
Title	The role of self-knowledge of gifted pupils in Singapore, a knowledge-based economy: Some preliminary findings
Author(s)	Chua Tee Teo, Quah May Ling, Ridzuan bin Abdul Rahim and Lionel Jeyasingam Rasanayagam
Source	<i>ERA-AME-AMIC Joint Conference, Singapore, 4-6 September 2000</i>
Organised by	Educational Research Association of Singapore (ERAS)

This document may be used for private study or research purpose only. This document or any part of it may not be duplicated and/or distributed without permission of the copyright owner.

The Singapore Copyright Act applies to the use of this document.

THE ROLE OF SELF-KNOWLEDGE OF GIFTED PUPILS IN SINGAPORE, A KNOWLEDGE-BASED ECONOMY: SOME PRELIMINARY FINDINGS

Chua Tee Teo and Quah May Ling
National Institute of Education
Nanyang Technological University
Singapore

Ridzuan bin Abdul Rahim and Lionel Jeyasingam Rasanayagam
Gifted Education Branch
Ministry of Education
Singapore

Abstract: True loss is for one whose days have been spent in utter ignorance of the self. The acquisition of self-knowledge is pertinent to the development of inner and ideal virtues of all cognitive beings. It is only when empowered with such conscious knowledge that the human race could be fully developed and civilization brought to greater heights. The role of self-knowledge for youths in building a knowledge-based society like Singapore cannot be denied. This study serves as a prelude to the education of children on self-knowledge, beginning with gifted pupils. Gifted pupils in nine GEP schools were taught to develop self-knowledge. A checklist of 124 items on a 9-point Likert scale was devised and pilot-tested with 1145 Primary 4 to Primary 6 pupils in the Gifted Education Programme (GEP) in Singapore. Preliminary results of factor analyses present interesting findings for statisticians, teachers, gifted pupils and their parents.

Introduction

The new knowledge-based economy requires a new race of man. In an information economy, the assets are the knowledge of the workers. Objective reflection enables one to realise that scientific and technological knowledge are evolving all the time. Knowledge of the self, however, is the only stabilising element which educates the individual on the development of his cognitive, affective, volitional capacities, personal, inter-personal skills, gifts and talents. An empowered individual, being an enlightened thinker, will be able to initiate positive changes rather than become the victim of circumstances in the rapidly changing world. Surely, education of all potential builders of the knowledge-based economy, namely, youths currently enrolled in the schools today, must include knowledge of self in addition to knowledge on science and technology.

This study is based on the tenet that the education of self-knowledge for youths plays an important role in building a knowledge-based society like Singapore. The study involves the administration of a preliminary self-knowledge test to 1145 Primary 4 to Primary 6 gifted pupils in nine Gifted Education Programme (GEP) schools. The checklist consists of 124 items on a 9-point Likert scale. The test items comprise self-report statements

about one's intellectual, creative, affective, social, emotional, personality and moral attributes together with knowledge of one's talent areas. The pilot test was then analysed for specific factors and reliability. A comparative study of significant differences in self-knowledge between male and female subjects for each of the factors was subsequently conducted. Implications of findings are discussed in this paper. Definitions of the main components of self-knowledge, namely, knowledge of one's cognitive, affective and volitional capacities, are given below.

Self-Knowledge

In this study, the knowledge of the degree of functioning of human faculties pertaining to the "self" constitutes self-knowledge (Teo & Quah, 1999; Banaji & 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. It is being able to know yourself, or having attained self-awareness, and then being able to use the knowledge to form judgements, to make choices and to know oneself.

The Affective Power

The affective power allows a person to feel, 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 one is 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 together with exertion of one's will power or perseverance. Positive qualities of the affect also enable one to live in harmony and unity with others.

The Will Power

Volition or will is the power of choosing or decision-making which ultimately determines action (Teo & 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). Education on knowledge of the basic human faculties and their development would surely enhance the development of these powers in children, and gifted children in this study, intellectually, morally, emotionally and socially.

Background of the Study

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) lessons in self-knowledge. 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.

Effects of the self-knowledge lessons will be tracked over time. Whether empowering young children with self-knowledge will help the realisation of developmental potential or gifts and talents remains to be seen in years to come. The present study documents the initial stages of pre-testing of the gifted subjects on their level of self-knowledge using a pilot test devised by the first author. As it was a pilot test, all three levels of Primary GEP pupils, namely P4, P5 and P6, in nine GEP schools were involved. Having secured funding for the study also implies non-divulgence of sensitive findings prior to the completion of the project report. A simple comparative study is presented in this paper with respect to the level of self-knowledge of gifted boys compared to gifted girls in nine areas of personal attributes (see Table 2 for specific categories of attributes).

Methodology

In November/December 1999, a Self-knowledge Checklist (SKC) was administered to all Primary GEP pupils. The checklist, devised by the first author, contains items such as awareness of one’s cognitive, creative, affective, social and moral attributes. It 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”.

It was pilot-tested with a total of 1145 in the entire Primary GEP 1999 cohort at separate sittings. The principal researcher was the sole administrator of the test. She read each item, explained difficult words and concepts, and gave the same examples to illustrate the meaning of each item consistently. It took about 60 minutes for the completion of the SKC in each school. Where the seating capacity of the testing room was limited, the

pupils took the test by level or by class at different times. The entire procedure took about 10 consecutive days. The raw data was coded and accurately key-punched by an experienced and meticulous research assistant who was trained in the use of the SPSS. Factor analyses of raw data revealed the following results.

Results

The SKC was factor analysed using SPSS programs. Nine factors, each with eighth value greater than 1, were extracted to explain 59.2% of the variance. These are respectively the moral, creative, perceptive, truth-seeking, social, advanced vocabulary/reading, personality/character and leadership attributes, and talents of the gifted children. The overall reliability of the SKC, computed using Cronbach's alpha, is 0.947. The reliability coefficients of each of the nine factors are given in Table 1. Except for "truth-seeking", "advanced vocabulary/reading", "personality/character" attributes, and "talents", the reliability coefficients for all the other five sub-scales are greater than 0.8.

Table 1
Reliability Coefficients of the Self-Knowledge Checklist (SKC) (N=1145)

	n	Number of items	Cronbach's Alpha
Overall	1042	46	0.947
Moral Attributes	1131	12	0.893
Creative Attributes	1138	6	0.845
Perceptive Attributes	1140	5	0.823
Truth-seeking Attributes	1143	4	0.730
Social Attributes	1141	4	0.801
Advanced Vocabulary/reading Attributes	1144	4	0.713
Personality/character Attributes	1145	4	0.707
Leadership Attributes	1140	4	0.885

Talents 1071 3 0.673

A one-way analysis of variance was performed to determine the differences in the level of self-knowledge between male and female gifted subjects. Gifted female children reported significantly higher mean scores than the males in five areas, namely, the moral, perceptive, personality/character, leadership attributes and talent areas. Table 2 gives a summary of the results.

Table 2
ANOVA for each SKC Component by Gender (N=1145)

		Sum of Squares	df	Mean Square	F
Moral	Between	28.56	1	28.56	17.58***
	Within	1856.57	1143	1.62	
	Total	1885.12	1144		
Creative	Between	4.01	1	4.01	1.60
	Within	2860.97	1143	2.50	
	Total	2864.98	1144		
Perceptive	Between	19.17	1	19.17	8.27**
	Within	2650.93	1143	2.32	
	Total	2670.10	1144		
Truth-Seeking	Between	2.47	1	2.47	1.21
	Within	2337.28	1143	2.05	
	Total	2339.75	1144		
Social	Between	.26	1	.26	.08
	Within	3501.71	1143	3.06	
	Total	3501.96	1144		
Advanced Vocabulary/Reading	Between	6.29	1	6.29	3.32
	Within	2166.15	1143	1.90	
	Total	2172.44	1144		
Personality/Character	Between	18.67	1	18.67	10.16***
	Within	2099.09	1143	1.84	
	Total	2117.75	1144		
Leadership	Between	12.61	1	12.61	3.89*
	Within	3702.25	1143	3.24	

	Total	3714.86	1144		
Talents	Between	117.90	1	117.90	32.02***
	Within	4208.32	1143	3.68	
	Total	4326.23	1144		

* 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.

Dweck (2000, p. 12) has observed that given equivalent knowledge and cognitive skills, helpless and mastery-oriented groups perform differently. The reason given was 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, personal and inter-personal skills as reported in the SKC at the beginning does not necessarily imply greater successes later in life. It will take time and contrived effort to develop self-knowledge consciously, perhaps through deliberate intervention effort, before effects of the proposed study could be delineated.

Results of these preliminary tests merely suggest that gifted female subjects were having significantly higher levels of self-knowledge in five areas of moral attributes, perceptive attributes, personality/character attributes, leadership attributes and talents before at the beginning of the experimental study. The project continues with an intervention study where all gifted P5 pupils in all nine schools will be taught to acquire and develop further self-knowledge in IQ, AQ, EQ and other personal and interpersonal skills. This cohort of gifted pupils in the experimental study will be tracked for several years to see if teaching them to begin to develop self-knowledge and life goals will help them become more all-rounded, well-adjusted, happy, peaceful and successful people in adult life.

Whether the mastery of self-knowledge through education and empowerment will 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. Indeed, true loss is for one whose days have been spent in utter ignorance of the self.

References

Banaji, D. A. & Prentice, D. A. (1994). The self in social contexts. *Annual Review of Psychology*, 45, 297-332.

- Corno, L. (1993). The best-laid plains: Modern conceptions of volition and educational research. *Educational Researcher*, 22(2), 14-22.
- Danesh, H. B. (1994). *The Psychology of Spirituality*. Canada: Paradigm Publishing.
- Dweck, S. W. (2000). *Self-Theories: Their Role in Motivation, Personality, and Development*. Philadelphia, PA: Psychology Press.
- Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books.
- Goleman, D. (1995). *Emotional Intelligence*. New York: Bantam Books.
- Ministry of Education. (1999, September 4). *MOE Work Plan Seminar 1999: Towards Ability-Driven Education*. Singapore: Author.
- Palmer, P. J. (1998). *The Courage to Teach*. San Francisco: Jossey-Bass Publishers.
- Peterson, P. K. (1999). *Assisting the Traumatized Soul: Healing the Wounded Talisman*. Wilmette, Illinois: Baha'i Publishing Trust.
- Secord, P. F. & Greenwood, J. D. (1995). Self-knowledge of psychological states: The status of subjects' accounts. In P. E. Shrouf & S. T. Fiske (Eds.), *Personality Research, Methods, and Theory: A Festschrift Honoring Donald W. Fiske* (pp. 201-220). Hillsdale, NJ: Erlbaum.
- Teo, C. T. & Quah, M. L. (1999). The knowledge, volition and action programme in Singapore: The effects of an experimental intervention programme on high ability achievement. *High Ability Studies*, 10(1), 23-35.