Identification Process of Young Gifted Learners: The Malaysian Experience

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Abstract

The world has seen many gifted individuals who leave profound marks in many spheres of human life. These individuals are classified as prodigies and are assets to any civilizations. Some of these individuals are more fortunate than others when they are identified early. However, the less fortunate ones are never identified, and continue to live their lives in misery because they could not find a fit in the society. Inevitably, they become the underachievers and their potentials are never uncovered. The questions such as "can we identify the gifted students from young?" or "what are the strategies that can be effectively used to identify a gifted child?" remain as questions commonly researched by scholars in the area. This paper will answer these questions by looking at the present scenario on definition of giftedness, characteristics of young gifted students, the process of gifted students' identification in general, and an example of identification process conducted by PERMATApintar™ – the Malaysian National Gifted Center.

Keywords
identification; gifted education; gifted students; Malaysia

Introduction

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The world has seen many gifted individuals whose ideas transcend their own life span. These ideas leave profound marks in many spheres of human life, ranging from sciences to economics, to fine arts, health, spirituality and world peace. A classic example is Albert Einstein, whom to this day is associated with the word "genius". He changed our understanding on the nature of light and the fundamental connections between space and time in the universe with his theory of relativity and quantum physics. James Dewey Watson, an American molecular biologist, geneticist, and zoologist, best known as a co-discoverer of the structure of DNA in 1953 with Francis Crick unlocked the key to understanding life and developed one of the world's premier research facilities for cancer, neurobiology, and basic molecular genetics at Cold Spring Harbor Laboratory in Long Island, New York. He entered the University of Chicago at the age of 15 under the gifted youngster program.

Leta Hollingworth, a renowned educationist and advocator of gifted education since early 1930s stated that, "*In the ordinary elementary school situation, children of IQ 140 waste half their time. Those above IQ 170 waste all their time. With little to do, how can these children develop power of sustained effort, respect for the task, or habits of steady work?*" (Gross, 2004, pg. 7). These happened because many gifted children have not been identified or have been given wrong diagnosis, are required to work in a regular classroom, at levels several years below their mental age, and are given curriculum that did not challenge their intellectual ability. Inevitably, they become the underachievers whose talents will never be discovered. As such, education for the gifted learners is a much needed discourse not because we want to develop elitisms, but because these gifted learners have unique needs and requires special educational provision. Gross (2004) posited that giftedness is much more than just intellectual precocity, and definitely more than just collecting as many 'A's in the national examination. Gifted students are those who show the potential for performing at a remarkably high level of accomplishment when compared to others of the same age in one or more domain area of interests.

Defining Giftedness

Debate on defining giftedness has been long and arduous (Gross, 2004; Tomlinson, 1999; Gagne, 2004; Renzulli, 2000). None of the theoretical expert on giftedness has come to an agreement on how to clearly defined giftedness. Renzulli's (2000) definition of giftedness as the interplay between the three rings (high ability, task commitment and creativity) is seen by many as being too linear while Gagne's (2004) definition is developmental in nature, expressing giftedness as a shift from gift to talent and looking at natural abilities in various form that can be transform into talent by systematic training. Gagne's (2004) proposed four domains of giftedness which include intellectual ability, creativity, socio-affective

and sensorimotor. DeHaan (1957) on the other hand suggested six domains in which children might excel; intellectual ability, creative thinking, scientific ability, social leadership, mechanical skills and talent in fine arts. Hitherto, experts on gifted education have not only come into consensus the definition of giftedness but also domains that describe giftedness.

However, many agreed that to define giftedness from just an intellectual ability or IQ is too simplistic. Nonetheless, it is a useful index of the relationship (or discrepancy) between the mental age and the chronological age of the gifted learners. The relationship or discrepancy is described by the gap between the mental and chronological age of the individual. Identifying and understanding the IQ of a gifted learner will help us understand the mental processing that happened between a normal, moderately and extremely gifted individual. Silverman (1989) suggests that any child whose IQ score is 145 and above and is at three standard deviations above the mean on a test of reasoning ability should be termed highly gifted and should be given different educational pathways because the IQ score directly affects the nurturing of exceptional talents. Inevitably, it is important that we understand how best to identify these distinctive individusla. Left unidentified, the country may risk losing these individuals to other countries that can provide them with the opportunity to develop their potentials to the fullest. This is what we characterized as the "brain drain" phenomena that Malaysian has experienced for the last 30years.

It is easy to stereotype and sideline those who may not conform to our own definitions of "normal". Charles Darwin, in his autobiography wrote, "*I was considered by all my masters and by my father as a very ordinary boy, rather below the common standard in intellect.*" Darwin went on amongst others, to develop the Theory of Evolution that is being used until today to explain human evolution. Another example is Thomas Edison, whose teachers said he was not up to learning anything. Edison, as we all know, went on to become one of America's most prominent inventors and he changed the way we live today with his invention "the electric light bulb". All told, gifted students bring with them an ensemble of talents that are rare and not usually identified in their peer group. Many of them have been wrongly diagnose and have received educational provision that is not supporting their learning needs. Having said this, being gifted alone does not guarantee success. Early identification of these individuals, complemented by the right learning environment, support and educational program, could result in them contributing to the betterment of any particular nations.

Characteristics of Young Gifted Students

Tuttle and Becker (1980) interviewed a parent, Margot Parrot who has three highly gifted children. Parrot shared her experiences and extensive readings as a concerned parent and summarized the following characteristics as indicative behaviours of preschool gifted students:

> ➢ Early language acquisition – use a large vocabulary; speak in long, complex sentences; talk earl and often. Many gifted children, however, also do not speak until they are much older, and then display extraordinary competence with languages.

> ➢ Fine and gross motor skills – walks, climbs, run early and well; controls small objects easily (example scissors, pencils, pens, and spoon); handles tools well.

> ➢ Intellectual areas – reads signs or even books; does mathematical problems; draw associations among diverse ideas; remembers facts and events; is interested in social and moral values; has a long attention span; ask why.

> ➢ Social areas – has empathy for others; is self-confident and independent; organizes and leads group activities; very active both mentally and physically.

> ➢ Creative ideas – has vivid imagination; enjoys playing with words and ideas; shows a highly developed, often verbal sense of humour; uses objects, toys, colors in imaginative ways.

> ➢ Specific areas – shows remarkable ability in specific areas (play musical instrument, sing, sports etc.).

These characteristics continue to exist as the gifted children grow into teenagers and adulthood. It becomes more noticeable when they are given learning environments that support and strengthen these characteristics.

Gifted students also experience an asynchronous development. Asynchronous development refers to uneven intellectual, physical, and emotional development. Average children's intellectual, physical, and emotional development progresses at about the same rate. The development is said to be in "sync." An average four-year-old has the intellectual and physical abilities as well as the emotional maturity most other four-year-olds have. Nonetheless, in a gifted child, the development of those areas is said to be out of "sync." The three areas do not progress at the same rate. A gifted four-year-old child could have an intellectual ability of a ten years old, physical ability of four years old, but an emotional maturity of two years old. As such, the gifted child development shows the lack of synchrony with the "milestones" presented in many parenting books. One gifted child makes eye contact his first week. Another gifted child doesn't speak until the age of four. One

gifted child will only form friendship with other children long after others have done so. Another gifted child may want to have intellectual conversations with every grown-up he meets and not with his peers.

Identifying the Gifted Students

The process of identifying a gifted student is similar to finding a needle in a hay stack. Researches have shown that the ratio of a gifted to normal individual is 1: 10,000, while the ratio of superior to normal individual is 1: 100,000 (Silverman, 1989; Renzulli, 2000). Although, the existence of these gifted or superior individual is undisputable, the science of identifying them has been debated continuously. According to Goodhew (2009, pg.8) "*identifying potentially gifted and talented students has never been an exact science*", and it cannot be captured by a single number that measure only one domain of the giftedness. Sternberg (2003) suggested that unless multiple sources of evidence are examined, community as a collective educational agent will risk missing identifying a large number of gifted individuals. Research conducted by Brown et al. (2005) for instance, shows that strategies for identifying gifted students should include the followings: individual expression criteria, on-going assessment, multiple criteria for identification and consideration of contextual factors.

Brown et al. (2005) findings is supported by many researchers who have shown that there are many strategies and policies involved in identifying gifted students, and the use of multiple strategies seemed to be the best approach to identifying the gifted students (Putallaz, Baldwin & Selph, 2005; Rigby, 2005, Brown, Renzulli, Gubbins, Siegle, Zang, & Chen, 2005). Concomitantly, identification program conducted on gifted students should take a multidimensional approach (Davis, Rimm & Siegle, 2011) and not restricted to only academic performance as what has been practiced in Malaysia today. Although historically, intelligence or giftedness around the world was identified by the IQ test (for example; the WISC-IV, Stanford-Binet and Raven Matrices) and school achievement, Malaysian in general, identifies giftedness in a student through his or her ability to perform well in examination. Students who perform in the top 5 to 10 per cent are singled out as being gifted among their peers and are expected to perform extremely well in all levels of national examination.

Review of the literature on identification of gifted students have shown that there are various talent search program or identification program established in many countries where different testing instrument and different procedures are used (Callahan, 2005; Jarosewich, Pfeiffer, Morris, 2002; Renzulli, 2004; Johnsen, 2004). Duke University Talent Identification Program (Duke TIP) for instance, uses Scholastic Assessment Test (SAT) and an optional testing experience using EXPLORE developed by ACT (Putallaz et al., 2005). The Rocky Mountain Talent

Search at the University of Denver uses PLUS Academic Abilities Assessment developed by Educational Testing Services (ETC) in collaboration with the Johns-Hopkins University-Center for Talented Youth. Singapore High School for the gifted students used the WISC-IV and an aptitude test developed by the Singapore Ministry of Education. Close to home, the Pusat PERMATApintar™ Negara at Universiti Kebangsaan Malaysia uses two on-line IQ tests, a set of Science, Mathematics and language competency tests, and batteries of other tests that measure creativity, leadership and emotional development to identify its gifted students (Jones & Noriah 2013; Noriah, Rosadah & Siti Fatimah, 2010). Both IQ tests emphasize the processes involved in learning: verbal abilities, perceptual reasoning and organization, attention, concentration and working memory as well as the speed of (graphomotor) processing. However, many countries are still looking at the best possible ways to identify their gifted children.

Identification Program – Issues That Need Consideration

Any identification programs must take into consideration the educational needs of the gifted students and resources available within the school (Purcell & Eckert, 2006; Brown, Renzulli, Gubbins, Siegle, Zang, & Chen, 2005; Tuttle & Becker, 1980). It must also be sensitive to the age of the students (especially when identifying the young gifted students), and the diverse cultures and range of experiences within the school population (Ford, 2004; Frasier, Garcia, Passow, 1995). According to Ford (2006, pg.51), a well-articulated identification procedure should be able to answer the following questions:

> ➢ Who are the gifted students?
> ➢ Why are we striving to identify them?
> ➢ How do we find them?
> ➢ What are the most appropriate tools for identifying gifted students?
> ➢ How are the data from various tools analyzed and interpreted?
> ➢ Who is responsible for identifying students' gift and talent?

To develop a high-quality identification procedure, a school must consider the four following attributes and all questions pertaining to the attributes as suggested by Purcell and Eckert (2006, pg.52):

> ➢ Comprehensive approach – to what extent are the procedures effective at all grade levels and sensitive to students' age, and can the procedures confirm and uncover potential and emergent abilities?
> ➢ Students' characteristics – Do all stakeholders understand how gift and talent are manifested in school and home environment? Do the procedures include objective and subjective measures specific to different student characteristics? Do the procedures reflect diversity?

➢ Objective and subjective tools – Are objective tools administered under standardized conditions? Are the selected tests appropriate for the targeted students? Are the tools used reliable and valid for screening and selection process? Can the tool be used over a period of time as opposed to one data event such as test? Can the observation tools use distinguish behavioural characteristics of the gifted and talented students? Are data for portfolios and performance assessments collected by knowledgeable personnel?

➢ Defensible and inclusive criteria – Is there a link between students' needs, definition and procedures related to identifying the gifted and talented students? Do the procedure and tools match the students' skills and abilities that will be crucial for their success in the gifted program? Can the tools used uncover talents and abilities of students who have inconsistently perform in all content areas? Are the validity and reliability of the tools that will be used well researched? Does information gathered from the tools provide direction for the gifted program? Does the final pool of identified students reflect the demographics of the students?

Identification Program – The Malaysian Experience

The objective of any identification program is to uncover talents and abilities of students who require access into gifted education program from young. The Malaysian National Gifted Center – also known as PERMATApintar™ – used two standardized tests to measure the following group of abilities: intellectual, creativity, socio-affective and sensorimotor. Research have shown that standardized tests are useful especially in identifying students with exceptional academic potential who are underrepresented in gifted and talented program (Peters & Gentry, 2010; Ford, 1998; McBee, 2010; Pfeiffer & Jarosewich, 2007). It provides consistency in the selection process. The first (intellectual) and second (creativity) group of abilities (intellectual abilities) are identified using the UKM Test 1 and 2. These are Malaysian based standardized test that has been used in the country for the last 5 years on more than one million children from the age of 9 to 15 from different backgrounds. The tests have been proven to have the ability to assess learning potential and have a broad range of measurement which include verbal abilities, perceptual reasoning and organization, attention, concentration and working memory as well as the speed of (graphomotor) processing. Both are on-line tests requiring students to answer to a set of questions. Both tests have high internal consistency (measured by inter-item correlation) and the reliability values (α) for each section ranges from 0.92 to 0.97. Both tests are written in two main instructional languages; Bahasa Malaysia and English, thus providing enough language flexibility for all students to response to all items (Noriah, Rosadah & Siti

Fatimah, 2009). As such, these two tests, which are open for use from January to September every year, can be used to identify gifted students. Both tests can be used for children as young as six years old.

PERMATApintar™ also used Torrence Tests of Creative Thinking as the third standardized test to uncover the creative abilities of the students. In general, the Torrance Test measures domains of Fluency, Flexibility and Originality. The test is appropriate for first grade students through adults. It uses three picture-based exercises to assess five mental characteristics: fluency, elaboration, originality, resistance to premature closure and abstractness of titles. It can also uncover the following creative strengths: emotional expressiveness, storytelling articulateness, movement or action, expressiveness of titles, synthesis of incomplete figures, synthesis of lines or circles, internal visualization, extending or breaking boundaries, humor, richness of imagery, colourfulness of imagery, fantasy and unusual visualization (Almeida, Prieto, Ferrando, Oliveira & Ferrándiz, 2008). The picture-based exercises reduce the culture bias of the items. All three sections have high reliability values ranging from 0.93 to 0.99. Since the Torrance Test is a paper and pencil test, it can be given to students individually in the classroom.

Malaysian Emotional Quotient Inventory (MEQI) is used to uncover the socio-affective abilities of the students (Noriah, I. Piet, Ramli, 2010). MEQI measures 28 psychological traits including perceptiveness, empathy, tact, leadership, communication and persuasion. The inventory has 11 sections with reliability values ranging from 0.91 to 0.97. The inventory has 182 items that was developed based on the Malaysian context. Although MEQI is an online test, it also has the paper-and-pencil version that can be distributed to the students. MEQI produces an index of emotional intelligence of the individual students. In general, this test is considered as one of the most user friendly test in Malaysia that can be used to measure emotional intelligence for individuals from the age of 12 to 60. This test is used to identify level of asynchronous development of the gifted students.

Sensorimotor abilities (strength, endurance, reflexes and coordination) are detected using teachers' record of the students' learning behaviours during a three-week school holiday program conducted at PERMATApintar™ Center, Universiti Kebangsaan Malaysia. The recording is a subjective assessment conducted daily based on the teachers' observation during the teaching and learning process while the students are in the camp. The observation will also include areas in leadership, research and scientific acumen and communication skills. This information is then skilfully written (by the teacher) in a one-page EVALS form to be given to parents when the children completed their three-week's program.

Conclusion

All in all, research works have shown that effective identification strategy for the gifted students must be developed based on solid theoretical background. It must also have clear objectives and goals, and receive full support from all stakeholders interested in education of the gifted. Malaysia is at a critical juncture when discussing about identifying and educating its gifted population that has been left unattended for the last 30 to 40 years. We have seen brain drain issues arising from our inability to identify and provide education that meet the gifted students' learning needs from young. We have heard about children who have extraordinary abilities, but were not identified by psychologist because the parents are unaware of such process. We have seen gifted children becoming adults and experience misfit within the society because community members do not understand their asynchronous development (even as adult).

Some may argue that, given the ratio of gifted individuals to normal population is too small, any effort to identify them from early age will make no significant changes to the society. However, as future assets of any particular nations, this population of students deserve the right of being identified and given education provision that will push their potentials to the fullest so that the nation will benefit from their presence.

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