

Methods and Procedures in Screening Gifted Mayan Students

Pedro Sánchez Escobedo

Abstract

Instruments, procedures, and criteria for the screening of Mayan students in Yucatan, Mexico are depicted and evaluated by analyzing the results of their use on 242 students in five different regions of Yucatán. These 242, 8th grade students were selected from a pool of 1,530 potentially gifted students.

Participants responded to a variety of standardized and non-standardized tests and underwent an additional qualitative assessment through interviews and observations. Results of this study demonstrate diverse difficulties in screening gifted Yucatec Mayan students arising from the lack of valid and pertinent standardized tests and the lack of teachers' understanding regarding the concept of giftedness. Of the 242 evaluated students, evaluators identified only 21 students as gifted; these students were later registered to receive eventual attention in a state project. Challenges regarding the screening, misidentification and management of gifted Mayan students are discussed in light of this experience.

Keywords: Giftedness, Mayan Students, experiences, detecting methods.

Introduction

Framework

The purpose of the study was to screen and identify gifted children in a Mayan region characterized by its socioeconomic disadvantage in the state of Yucatán, Mexico. Specifically, the study intended to screen Mayan children using the traditional criteria for evaluating gifted students: cognitive skills, scholarly motivation and creativity. The traditional criteria for evaluation seemed to provide the logical starting point in attempts to identify gifted students in rural areas of Yucatan. However, given certain limitations and the particular characteristics found in the sample of children studied, evaluators found it necessary to adjust the criteria.

Throughout Mexico, children in rural, marginalized areas often fail to realize

their full potential because of scarce opportunities and lack of educational services. However, due to the socioeconomic situation in rural areas, serving gifted children is considered an act of social justice. The belief exists that these children constitute an important resource for Mexico's sustainable development. Screening gifted children in rural zones may enhance the emerging trend to service and stimulate gifted children in the hope being that when their full potential is achieved, they will be incorporated into the country's scientific, industrial, and entrepreneurial efforts.

Current intervention programs for gifted students in Mexico are limited to 5th and 6th graders. Once students complete sixth grade, follow up studies are

terminated and services to gifted students are withdrawn. This project, however, focused on junior high school who will receive benefits from a variety of programs, ranging from enrichment courses to college scholarships.

students and aimed to create a preliminary data base registering gifted children

Gifted Mayan Students

For this work, it was particularly important to review the concept of giftedness in the Spanish language, as various terms are often used interchangeably to refer to a group of gifted students. Likewise, the same term may be used to refer to various student abilities and profiles. In general, there is considerably more conceptual confusion in Spanish literature when approaching the gifted.

A gifted person is someone who shows, or has the potential for showing, an exceptional level of performance in one or more areas of expression (Baum, 1986; NAGC, 2003). Some of these abilities are very general and can affect a broad spectrum of the person's life, such as leadership skills or the ability to think creatively (Gale Encyclopedia of Psychology, 2001). Some are very specific talents and are only evident in particular circumstances, such as a special aptitude in mathematics, science, or music (Gardner, 1995). The term giftedness provides a general reference to this spectrum of abilities without being specific or dependent on a single measure or index. (Castro, Oyadel, Paez, & Quintanilla, 2000). It is generally recognized that approximately five percent of the student population, or three million children, in the United States are considered gifted (Silverman, 1976-2007).

Teachers in Mexico are usually not trained to teach gifted students, and school systems often lack programs and teachers to search for talented students (Kaplan, 2003). Thus, in this research, emphasis was placed on gifted students, following Lopez's (1994) general idea of screening students with a high IQ and high levels of general academic competence, motivation and creativity (Renzulli, 1978). Considering contextual issues (Arjona, Buendía, Ceballos, et. al., 2002), such as the desire to motivate these students to pursue higher education, it was particularly important to screen children for high academic and scientific potential.

In the Spanish language, Sánchez Cerezo (1975) in Sanchez (2006) attempted to distinguish between the gifted and the talented, but name labels are still used loosely. Certain terms for describing gifted children are commonly found in the literature: 'sobresalientes' (Hernández, 2003), 'sobredotados' (Delgado, 2003) or 'talentos especiales' (Sánchez, Cantón & Sevilla, 1997).

Despite the lack of universally agreed upon terminology, this work follows the general guidelines provided by the World Health Organization (WHO, 1948) and the National Association for Gifted Children (NAGC, 1997). Giftedness, intelligence, and talent are fluid concepts

and may look different in diverse contexts and cultures. Indeed, the term giftedness has taken on multiple meanings and much nuance across cultures (<http://www.nagc.org/index.aspx?id=574&ir>).

In Mexico, as Zacatelco (2003) broadly indicated, the concept of giftedness remains unclear. Much work is needed both in research and educational practice to distinguish between the concepts of talent and gift. As some authors assert, giftedness may be as simple as the ability to solve real life problems in a creative

manner (Castro, Oyanadel, Paez & Quintanilla, 2000, p.13).

For the purpose of the study, the investigator made a clear distinction between giftedness and talent while looking for children with expressed natural abilities, i.e., aptitudes or gifts, who were placed among the top 10% of his or her peers. These natural abilities were assumed to have a clear genetic substratum (Heward & Orlansky, 1992), and observable in every task children with which children are confronted during schooling (Gagné, 1985).

Screening for gifted children

Deciding on appropriate criteria to identify gifted Mayan students was a major challenge in this study. Identification of giftedness should not be confounded by the means by which it is observed or assessed. For example, parents, teacher, or student recommendations, a high mark on an examination, or a high IQ score may not qualify a student as gifted, although these indicators may be a signal that giftedness exists. Some of these indices of giftedness are more sensitive than others with regards to differences in the person's environment.

In Mexico, establishing criteria for screening gifted children has often been overlooked since there has been an emphasis on special education with services focused on children at risk of school failure (Castillo, Marquez & Ruiz, 1996; López & Sánchez, 2003; Sánchez, Aclé, De Agüero, Jacobo & Rivera, 2003). This is a tremendous problem in a country with an illiteracy rate of 10%, a general education of 7.6 years, and a

50% failure rate at 10th grade (SEP, 2006).

Sáenz (1997) has depicted the various needs of gifted children in Mexico and has discussed the dubious preparation of most Mexican teachers in dealing with these children. Authors such as Johnsen & Corn (2001), Sánchez, Cantón & Sevilla (1997); Shea & Bauer (2000) concur, agreeing that to be labeled as gifted, students must perform significantly higher in various tests and routines. This methodology permits evaluators to screen students in an efficient manner. In addition, Blanco (2001) claims that this allows schools reason to provide educational services and guidance to gifted children and to their respective parents.

With this in mind, the choice of strategies for screening Mayan children encompassed an assorted array of suggested techniques, e.g., teachers' nominations, Soto's (2003) suggested

measures of creativity and intelligence and Gantus (2005) measure of task commitment. As it will be argued later, however, these measures were considered in a holistic fashion since none of the routines can, independently, lead to adequate judgments. For example, biases in teachers' nominations, as suggested by Sanchez & Schuman (2007) can significantly skew results. Furthermore, reports on customary practices and traditions

among Mexican teachers and the cautionary statements made by Esquivel, Sánchez, & Valdes (2007) with regards to the standardization of the WISC-4 in Mexico were also taken into account. Certain characteristics in the Mexican school system could also undermine the accuracy of the study. Final decisions regarding giftedness were made following Kirk, Gallagher & Anastasiow's (1997) advice on using both formal and informal means of assessment.

Method

This is a diagnostic field study with the purpose of identifying gifted children in the rural Mayan areas of Yucatán.

Subjects

The target population was 7th and 8th grade Yucatec students in five bilingual regions (Spanish and Mayan). Students were from 21 different counties, all of which are characterized by a high level of socioeconomic marginalization.

A conventional criterion was used to select 27 secondary schools in which access was granted to the investigator by state authorities and local principals.

Through teachers' nominations, 242 students were included in the study's

initial phase. To be nominated, students had to be identified by two different teachers, plus they required the approval of the school director. Letters explaining the purpose of the study, the general characteristics of a gifted student, and the importance of identifying gifted students were issued to every teacher and principal. Special forms were used to collect teachers' nominations, principals' approval and parental consent for further testing. These students represented approximately 5% of secondary school students currently enrolled in Yucatan's rural school system. Finally, 175 students completed all tests, interviews, and requirements from the second stage.

Instrumentation

Individual files were created for each participant. They comprised demographic and familial information, school history, and results from

standardized tests and additional gathered information. The following instruments were individually administered by trained assistants

Motivation and task commitment test.

This instrument was especially designed for Sanchez (2007) and developed for this research. The questionnaire contained 20 items in a Lickert scale that measured 4 dimensions of motivation: curiosity, task commitment, socialization in the school, and enjoyment of scholastic tasks. Cronbach's coefficient for this test was $\alpha = .7632$.

Multi-factor creativity test

Although most reported measures of creativity refer to visomotor (visual motor) tests in Mexico, a multi-task creative test was designed and developed for this research project following the general idea of Torrance (Duarte 1997). This multi-task creative test allowed researchers to explore three dimensions of creative thinking, each assumed to be independent from one another.

The test consisted of three routines. The first was intended to assess visomotor creativity and plastic tasks. Students were requested the student to draw a picture containing the six stimuli items given, e.g., circles, lines. The second was a test of verbal composition intended to measure verbal creativity. This test required the student to write a short essay using cue words purportedly unrelated to each other. The third and final task was an attempt to evaluate inventive capacity by asking the student to mention as many uses for two common items: a blanket and a rope. The traditional categories proposed by Torrance early work: flexibility, fluidity and originality were used to evaluate

performances. Two independent judges evaluated each performance. The inter-rater reliability coefficient was $r_k = .7462$.

SAGES-2

This is a test in the United States commonly used to screen and identify gifted children, particularly those with outstanding school potential. The Spanish language adaptation for Mexico is known as the Screening Assessment for Gifted Elementary Students: SAGES-2 (Johnsen; Manual Moderno, 2003). This test was initially standardized for the Mexican population by Sanchez (2003), who later found the secondary school version (4-5) more adequate than that used for younger children (K-3) in the identification of high academic competence students. At the same time, however, Sanchez acknowledged some limitations in the psychometric properties in terms of the test's ability to assess divergent thinking previously reported by Hunsaker & Callahan (1995), and Plucker & Runco (1998). The battery consists of three subscales: Math and sciences, language and literature, and reasoning skills. This third subscale is considered the best estimate of 'g' intelligence, as it uses images and symbols. Furthermore, according to Jensen (1980), it is free of cultural influences and language competency.

WISC-RM

The Mexican revised version Wechsler Intelligence Scale for Children (WISC-RM) is a rather old scale that had to be used, since a commercial version of a later version, i.e., WISC-4, was not yet available in Mexico. Many readers will be acquainted with this battery, since it is a widely-used device to measure levels of cognitive ability.

Procedures

Stage 1: Teachers nomination

Gross (1999) argues that teachers' judgment about the students' actual or potential giftedness is an acceptable method of screening in various models. A teacher has the ability to observe student performance on a daily basis and they enjoy the advantage of a daily interaction with the student. Teachers' opinions, however, should not be used as the only criterion in the identification of gifted children since it is subject to bias, due to the positive influence of commitment, hard work and dedication on teachers' perception and external influence (González & Gotzens, 1998). Additionally, Jiménez (2000) has argued that a teacher's judgment regarding a student's potential giftedness increases with training and those using teacher evaluations is a cost efficient method in screening children. In the early years, peer opinions could be important in identifying gifted students. Diaz & Pomar (2000), Olaszewski-Kubilius & Lee (2004) warn against using parental opinion on this matter, as they have documented bias against appreciating women's giftedness and parental perceptions.

Stage 2: Training of assistants

Data was collected with the help of twelve research assistants, all students of Esther Educational School or psychology majors. To organize the work, five testing centers were established in the cities of Mérida, Tizimín, Ticul, Peto and

Valladolid. Students were selected from among volunteers with some knowledge of the Mayan language and with a strong academic history. Assistants were paid \$3 US dollars per student assessed.

Stage 3: Data collection

Interviews and tests were administered individually in the school of each participant. Screening took place in classrooms designated by the principal for this specific purpose. Typically, the process included three consecutive sessions. The first session was used to gather general data, establish rapport, and collect contextual, academic and familial information. The second session was used exclusively for the administration of the WISC-R, and the third for the remaining tests.

Stage 4: Data analysis

Tests and materials were scored and revised and kept in individual files. Because of the different types of data, both quantitative and qualitative analysis was conducted. SPSS, Spanish language version 11, was used for the quantitative analysis while expert interpretation of familial and background information was used for the qualitative component.

A summary of each case was completed by the main investigator, and general criteria for classification and screening was reviewed by two experts in the field who were invited to review the data.

Results

This section describes the context and general characteristics of participant students. It also depicts major results in routines measuring competency, motivation, creativity and general performance of participants.

Background information and characteristics of the students

Schools

Every school included in the study was public, with an average student population of 400 students divided in the three grades that comprise secondary education in Mexico, (approximately from 12/13 - 15 years old or the equivalent 7th to 9th grades in the US). These were modest educational settings in rural Mayan zones. They all had electricity, running water and basic computer services. Students were from low socioeconomic status, many of them bilingual, although competency in the Mayan language was generally low.

The majority of teachers were hired on an hourly basis and show great mobility, lasting on average for two years in each school. The drop out rates in this zone is 38% per year, mostly due to cumulative academic deficiencies. For example, in poor-performing primary schools students are often given an automatic pass and promoted regardless of required academic abilities (Sánchez & Schuman, 2007).

Students

Participants, generally speaking, share similar socio-demographic characteristics and family traits with the rest of the students. No distinguishing features were indicated in familial, contextual or economic data that could distinguish

these potentially gifted students from their peers. All selected students had good grades. They were committed to school giving priority to school attendance and achievement. Twenty students considered themselves interested in school and eager to complete their scholarly tasks.

In general, students lived in poor economic conditions. Forty-six of these students received economic support from the federal program helping those experiencing extreme poverty - 'Oportunidades' (www.sds.gob.mx). Students' houses had an average of two rooms, 94% had running water and 90% had either a toilet or latrine. Thirty-six percent of houses had phone service and 45% had paid TV.

The most part students' families were intact and nuclear (78%), with five members as a modal type. Twenty-two percent depicted an extended family structure with daily interaction with family members - mostly uncles, cousins and grandparents. Ninety-three percent of families had married parents, while 7% had divorced parents or lived in single parent households.

Interestingly, 92% of students described their relationship among family members as close, harmonic and nice. This highlights the importance given to family support in predicting high levels of academic achievement. Only 7% of participants complained about hardships with family members. Problems were generally encountered with the father but three students mentioned problems with siblings.

Reported family problems included the death of a relative, alcoholism in the father and disease in a member of the extended family. In two cases, students reported abandonment by one parent.

Health and medical services

Weight (46.87 Kg) and height (144.88 cm), distributions for these students were not significantly different from the rest of their peers. At the same time, however, they seemed healthier than the rest of their peers. Only 10% reported some kind of chronic illness, e.g., asthma. Twenty-one percent reported some kind of allergic reaction, and 27% reported having, at the time, at least one family member sick. Ten percent used glasses and an additional 6.3% complained that they did not have the glasses they needed. A third of the students mentioned not having any kind of medical

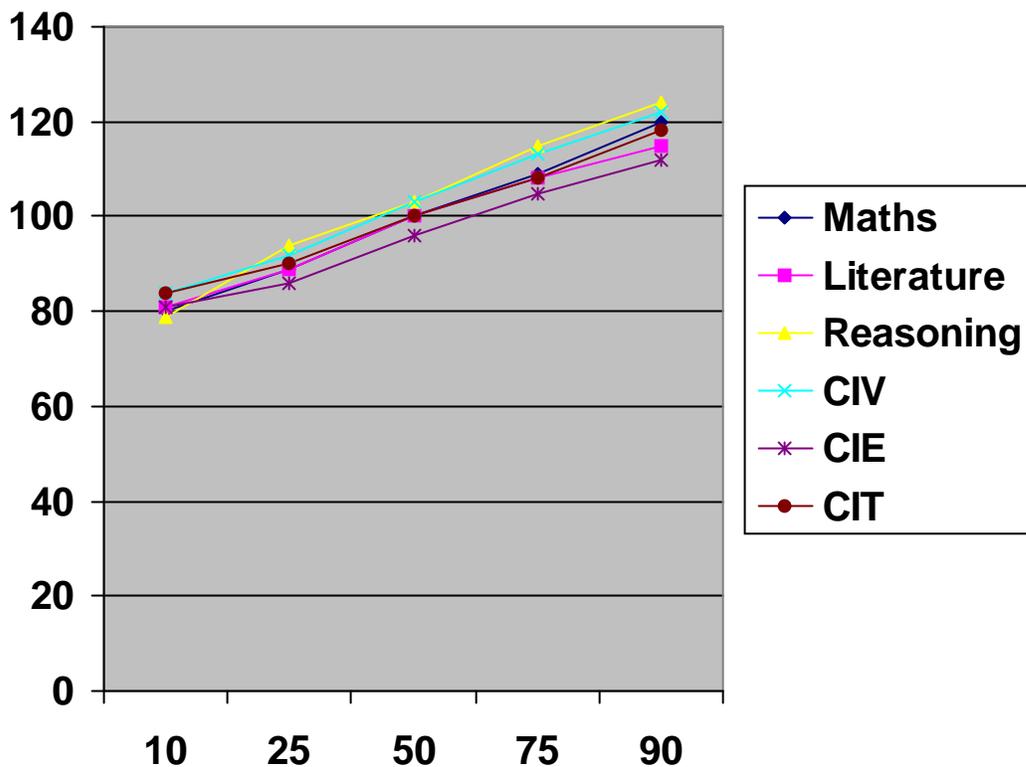
services; however the rest were covered by the national health system.

Results from standardized tests

Overall the results place the entire sample close to the mean. For the most part they indicated the referral of students by teachers was based on their commitment and dedication rather than their talent or high aptitude. A priori, the investigator expected scores to be around one standard deviation above the norm. However, this was not the case. Figure 1 summarizes the scores indicating how they compare to the average of each test.

Figure 1.

Comparison of Scores with the Average



Furthermore, scores tended to be normally distributed, compared with findings in studies developed in the capital city of Merida. The distribution curve in those studies was clearly skewed to the left.

Hence, a reference criterion was used to select gifted children by establishing the following inclusion criteria:

- $CI \geq 120$
- \geq in the 75th percentile in the creativity scale
- \geq in the 75th percentile in the motivation scale
- $GPI \geq 9$ (scale in Mexico is 5 to 10).

Thirteen schools (43%) included in the study yielded gifted children. A total of 21

students from those identified by teachers met the aforementioned criteria for giftedness. Eight (38%) were male and 13 (62%) were female. Only one was significantly below the expected age for this cohort (12 years old).

In-depth analysis of the student files were carried out to identify other features that would characterize this group. Typically the fathers had received an average of 17 years of education, somewhat more than the average of the general population, i.e., 14 years. Also, there was as significantly higher number of working mothers (45%) as compared with the other participants (33%).

Discussion and recommendations

After applying the basic international criteria used to identify giftedness, only 21 participants in this study or 12% of the 175 children identified as gifted by their teachers were actually gifted. This suggests teachers' perceptions are not altogether reliable as a main criterion to identify gifted children in this region.

Some mention should be made with respect to the limitations of this study. Although standardized tests were used, there are some caveats to their utility and limits to the interpretative value of these instruments considering contextual factors. For example, these children had no previous experience in responding to standardized tests and in many cases the conditions available to the investigators to carry out the test were not optimal. While teachers' perceptions may lead to an overvaluing of a child's potential, lack

of experiences and practice in responding to standardized tests may lead to miss some gifted children that under achieve in such tests. For example, these children score lower than expected in scales such as the reasoning scale, theoretically free of cultural influences. Hence, caution must be excise using test elsewhere developed but with weak psychometric properties and poor reliability in this population as argued by Sanchez, Acle, De Agüero, Jacobo, & Rivera, M . (2003).

Martín, Medrano & Sánchez (2005) reported the relative difficulty in screening for gifted children in the Yucatán school system. Results from this study support those previous findings. The results also emphasize the lack of attention and services available for the gifted in the Mayan zone generally.

Results strongly imply the need for specific training of teachers in the Yucatán region. Increased knowledge in the concept of giftedness would be helpful when faced with decisions on simple interventions such as acceleration. A knowledge and understanding of giftedness along with a willingness to apply the principles and concepts associated with gifted education could lead government and academic institutions to develop special programs.

For example, this region is rich with unique resources, e.g., archeological sites, and tropical forest reserves. Many enrichment activities could be focused on and around these resources.

Even though the scientific study of the gifted in Mexico, especially in the bilingual rural zones, is emerging, the challenge task of discovering talent and giftedness in these regions is ever present. Further research efforts in this regard are imperative.

References

- Arjona, V., Buendía, M., Cevallos, F., Coral, A., Escalante, P., Fernández, C., Loría, R., Ojeda, G., Sosa, G. & Trujillo, M. (2002). *Manual técnico operativo de la unidad de atención a niños con capacidades y aptitudes sobresalientes*. De la Unidad de Servicios de Apoyo a la Educación Regular N° 19. Mérida, Yucatán.
- Baum, S. (1986). The gifted Preschooler: An awesome delight. *Gifted Child Today*. 9 (4), 42-45.
- Blanco, K. (2001). *Guía para la identificación y seguimiento de alumnos superdotados*. España: Cisspraxis.
- Castillo, A., Márquez, M. & Ruiz, L. (1996). *Proyecto Sobresaliente pedagogía, trabajo social y psicología*. Recuperado el 15 de julio de 2003 de <http://proyecto-Sobresalientes.iespana.es/proyecto-Sobresalientes/document/mod-esp.htm>
- Castro, P., Oyanadel, C., Paez, A. & Quintanilla, R. (2000). *Implicancias de una Educación especial para superdotados*. Recuperado el 27 de mayo de 2003, de <http://www.geocities.com/Athens/Thebes/1663/pablo1.htm>
- Delgado, A. (2003). *El psicólogo y los niños sobresalientes*. Recuperado el 20 de mayo de 2003 de <http://iceusc.usc.es/outraspaxinas/n ee/articulo.htm>
- Díaz, O, y Pomar, C. (2000). Nueva concepción de necesidades educativas especiales: La superdotación. Recuperado el 27 de mayo de 2003. de <http://iceusc.usc.es/outraspaxinas/n ee/articulo.htm>
- Duarte, E. (1997). *Niveles diferenciales de creatividad gráfica y su relación con el tipo de personalidad en estudiantes universitarios*. Tesis de Maestría en Educación Superior, Universidad Autónoma de Yucatán, Mérida, Yucatán, México.

- Esquivel, Sánchez, & Valdes (2007). *Necesidades Educativas de los estudiantes con riesgo de fracaso escolar en escuelas secundarias públicas del estado de Yucatán*. Informe final. México: SEP, CONACYT y UADY.
- Gagné, R.M. (4th. Ed). (1985). *The conditions of learning and theory of instruction*. New York: CBS College Publishing
- Gallagher, J. J. (1986). *Teaching the Gifted Child* (3rd. Ed.) Boston: Allyn and Bacon.
- Gantús, S. M. (2005). Desarrollo de un instrumento para medir la motivación, adaptación y compromiso con la tarea para detectar alumnos sobresalientes en secundaria. Tesis de Maestría en Educación Superior, Centro de Estudios CTM, Mérida, Yucatán, México.
- Gardner, H. (1995). *Inteligencias Múltiples. La teoría en la práctica*. Barcelona, España: Paidós.
- Giftedness (2001). *Gale Encyclopedia of Psychology* (2^a. Ed.). Gale Group. Recuperado el 20 de mayo de 2003, de http://www.findarticles.com/cf_dls/g2699/0004/2699000483/pl/article.jhtml
- Gotzens, C. y & Gonzalez. C. (1998). El maestro y los compañeros de clase, fuentes de identificación del alumno de temprana edad excepcionalmente dotado. *Infancia y aprendizaje: journal for the study of education and development*. No. 82, p.3. Madrid: Fundación Infancia.
- Gross, M. (1999). Small poppies: Highly gifted children in the early years. *Roeper Review*, 21, (3), pp. 207-214.
- Hernández, M. G. (2003). *La capacidad sobresaliente. Una necesidad educativa especial en todos los sujetos*. Recuperado el 05 de mayo de 2003, de <http://educación.jalisco.gob.mx/consulta/educar/11/11capaci.html>
- Heward, W. & Olansky. M. (1992). *Programa de educación especial 2*. España: CEAC, S.A.
- Hunsaker & Callahan. (1995). Creativity and Giftedness. Published instrument uses and abuses. *Gifted Child Quarterly*, Vol. 39, No. 2, 110-114
- Jensen, A. R. (1980). Chronometric analysis of intelligence, *Journal of Social and Biological Structures*, 3: 103-122
- Jiménez, F. C. (2000): *Diagnóstico y educación de los más capaces*. UNED. Madrid: Colección Varia
- Johnsen, S. (2003). Evaluación inicial para estudiantes con aptitudes sobresalientes (SAGES-2). México: Manual Moderno.
- Johnsen, S. K. & Corn, A. L. (2001). *Sages-2 Screening Assessment for gifted Elementary and middle school students*. (2nd. Ed.). Austin, Texas: Pro-Ed.
- Kaplan, S. (2003). In there a gifted-child pedagogy? *Roeper Review*, vol. 25, issue 4. Recuperado de <http://Search.epnet.com>.

- Kirk, S., Gallagher, N. & Anastasiow, J. (1997). *Educating exceptional children*. (8th. Ed.). New York: Houghton Miffling Company.
- López, M. A. (1994). *Estudio, mito y realidad del niño sobredotado*. México, Puebla: Lupus Inquisitor.
- López, W. & Sánchez, P. (2003). *Habilidades sociales, de competencia y cooperación de niños con capacidades sobresalientes: un estudio exploratorio preliminar en Yucatán*. Artículo no publicado, Universidad Autónoma de Tlaxcala y Universidad Autónoma de Yucatán.
- Martín, S. Medrano, R. & Sánchez, P. (2005). Necesidades de capacitación a profesores de primaria y estudiantes normalistas para la detección de niños con capacidades y aptitudes sobresalientes. *Revista Educación y Ciencia, Nueva época*. Vol. 9, No. 18 (32).
- National Association for Gifted Children. (1997). <http://www.nagc.org/index.aspx?id=5748ir>
- National Association for Gifted Children. (NAGC) (2003). *Who are the Gifted?* Recuperado el 20 de mayo de 2003, de <http://www.nagc.org/parentinfo/index.html>
- Olszewski-Kubilius, P. & Lee, S. (2004). Parent perceptions of the effects of the Saturday. Enrichment Program on gifted student's talent. *Roeper Review*, vol. 26, issue 3. Recuperado de <http://Search.epnet.com>
- Plucker, J. A. & Runco, M. A. (1998). The death of creativity measurement has intelligences? Alternative assessments for identifying talent in ethnically diverse and lowincome students. *Gifted Child Quarterly*, 40, 81-92.
- Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. *Phi Delta Kappan*, 60, 180-184.
- Sáenz, J. (1997). *Glosario de términos sobre la educación a sobresalientes y posición de la Asociación Mexicana para el Apoyo a Sobresalientes, A. C. AMEXPAS*. Recuperado de <http://www.geocities.com/amexpas/public5>.
- Sánchez, P. & Schuman, A. (2007). *The role of 'Traditions and uses' in Mexican primary schools: Implications for institutional change*. Artículo publicado en prensa.
- Sánchez, P. (2003). Normas mexicanas para la prueba de SAGES.
- Sánchez, P. (2006). *Detección y registro de niños de secundaria con capacidades sobresalientes en zonas rurales y suburbanas del estado de Yucatán*. Programa de detección de alumnos con habilidades sobresalientes. Reporte final. México: Consejo Nacional de Ciencia y Tecnología, Universidad Autónoma de Yucatán.
- Sánchez, P., Acle, G., De Agüero, A., Jacobo, M. & Rivera, M. (2003). *Aprendizaje y Desarrollo. Estados del Conocimiento en Educación*, Vol. 4. México: Consejo Mexicano de Investigación Educativa.

- Sánchez, P., Cantón, M. & Sevilla, D. (1997). *Compendio de educación especial*. México: El Manual Moderno.
- Secretaría de desarrollo social. Gobierno de la ciudad de México. Sistema de información de desarrollo social. www.sds.gob.mx.
- Secretaría de Educación Pública. (2006). Perfil de la educación en México. México: SEP.
- Shea, T. & Bauer, A. (2000). *Educación especial. Un enfoque ecológico*. (2ª ed.) México: McGraw-Hill.
- Silverman, L. (1979-2007). *What we have learned about gifted children?* Gifted Development Center. Recuperado en enero de 2007 de http://www.gifteddevelopment.com/What_is_Gifted/learned.htm
- Soto, T. (2003). Sobredotación: contextualización y experiencias pedagógicas en España. *Psicología de educación para padres y profesionales*. Recuperado de <http://www.psicopedagogia.com/articulos/?articulo=444>
- World Health Organization. (1948). <http://www.who.int/en/>
- Zacatelco, F. (2005). *Modelo para la identificación de niños sobresaliente en las escuelas de educación primaria*. Tesis de doctorado. México: Universidad Nacional Autónoma de México.

About the Author

Pedro Sanchez Escobedo
Universidad Autónoma de Yucatán