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**HUMAN EDUCATION : EDUCATING  
GIFTED CHILDREN IN SINGAPORE  
ON SELF-KNOWLEDGE**

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**Human Education: Educating gifted children in Singapore on self-knowledge**

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**ABSTRACT**

Since time immemorial, education has facilitated the development of civilisation and progress with the teaching of scientific and literary knowledge in schools. As the human race becomes more and more globalised, new forms of education are needed to meet the exigencies of the times. This paper proposes to include human education, specifically the education on self-knowledge, in the school curriculum as a catalyst to speed up the development of gifts and talents and hence the realisation of human potential. A total of 497 Primary 5 pupils in the Gifted Education Programme (GEP) in Singapore were taught a series of self-knowledge lessons. These lessons included instruction on the character make-up, intellectual functioning, volitional attributes, social abilities, and other personal skills.

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## INTRODUCTION

Since time immemorial, education has always been considered as one of the most fundamental factors or causes of civilisation. That form of education which could exert a lasting effect needs to be comprehensive and adequate in providing not only for the physical and intellectual aspects of man but also his spiritual/moral/ethical and emotional inclinations. As we proceed into the 21st century, we also need to respond to the challenge of providing the younger generations with knowledge and skills to participate in a global economy. At the dawn of the digital age, the acquisition of knowledge in science and computer technology in schools has been intensified while learning about the humanities takes on a more peripheral role.

Curricular change accompanying globalisation is inevitable. Worldwide attempts have been made to ensure that students become “computer literate”. Teachers have been encouraged to use simulations, multimedia resources, databases and computer-assisted learning modalities in their respective disciplines. Students are expected to master software applications to help them develop and enhance skills in such areas as writing, problem solving, research and communication. The Canadian secondary school curriculum for example includes “career education”, “co-operative education”, “education on other workplace experiences”, and even education on “health and safety” (Ministry of Education and Training, 1999). The Hong Kong curriculum caters for art, Chinese, computer, English, Mathematics, music, science, social, and moral and civics education (Cheng, Chow and Tsui, 2000). The Singapore schools provide training in computer literacy, science, humanities, art, music, physical education, civics and moral education, co-curricular activities and more recently, character building. At any point in time, new curricula are being developed to cater to the students’ needs in particular countries at particular municipality, the common aim of which is none other than to usher in an ever advancing civilisation, and to bring mankind to greater heights of development.

It is clear that education is constantly characterised by curricular change. The only “consistent” factor is ironically those agents undergoing these curricular changes, namely the students themselves – the human factor. There is no doubt that as the years go by, the students have become more brilliant. Nevertheless, the nature of talents and their development somewhat follow comparable trends. Should the students be directly taught to acquire self-knowledge consciously, the impact of the curricular changes will be enhanced, for the aims of curriculum development also include the liberation of human potential. Unlike advocates of humanism<sup>1</sup> in the fourteenth and fifteenth centuries, this paper suggests the implementation of self-knowledge classes as a form of “human education”, or the education on what it means to be human. Progressive educators will agree that education for ‘the whole child’ is only made more complete with the additional element of educating the child about the self.

This paper proposes to include human education, specifically the education on self-knowledge, in the school curriculum beginning in Singapore, as a catalyst to speed up the development of gifts and talents and hence the realisation of human potential. A total of 497 Primary 5 (P5)

<sup>1</sup> The humanists believed in the teaching of classical literature and classical art; the development of the joy of living and the contemplative pleasures about things in life; an appreciation of the beautiful and the world of nature; the fostering of interests in introspective observation and analysis from the esthetic and human standpoint; instruction in morals, manners and health; dance and music (Wilds and Lottich, 1966, p. 165-6).

pupils in the Gifted Education Programme (GEP) in Singapore were taught a series of self-knowledge lessons. These lessons included instruction on the character make-up, intellectual functioning, volitional attributes, social abilities, and other personal skills. Definitions of the main components of self-knowledge as defined in the study are given below. These include knowledge on one's cognitive capacity, affective capacity and volitional capacity.

## **SELF-KNOWLEDGE**

In this study, the knowledge of the degree of functioning of human faculties pertaining to the "self" constitutes self-knowledge (Teo and Quah, 1999; Banaji and Prentice, 1994) or intra-personal intelligence as defined by Gardner (1983). Basic human faculties include the capacities to know, to will and to love; or the power of cognition, volition, and affection (Danesh, 1994). Other faculties include the power of memory, the power of discovery, the power of thought, etc. As a person acquires self-knowledge, his awareness and understanding of the extent to which these faculties/powers are within his command increase. The freedom and ability to use these powers provide the basis for rational and moral choices, self-regulation of emotions and the right to act independently. Definitions of the basic faculties are given below.

### ***The Cognitive Power***

Cognition is the power of knowing. It is knowledge, consciousness, and acquaintance with a subject and the investigation of truth. The power of knowing taken in its widest sense includes sensation, perception, conception, as distinguished from feeling and volition. The attainment of self-knowledge is simply being able to know yourself, or having greater self-awareness, and then be able to use this knowledge to form judgements and to make choices.

### ***The Affective Power***

The affective power allows a person to be conscious of feeling and to express his emotions (Peterson, 1999; Goleman, 1995). This faculty enables one to empathise, to accept and to be in harmony with others (Danesh, 1994). When a person is being empowered with the positive qualities of this faculty, like passion for one's vocation for instance, innovations and discoveries of the natural laws latent in the universe are made possible together with exertion of the will or perseverance. Positive affective qualities also enable one to co-exist in love and unity with other organisms in the community.

### ***The Will Power***

Volition or will is the power of choosing or decision-making which ultimately determines action (Teo and Quah, 1999). It is *not* synonymous with motivation in this study. It is also often referred to as "moral choice" when a person decides on the course of action between "good and evil". It has been noted however that this freedom of will is not absolute. Inevitably, a person has no choice of parents, ageing, disease, sleep or death (Danesh, 1994). Will power is also seen as "a system of psychological control processes that protect concentration and direct effort in the face of personal and/or environmental distractions" (Corno, 1993, p. 16). It is simply one's capacity for self-regulation.

The *true self* would probably emerge after the complex, demanding and life-long process of self-discovery (Palmer, 1998, p. 13). A lack of education on knowledge of the basic human

faculties and their development would surely hinder the development of these powers in children, and gifted children in this study—intellectually, morally, physically, emotionally and socially.

## BACKGROUND OF THE STUDY

### *Subjects*

In an attempt to promote efforts by the Ministry of Education (Singapore) in developing an ability-driven education system (Ministry of Education, 1999), the researchers have embarked on an experimental study to teach Primary Five (P5) pupils in the Gifted Education Programme (GEP) self-knowledge lessons. As Primary Four (P4) gifted pupils have just entered the GEP and are still adjusting to their new school environment while Primary Six (P6) pupils are expected to prepare for the major Primary School Leaving Examination, this leaves the researchers with P5 pupils as experimental subjects. The nine primary schools which house the GEP are: Anglo-Chinese School (Primary), Catholic High (Primary) School, Henry Park Primary School, Nan Hua School, Nanyang Primary School, Raffles Girls Primary School, Rosyth School, St. Hilda's School (Primary) and Tao Nan School. The distribution of the gifted pupils in each school is given in Table 1.

Table 1 Distribution of Primary 5 GEP pupils in 2000 (Experimental Group only) (n=497)

School	No. of classes	Male	Female	Total
Anglo-Chinese	2	47		47
Catholic High	2	40		40
Henry Park	2	31	13	44
Nan Hua	2	34	15	49
Nanyang	3	46	33	79
Raffles Girls	3		73	73
Rosyth	2	29	26	55
St. Hilda's	2	17	15	32
Tao Nan	3	54	24	78
Total	21	298	199	497

### *Procedures*

In 1999, a Self-Knowledge Checklist (SKC) was administered to all Primary 4 GEP pupils. The checklist included items such as awareness of one's cognitive, creative, affective, volitional and moral attributes including social skills, and critical and creative skills. The checklist was developed by the first author to reflect the extent to which children could recognise their personal attributes, gifts and talents. In 2000, the project continued with the first author going into all the Primary 5 classes to deliver the 'intervention' package, a five-module series covering theme units on character; characteristics and development of the mind or intellect; characteristics and development of volitional attributes; characteristics and development of affective, social and emotional qualities; and finally time and stress management. Topics like knowledge of one's

inherited, innate, acquired, and moral character, as well as essential qualities for resolving interpersonal disputes were also discussed with real life examples such as stories reported in newspapers. In December 2000, post-tests using the SKC were administered to all Primary 4 and Primary 6 (control subjects) and all Primary 5 (experimental subjects).

The experimental subjects will be monitored for several years to ascertain the effects of the self-knowledge lessons over time, to see if teaching young gifted children to begin to develop self-knowledge and life goals would help them become more all-rounded, well-adjusted, happy, peaceful and successful people in adult life. Whether empowering young children with self-knowledge would help the realisation of potential or gifts and talents remains to be seen in years to come. Having secured funding for the study also implies non-divulgence of sensitive findings prior to the completion of the project report.

### ***Instrumentation***

The Self-knowledge Checklist (SKC) is a self-report checklist on a 9-point Likert scale with '9' being the 'strongly agree' polarity and '1' being the 'strongly disagree' polarity. It comprises 124 items and three free response questions on knowledge of specific talents. The items were designed under five broad headings of "Intellectual and Learning Attributes", "Creative Attributes", "Affective, Emotional, Social and Attitudinal Attributes", "Moral and Leadership Attributes", and "Talents and Interests". The reliability coefficients of the SKC, tested with a total of 1145 in the entire Primary GEP 1999 cohort, are reported in Table 2.

Table 2 Reliability Coefficients of the Self-Knowledge Checklist (SKC) (N=1145)

	n	Cronbach's Alpha
Attributes		
<b>Overall</b>	<b>1042</b>	<b>0.947</b>
Moral	1131	0.893
Creative	1138	0.845
Perceptive	1140	0.823
Truth-seeking	1143	0.730
Social	1141	0.801
Advanced vocabulary/reading	1144	0.713
Personality/character	1145	0.707
Leadership	1140	0.885
Talents	1071	0.673

***The intervention***

The intervention consisted of five one-hour lessons conducted over five consecutive weeks during the “Civics and Moral Education” time slot early in the morning from 7:30 a.m. to 8:30 a.m. on the following themes. Classes were scheduled on each weekday morning in alternate terms for each school.

**(i) The human character (composition):**

This lesson comprised a sharing of medical research findings on twin studies revealing the inherited, innate and acquired characters of man. The concept that human beings may be viewed as a composition of heart (emotion), body (physical), mind (intellectual) and soul was discussed together with graphs to explain developmental stages and maturation. The theory that human beings have multiple intelligences, that gifts and talents are like invisible fruits (invisible potential), and that living organisms need to grow holistically in all aspects were also expounded. Pupils were urged to set personal goals of growth. Pupils were then given the “Style of Learning and Thinking (SOLAT) (Youth Form)” to check their brain preferences in preparation for the next lesson on the development of the brain and mind. The SOLAT is a self-scoring inventory.

**(ii) Characteristics and development of the intellect (cognitive powers):**

Results of the SOLAT were checked and returned to pupils so that insights into applications of reported brain preferences in real life may be discussed. Characteristics of critical and creative thinking, their respective functions, meaning of IQ, channels of knowing, validation of truth, the transfer of Cattell’s primary and secondary factors of human abilities into classroom practices and factors of enhancing thinking were discussed together with the power of a focussed mind in discovery learning. The use of classical music, IQ games and thought-provoking or challenging questions in stimulating the development of the mind were also discussed. Pupils were taught to understand the concept of “atrophy” when a person did not exercise his/her intellectual powers.

**(iii) Characteristics and development of volitional attributes:**

This lesson began with a role play of the “marsh mellow” experiment described in Goleman’s (1995) book. The concept of will or volition (tenacity) was further introduced with a short story on “frog and toad, and cookies”. Pupils were shown the “Adversity Quotient” (AQ) book by Stoltz (1997) and introduced to the notion of AQ. They were then shown newspaper research reports on differences between optimists and pessimists. The importance of having positive beliefs was discussed using examples on effects of placebos. More examples of adult success stories reported in print were shared. The concept of moral choice was also discussed with reasons why it was preferable to choose to do “good” given. Pupils were later asked to draw or write down their life goals to develop their heart, body, mind and soul, thus activating their volition consciously.

**(iv) Characteristics and development of affective/social/emotional attributes:**

The lesson began with pupils been shown pictures depicting optical illusions. The aim of this activity was to show pupils that different individuals view the same picture differently and that people need to appreciate individual differences. There was thus no need to get uptight with fellow classmates or siblings or any others who view things differently. The concept of social

intelligence was then introduced with the understanding of increasing globalisation. Pupils then played a game to guess the meaning of phrases written on cards hidden in coloured envelopes. Each card had an affective quality required for effective consultation written on it. Examples included: “purity of motive”, “patience”, “allowing ideas and not egos or personalities to clash”, “humility”, etc. Pupils were urged to practise consultation skills at home and in school.

(v) Stress and Time Management:

This lesson was meant to teach pupils about their physical health needs. The fact that when one learns to manage stress and time while young minimises many problems later in life was shared. The pupils were taught to recognise some common symptoms of stress. The management of stress through food, meditation and time management was then discussed. The pupils were shown a 20-minute video tape on Alan Lakein’s “How to get control of your time and your life”. They were reminded that like fresh green branches that are easily moulded, they should rid themselves of any undesirable habits when they were young. Good time management techniques learned and developed when they were young, for example, would benefit them later in life.

## RESULTS

Only pre-test results are available at the moment of the report. Table 3 gives the mean scores for each of the nine self-knowledge attributes reported in the SKC by gender. It appears that female gifted pupils had significantly higher scores in their moral, perceptive, personality, leadership and talent attributes than their male counterparts at pre-test. Results of analyses by school indicate that the gifted pupils in the schools with a longer history of GEP were having higher mean scores. However, there are no significant differences among the pupils in the schools.

Table 3A Pre-test Mean SKC scores by Gender (N=1145)

Attributes	Male (n=693)	Female (n=452)
Moral	6.26	6.59***
Creative	6.12	5.99
Perceptive	5.94	6.21**
Truth-seeking	6.59	6.81
Social	6.54	6.50
Advanced vocabulary/reading	6.64	6.79
Personality/character	7.31	7.57***
Leadership	6.17	6.38*
Talent	5.20	5.85***

\* p< .05, \*\* p< .01, \*\*\* p< .001

## DISCUSSION

An examination of the mean scores of each of the nine factors on the SKC reveals an average of a “6” for the gifted subjects on a scale from “1” to “9”. The highest mean was reported by gifted female subjects on the “personality/character” attributes comprising knowledge of one’s character strengths and weaknesses, emotional states and personality. The lowest mean was recorded on the “talents” sub-scale implying a lack of knowledge of the manifestation of talent at a young age.

The result that female subjects reported significantly higher scores in more areas than male subjects warns that the covariance of gender and pre-test needs to be investigated at post-test. Dweck (2000, p. 12) has observed that given equivalent knowledge and cognitive skills, helpless and mastery-oriented groups perform differently. The reason is that the former group essentially retires its skills in the face of failure, while the latter group continues to use them vigorously. Thus, having a higher level of self-knowledge like the female subjects as reported in the SKC at pre-test does not necessarily imply the attainment of greater successes later in life. It will take time and contrived effort for all experimental subjects to develop self-knowledge through deliberate effort before effects of the intervention could be delineated.

Whether the mastery of self-knowledge through education and empowerment would significantly enable youths identified with intellectual potential, like the GEP pupils in this study, to develop their talents more efficiently later in life remains a question to be answered in years to come. This is but a preliminary report. It is worthy to note however, that true loss is for one whose days have been spent in utter ignorance of the self.

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