2	2	4.9	4.9	7.3
	1	3	7.3	7.3	14.6
	6	3	7.3	7.3	22.0
	7	3	7.3	7.3	29.3
	8	3	7.3	7.3	36.6
	3	4	9.8	9.8	46.3
	9	4	9.8	9.8	56.1
	5	5	12.2	12.2	68.3
	4	13	31.7	31.7	100.0
	Total	41	100.0	100.0	

Table 4 indicates that the criterion of “creativity” increased in priority after the SEARCH treatment. Table 4 Set 1 shows the pre-treatment priority mean of 5.57 and priority mode of 6 rose in the post-treatment mean of 4.32 and mode of 3 shown in Table 4 Set 2 respectively.

Table 4 - Pre-treatment statistics
Set 1 **Creativity**

Statistics

Creativity

N	Valid	44
	Missing	0
Mean		5.57
Mode		6
Std. Deviation		2.840
Sum		245

Creativity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12	1	2.3	2.3	2.3
	11	2	4.5	4.5	6.8
	1	3	6.8	6.8	13.6
	2	3	6.8	6.8	20.5
	10	3	6.8	6.8	27.3
	5	4	9.1	9.1	36.4
	7	4	9.1	9.1	45.5
	8	4	9.1	9.1	54.5
	4	5	11.4	11.4	65.9
	3	6	13.6	13.6	79.5
	6	9	20.5	20.5	100.0
	Total	44	100.0	100.0	

Table 4 - Post-treatment statistics
Set 2 **Creativity**

Statistics

Creativity

N	Valid	41
	Missing	0
Mean		4.32
Mode		3
Std. Deviation		2.126
Sum		177

Creativity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	8	1	2.4	2.4	2.4
	1	2	4.9	4.9	7.3
	6	2	4.9	4.9	12.2
	9	2	4.9	4.9	17.1
	5	5	12.2	12.2	29.3
	2	6	14.6	14.6	43.9
	7	6	14.6	14.6	58.5
	4	7	17.1	17.1	75.6
	3	10	24.4	24.4	100.0
	Total	41	100.0	100.0	

Table 5 indicates that the criterion of “making meaning” increased in priority after the SEARCH treatment. Table 5 Set 1 shows the pre-treatment priority mean of 8.16 and priority mode of 5 rose in the post-treatment mean of 4.71 and mode of 5 shown in Table 5 Set 2 respectively.

Table 5 - Pre-treatment statistics

Set 1 **Making meaning**

Statistics

Making meaning

N	Valid	44
	Missing	0
Mean		8.16
Mode		5
Std. Deviation		11.054
Sum		359

Making meaning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.3	2.3	2.3
	3	1	2.3	2.3	4.5
	13	1	2.3	2.3	6.8
	Multiple response	1	2.3	2.3	9.1
	12	2	4.5	4.5	13.6
	6	3	6.8	6.8	20.5
	9	3	6.8	6.8	27.3
	10	3	6.8	6.8	34.1
	11	3	6.8	6.8	40.9
	2	4	9.1	9.1	50.0
	7	4	9.1	9.1	59.1
	8	4	9.1	9.1	68.2
	4	5	11.4	11.4	79.5
	5	9	20.5	20.5	100.0
	Total	44	100.0	100.0	

Table 5 - Post-treatment statistics

Set 2 **Making meaning**

Statistics

Making meaning

N	Valid	41
	Missing	0
Mean		4.71
Mode		5
Std. Deviation		2.305
Sum		193

Making meaning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7	2	4.9	4.9	4.9
	1	3	7.3	7.3	12.2
	9	3	7.3	7.3	19.5
	2	4	9.8	9.8	29.3
	4	4	9.8	9.8	39.0
	6	4	9.8	9.8	48.8
	8	4	9.8	9.8	58.5
	3	8	19.5	19.5	78.0
	5	9	22.0	22.0	100.0
	Total	41	100.0	100.0	

DISCUSSION AND CONCLUSION

Results from the data indicated a consensus of what constitutes priority areas in developing quality in early childhood education in Singapore. The criterion of "happiness" was rated as the highest priority in a child's education. Also rated just as highly was the criterion of "confidence." The rating of each of these two criteria as significantly more important than reading (post-treatment mean = 6.78; post-treatment mode = 7), writing (post-treatment mean = 7.80; post-treatment mode = 8) and learning facts (post-treatment mean = 7.56; post-treatment mode = 10s) is in conflict with a perceived cultural necessity to emphasise (qua "prioritise") academic skills above all else in Singapore's education system.

The consensus reflected in the data indicates that education requires a more humanistic orientation than is currently the practice in Singapore's academically focused education system. This would appear at odds with Singapore's international reputation as a formal, highly competitive, academically-oriented education system.

In consonance with the film, "*I Not Stupid*," the data suggest that differences in socio-cultural perspectives towards education are indeed present in Singapore. Instead of a narrow philosophical preference towards facts, rote learning and instrumental knowledge emphasised over procedural knowledge (Skemp, 1978), a wider conceptualisation of learning exists among well-educated citizens. Newly qualifying early childhood professionals who are mature-aged, previously well-qualified and experienced as parents are able to relate to perspectives of education that are challenging socio-cultural expectations, beliefs and traditions that portray education as a journey of elitism and competition. Instead, there is evidence that a set of values highlighting the importance of each child's' personal development (confidence and personal self esteem) is just as important as (if not more than) their academic needs.

Intelligence and application

In his book, "*The Making of Intelligence*" Ken Richardson (2000) notes that research consistently shows that schools account for less than 10% of the variability in success at university. "It is perhaps not surprising, in view of this, that many studies have shown that there is little relation between academic potential and performance in

the workplace at any level" (p. 197). Richardson quotes from Howard Gardner's book, "*The Unschooled Mind*" as follows:

> *Perhaps most stunning is the case of physics…[S]tudents who receive honors grades in college-level physics are frequently unable to solve basic problems and questions encountered in a form slightly different from that on which they have been formally instructed and tested… Indeed, in dozens of studies of this sort, young adults trained in science continue to exhibit the very same misconceptions and misunderstandings that one encounters in primary school children… [E]ssentially the same situation has been encountered in every scholastic domain in which inquiries have been conducted." (p. 196)*

SEARCH ….. and Rescue

The increased priority of the three criteria "solving problems," "making meaning" and "creativity" serve to indicate that the SEARCH heuristic assisted participants in reassessing their edu-philosophical perspectives in light of a more child-centered approach to education. The psycho-social pedagogical heuristic of SEARCH advocates for more emphasis to be focussed on the three areas of self esteem, personal construction of meaning, and learning as a creative endeavour as the foundations of education. The increase in importance in these three areas after one week of professional development indicates that mature-aged well-educated Singapore early childhood educators have a high degree of tolerance and empathy for such perspectives.

While the current study sought to ascertain how the SEARCH heuristic might be viewed from a Singaporean perspective, what emerged was not only an empathy for the heuristic but also an insight into local perceptions for achieving quality educational standards. Amongst well-educated mature-aged early childhood Diploma students, a willingness to re-conceptualise traditional Singaporean child-care practices is evident. Rather than focus on academic results as a measure of success, early childhood education could emphasise a holistic approach as advocated through the SEARCH heuristic which: values all children as competent learners; values a "play-ful" approach to pedagogy (Geoghegan, Reynolds & Lillard, 1997); and strives to develop a happy confident well balanced child with an enthusiasm for life and a disposition for learning that entails more than just learning to do Mathematics and English well.

References

Gall, M. D., Borg, W. R., & Gall. J. P. (1996). *Educational research: An introduction.* New York: Longman.

Geoghegan, N., Reynolds, A., & Lillard, E. (1997). Problem-centered learning and early childhood mathematics. In J. A. Dossey, J. O. Swafford, M. Parmantie, & A. E. Dossey (Eds.), *Proceedings of the 19th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, 235-240. Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.

Geoghegan, N. (2002). Learning mathematics: a SEARCH for meaning. In A. Rogerson (Ed.), *Proceedings of the International Conference on The Humanistic Renaissance in Mathematical Education*, 141-144. Palermo, Italy.

Hong Kong Education Department. (2000). *Performance indicators for kindergartens*. Hong Kong: HK Government Printing Department.

Langer, E.J. (1997). *The power of mindful learning*. Reading, MA: Merloyd Lawrence.

National Council of Teachers of Mathematics (NCTM). (2000). *Principles and standards for school mathematics*. Reston, VA: Author.

Ong, R. (2002). *Kindergartens and early childhood learning in China*. Report commissioned by Fastrax Technologies.

Richardson, K. (2000). *The making of intelligence*. NewYork: Columbia University Press.

Skemp, R. R. (1978). Relational understanding and instrumental understanding. *Arithmetic Teacher, 26,* (3), 9-15.

Wardle, F. (2003). *Introduction to early childhood education: A multidimensional approach to child-centered care and learning*. Boston, MA: Pearson Education.

Wiles, J., & Bondi, J. (1998). *Curriculum development: A guide to practice*. Upper Saddle River, NJ: Merrill.

One such indicator was the growing disenchantment amongst educational policy makers with social initiatives and programs that were built on a deficit model. The deficit model is an institutionalized and culturally-based concept that classifies children as being "at risk" or requiring "special needs" in learning. As such, a deficit concept of learning is related to the role of educational institutions to "make good that deficit" (Dahlberg, et al, 1999, p. 124).
See Langer p. 20-22

Until recently, the early childhood child-care sector in Singapore was deregulated. Not until the last decade of the 20th century was there a concerted effort to invoke legislation for regulating child-care centres. In June 2001 a 28-page document developed by the Family Services Department of the Singapore Ministry of Community Development and Sports was released providing details for setting up a child-care centre. Titled, "Guide to Setting up a Child Care Centre" the document explains a range of factors that determine acceptable practice for running a centre. For example, in regards to the layout of a child-care centre:

1. *The layout of the centre should meet the needs of children and facilitate easy supervision. Space should be allocated for both active and quiet activities. For a centre which provides care for children aged 18 months and below, a separate area with age-appropriate play materials should be provided.*
2. *A minimum additional floor space of 12.5m^2 for 5 infants or less are (sic) to be provided. For every subsequent increase of 1 infant, an additional floor space of 2m^2 per infant is to be provided (p. 11).*