THE PREVENTIVE APPROACH TO SPECIAL EDUCATION AS APPLIED TO GIFTED EXCEPTIONALITY
A FOCUS ON ASSESSMENT

Natasha Mohammed

Literature on the Preventive Approach to Special Education usually refers to low ability exceptionality or to integration in general. This paper presents an application of the Preventive Model of delivering services to gifted students in the school setting, with a focus on assessment from a Preventive perspective, specific to gifted exceptionality. The paper describes the Preventive Model, discusses the model as it applies to gifted identification and assessment, and highlights the strengths and concerns of the model with respect to gifted education. The Preventive Approach is compared to three perspectives on intelligence to facilitate an appreciation of the sensitivity of this approach towards giftedness and, ultimately, the assessment of gifted students. The paper concludes with recommendations for gifted education in Trinidad and Tobago.

Introduction to the Preventive Model

Preventive beliefs are rooted in ecological perspectives that acknowledge the influence of environmental variables on the student's learning and behaviour (Wilson & Silverman, 1991). Any problems encountered by the student are partially attributed to environmental factors and, in this case, the focus is on the instructional environment, to solve the student's learning needs (Jordan, Kircaali-Iftar, & Diamond, 1993). According to Wilson and Silverman, "preventive" in the educational context means "interrupting the pupil's slide into academic failure" (p. 199), by conducting early assessments to detect difficulties, and by carrying out informal interventions to prevent further escalation of the student's difficulty (Wilson, 1984). Assessment is carried out with the aim of answering the following questions: (a) How does the instructional environment affect the student's learning and performance? and (b) What can be done to the instructional environment to improve the pupil's learning and performance?

Assessment of the environmental factors in the Preventive Approach is supported by a formula put forth by Engelmann, Granzin, and Severson (1979). Behaviour (B) is seen as a combination of the individual's predisposition (P) (that which is not affected by instruction) and the instructional environment (I): $B = P + I$. 
individual's predisposition (P) (that which is not affected by instruction) and the instructional environment (I): \( B = P + I \). Predisposition is unknown and difficult to decipher and, when considering above-average exceptionalities, many theorists have argued that intelligence is arbitrary and relative to cultural and educational values (Gardner, 1983; Gould, 1981). The instructional component, however, is open to manipulation and greater understanding. Therefore, it is this latter component which educators can use to affect behavioural and academic performance. According to this model, the direction of behaviour changes (positively or negatively) depending on the quality of the instructional environment, and the match between the instructional environment and the student's level of ability and skills.

**Characteristics of the Preventive Model**

The Preventive Approach promotes a very dynamic and active process for educating learners of varying abilities. This dynamism occurs at several levels. Firstly, the approach is based on the interaction between learner and the environment: The more stimulating the environment is made, the more learning will increase. Secondly, this stimulating environment relies heavily on continuous assessment to discover the way in which a student learns, and the level of mastery (e.g., mastery in content and cognitive skills) which will facilitate programming to suit the learner's needs and level of functioning (Boling & Day, 1993, p. 110). The use of continuous, informal assessments of the instructional environment before referral provides opportunities to: (a) monitor the student's progress and instructional outcomes, (b) record what strategies work or do not work, (c) identify instructional approaches and resources that have not yet been used, and (d) discover if poor instruction is really the result of the student's lack of progress.

Continuous assessment also gives rise to early detection of a mismatch between learner and programme and, therefore, early prevention of problems and difficulties experienced by the learner can be avoided or decreased (Jordan et al., 1993; Salvia & Ysseldyke, 1991; Wilson & Silverman, 1991). Ongoing assessment of the student's learning in relation to the curriculum modification allows for programming more appropriate and challenging activities, eventually aiding in the student's academic advancements.

The approach is also open to using data from formal and informal assessments, which provide a more holistic and valid view of the
child's ability (Boling & Day, 1993; Reschly, 1980; Wilson, 1984). Informal assessments make up for the inadequacies of standardised testing, which is static in nature and not as contextually relevant for programming purposes. The informal assessments provide more information on the student's process of learning, learning style, and pace, while the formal assessments give more product-oriented information on the student's mastery of skills and subject areas. Such a combination contributes to a more balanced view of the student's learning and level of functioning, which provides a better picture for programming. This model is flexible with regards to the manner in which educational services are delivered, as it includes the options of integration, segregation, and reintegration, as appropriate to the individual student's educational needs (Wilson, 1984).

Integration is seen on several levels. Overall, and consistent with the current political climate in many jurisdictions, the Preventive Model pushes for integration of exceptional students in the regular classroom. However, if the students' needs cannot be met in the regular classroom, then the model is open to allowing students to be placed in an appropriate segregated environment. The model encourages reintegration on a full-time or part-time basis, depending on the needs of the student. The placement of students is dictated by the availability and appropriateness of the resources for the student, and not by a static label or category.

Integration is not only seen as the physical placement of the student in the regular classroom, but also as the presence and integration of special education resources and knowledge into the regular classroom setting (Wilson, 1984, p. 245). This approach greatly decreases the need for special and segregated programmes. This method of integration emphasises the collaboration of staff in planning together in assessment and programming to meet students' needs. There is also a joint effort to help students reintegrate into the regular classroom as this becomes a more appropriate placement (Wilson, 1984; Wilson & Silverman, 1991).

The next level of integration proposed in the Preventive Model concerns the curriculum. Exceptional students are given a modified version of the regular curriculum instead of a specialised or segregated curriculum, so that they are better able to continue within the normal educational system. This approach clearly enhances their future academic and career choices, when contrasted with situations where specialised curriculum provide little preparation for movement within the customary education system (Wilson, 1984).
The Preventive Approach is more informed and less biased. The model is well informed with respect to pre-referral information on assessment and intervention strategies that have been used with the student, and indicates different aspects of the student's learning (Reschly, 1980; Ysseldyke et al., 1983). The model is less prone to biases based on labelling and categorising for specialised placements, since there is a focus on assessing and monitoring strengths and weaknesses in subject and skill areas (Bolig & Day, 1993; Hatch & Gardener, 1986).

The model is also collaborative in nature, which contributes to its more informed and less biased characteristics. The collaboration of teachers and specialists at the pre-referral and post-identification stages also provides more perspectives to assessment and programming. The old adage, two heads are better than one, applies in this case.

The Preventive Model: Application to Gifted Education

The identification of students whose exceptional educational needs arise from above-average achievement in various domains, would be facilitated by the use of continuous and informal assessments by the regular classroom teacher, as recommended by the Preventive Model. Such assessment would record the students' learning history, in terms of learning strengths, weaknesses, styles, skills, and other learning characteristics.

Since assessment in the Preventive Model takes various forms, the teacher uses a variety of tools to collect data on the student's learning. The teacher observes and records a student's change in behaviour and attitudes to work, and academic and other performance from the beginning to the end of the term or year. Assessment also includes observations from other school staff who are interacting with the student as well as observations from home. Inventories and checklists in different skill or subject areas can be included in this assessment. The teacher can also utilise the pre-test/instruct/post-test approach to assess the student's learning ease, style, and strategies (Bolig & Day, 1993; Wilson, 1984).

Continuous assessment of this nature gives rise to recording and monitoring changes, peculiarities, and consistencies/inconsistencies in the student's performance and development, which may cause a teacher to have some concern about the student. This concern is not only that the student may be demonstrating some difficulty with the curriculum, but that the teacher may need assistance in adjusting the programme to
accommodate the student's learning needs (Bolig & Day, 1993; Wilson, 1984).

At this point, the teacher collaborates with other teachers and special education resource staff in conducting more systematic educational assessment to find a fit between the student's level of functioning and pace of learning. Following this, they collaboratively plan a programme with objectives for the teacher and student to achieve. The regular education teacher implements this modified programme in the classroom, with continuous monitoring of achievement and objectives. The programme is working well if the student is accomplishing the goals. If above-average exceptionality is suspected at this stage, and cannot be appropriately addressed in the regular classroom, a Gifted Resource Consultant should become involved.

At this point, the next step is to reassess the programme with the other staff members, who might indicate ways the existing programme could be adjusted by the inclusion of additional resources or personnel, in or out of the classroom. The degree to which assistance is needed and the frequency of adjustments of the regular programme are indications that the student might, in fact, be more exceptional than could be appropriately educated without more specialised services. If it appears necessary after making minor modifications, formal assessments could prove useful to pinpoint the mastery level of the student in various academic domains. These can be in the form of standardised achievement tests, above grade achievement tests and, possibly, IQ tests (Matthews, 1993, 1996).

Depending on the findings of the results from the formal assessment, along with information from the continuous assessment, the school staff might decide that the regular classroom is unable to provide the necessary resources to advance the student's learning. At this time, plans should be made to go through a formal identification process with the aim of determining the ideal or practical learning environment and placement for the student.

The ideal placement or programme might take the student back into the regular classroom, into a segregated setting, or into some combination of both (Wilson, 1984; Wilson & Silverman, 1991). Matthews (1994) has suggested 12 options available to educators working with students with above-average academic performance, which can be incorporated into the model when the student's learning characteristics and competencies are discovered. Some of these options mentioned in the following paragraphs are consistent with the
Preventive Model. The programme that is designed for the student should remain integrated, as much as possible, with the regular education curriculum, and be subject to continuous assessment to monitor the fit with the student's learning characteristics and level of functioning (Wilson, 1984).

**Strengths of the Model for Gifted Education**

Continuous assessment and monitoring of strengths and weaknesses in skill and subject areas provide a much better chance of locating students' domain-specific gifted-level competencies than more traditional summative assessment (Bolig & Day, 1993; Matthews, 1997). Therefore, the data collected from continuous assessment can be used for planning programmes that involve strengthening students' weaknesses and appropriately challenging their strengths, thus providing all-round development for gifted students. Continuous process-based assessment can prevent above-average students from becoming educationally underserved if these assessments are started early enough in the student's educational life. Continuous assessment works to prevent underserved students from slackening in performance and losing motivation, as long as instruction is matched to assessment findings (Wilson, 1984).

The Preventive Model facilitates the decision-making process, when deciding on programming options most suitable for the learning needs of exceptionally able students. The informal assessments provide a fair idea of the student's pace and style of learning, and the formal assessments give an indication of mastery level in domain-specific areas (Bolig & Day, 1993; Keating, 1991; Matthews, 1996). The meshing of information from both types of assessments allows a sensitivity to the intra-individual differences that exist among above-average exceptional students (Bolig & Day, 1993; Keating, 1991; Matthews & Keating, 1995). For example, two students with a similar mastery level in a particular domain may, in fact, have different pace needs and learning styles to learning the material, which should be reflected in programming options such as compacting and acceleration.

Continuous assessment can aid in deciphering the student's learning preferences (Bolig & Day, 1993). One student may prefer to do preliminary reading first or attend a teacher's lecture, while another may better receive the information in a more active teaching and learning environment. One student may enjoy independent work, while another thrives best in small group experiences. Therefore, careful
consideration should be given to various options like guided independent study, project-based learning, and apprenticeships for meeting each student's individual learning styles and preferences (Keating, 1991; Matthews, 1994, 1996). Before choosing any of the available options, consideration should be given to the student’s level of thinking and social skills. Therefore, such skills should be accounted for during continuous assessment, prior to and after an option is selected for the student.

The Preventive Approach eliminates the need to define giftedness, since it is competency-based. It looks more towards assessing individual competencies and how these competencies can be met by modification of the regular curriculum. Above-average exceptionality is determined on the basis of competencies that are valuable to a particular cultural and ethnic setting. This approach also encourages the inclusion and acceptance of competencies displayed by students who may not be part of the dominant culture (Bolig & Day, 1993; Hatch & Gardner, 1986; Matthews, 1997).

Concerns of the Model for Gifted Education

One drawback of continuous assessment is that it is time consuming. It takes a longer time than formal, static assessments to determine learning needs, and the misfit and eventual fit between assessment and programming. During the time between assessment and readjustments, careful consideration should be given to keeping the above-average exceptional student motivated and interested in learning, (Bolig & Day, 1993, p. 113). Another drawback is finding the exact level and pace for students of extreme exceptionality. Students who are many grades ahead may be given readjustments to higher grades at such a slow pace, in relation to their pace of learning and actual level of ability, that they become underserved gifted students. Continuous informal assessment does not always provide the information needed to determine a student’s learning needs, especially if that student’s performance is inconsistent across the domains. Standardised assessments may be necessary to pinpoint psychological and cognitive details, especially in severe or extreme cases (Matthews, 1996, p. 40).

While continuous assessment is the most outstanding characteristic in the Preventive Model, the success of the model in the education of gifted students greatly depends on the skills of the teachers and resource staff to carry out efficient assessments and programming. Some teachers will not be concerned with the student who is performing
consistently across domains or students who are underserved. This lack of concern comes from not being trained to be aware of the signs of the gifted or underserved gifted, or to carry out efficient informal assessments which require instructional task analysis (Humphries, personal communication, July, 1994).

The success of the Preventive Model for the education of above-average exceptional students is not just a matter of following steps delineated by the model. There is need for teachers to be trained in effective “assessment for instruction” for these gifted students, so as to, at least, become familiar with giftedness and encouraging the development of higher order skills. Gifted Resource Consultants may be vital for this model to succeed, especially where teachers are not familiar with gifted education.

**Similarities of the Preventive Model to Three Other Theories**

The Preventive Model contains elements consistent with several other perspectives on intelligence, including developmental theory, the dynamic approach, and the incremental theory. One element common to the four approaches is that they all view intelligence as *malleable*. In other words, it can be shaped and developed. The fact that the Preventive Model utilizes continuous assessment as a means for monitoring and programming for learning strengths and weaknesses, learning styles, and mastery, supports the notion that intelligence is not a static entity. Programming is carried out to improve weaknesses and develop strengths, and to accommodate learning styles and levels of functioning. Programming strategies assist in the advancement of learning, thus intelligence is viewed as developmental, evolving, incremental, and aided by improving variables in the instructional environment.

The Preventive Model also supports the idea, common to the developmental and dynamic approaches, that intelligence is *domain-specific*. Continuous assessment is more likely to highlight the strengths of the gifted student in particular subject areas and skills. However, this feature is not as explicit in the incremental theory (Dweck & Henderson, 1989). In this case, the domain-specific competencies may be influenced more by the effort displayed by the student to develop problem-solving strategies in a certain area. The ease with which these strategies are learned and applied may be affected by the student's ease, motivation, and interest with a specific
body of knowledge or field (academic subject areas, sports, art, and drama).

The emphasis on effort on the part of the student is a very strong feature of the four approaches. The success of these approaches in practice, particularly for gifted education, relies heavily on the student's attitude and motivation to work hard at mastering material, applying skills and, to some extent, adapting to new and/or different educational settings/options. Improvements in one's intelligence cannot be accomplished by itself, without effort, thus reinforcing the idea that intelligence is not a static or fixed entity, operating on its own.

Attention to the learning process and product/performance are common to all four approaches. The preventive, developmental, and dynamic approaches acknowledge the student's style, pace, and level of learning (through assessments) as characteristics to be considered in programming for further learning advancements. However, the incremental theory's connection to the learning process and product/performance is not as obvious as in the other three approaches. From the incremental perspective, the process of learning is developed by the student, whose self-confidence may increase if performance in a task is successful. There is no link to assessment or instructional programming, but there is some link to improving one's approach to learning.

Thus far, all four approaches share common elements with regard to intelligence being developmental, domain-specific, requiring effort on the part of the learner, and acknowledging both process and product information about the student's learning. These approaches also seem to be saying that the development of intelligence is dependent on the interaction between content, cognitive abilities, meta-cognitive skills, student's efforts and motivation, and an appropriately stimulating environment.

The preventive, developmental, and dynamic approaches look upon the how of teaching content (one component of the instructional environment which also involves the teacher/instructor) as important in facilitating and advancing learning, in combination with the student's motivation and effort, thus developing intelligence. On the other hand, the individual with the incremental belief strives to increase his knowledge and develop more efficient cognitive abilities, through efforts on his part to learn and use meta-cognitive skills (Dweck & Henderson, 1989). In essence, all four approaches seem to be lending themselves to the notion that an individual can become gifted.
All four approaches indicate implications for developing advancements in learning which are tied into the teaching and learning environment. It is important to teach content within a positive and active environment—positive in the sense that the students are motivated and encouraged to learn; active in the sense that teaching encourages the development of higher order skills. Teaching should also include teaching students learning strategies specific to the domain being taught (Glaser, 1984). It stands to reason that the teacher’s participation in the advancement of learning should also be included in the continuous assessment process.

The preventive approach shares the same assessment goal with the developmental and dynamic perspectives. The aim is to find the misfit between the student’s level of functioning and learning characteristics and the instructional environment. Therefore, there is agreement between these three approaches with respect to the connection between assessment and intervention/programming which, in turn, is a reflection of the perception that intelligence is not static. The Preventive Model supports the ecological influence on learning and intelligence, a feature evident in the developmental and dynamic views on intelligence. The connection between assessment of the instructional environment and programming/intervention are also features shared among these three perspectives on intelligence.

The Preventive Model and Special Education in Trinidad and Tobago

It must be noted that Trinidad and Tobago has been taking action to deal with the special needs of children, which falls within the ambit of the Preventive Model. Since the passing of the 1966 Education Act, special schools have been placed under the jurisdiction of the Ministry of Education. This historic move facilitated the action presently being taken in the regular education system to accommodate special education, thus giving rise to a more mainstreamed education system.

Presently, there is a Diagnostic and Prescriptive Service (DPS) that was established in April 1999 (Ribeiro, personal communication, May 29th, 2000). Each Education District in the country is equipped with school-based teams comprising of a principal, a teacher, and a DPS officer. These teams are responsible for identifying the needs of the particular child and collaborating to address the needs of child and family (Hornby, Hall, & Ribeiro, 2000; Ribeiro, personal communication May 29th, 2000; Stanley-Marcano, 1998b; Trinidad and Tobago, 1994). Collaboration between educators and specialists
encourages a more informed assessment and programming process to better meet the needs of the learner.

The most outstanding effort by the Government of Trinidad and Tobago has been the piloting of the Continuous Assessment Programme (CAP) in selected primary schools. The name itself deems the programme preventive in nature. CAP attempts to measure learning and development in several domains. The data should provide a more holistic and valid view of the learner’s ability and growth over a period of time. CAP is also flexible in its educational options for the special needs learner. It is open to integration, segregated settings, and reintegration into the regular classroom, according to the most appropriate setting for meeting the needs of the learner. As Stanley-Marcano (1998a) indicates in the CAP Teachers’ Manual (p. 32), the student can remain integrated with his age-group peers while being attended to by the School-Based Support Team, or by the student support services based in the Regional Educational Division. Other options, such as remedial programmes and advanced classes in certain subject areas, lend themselves to integration and reintegration of the student in the regular classroom. Referral to a special school appears to be the only permanent segregated option in the CAP.

Within CAP, formative assessment begins at five years of age, and takes into account the student’s strengths and weaknesses, the effectiveness of the learning environment, the suitability of content, social skills, and difficulties (Stanley-Marcano, 1998a, p. 45). In essence, this continuous assessment of all factors concerning the learner’s development gives rise to early detection of a mismatch between learner and programme. Collaboration in CAP between teachers and school supports the three stages of the model—intervention, diagnostic, and evaluation stages. The involvement of several persons in the school-based teams offers more perspectives towards the assessment and programming process.

Conclusion

Recommendations for gifted education in Trinidad and Tobago are being put forth for two reasons: (a) there is a lack of literature in the area of gifted education in the country, and (b) the government has indicated an interest in addressing the needs of the gifted learner (Trinidad and Tobago, 1993, p. 26; Trinidad and Tobago, 1994, p. 47). These recommendations are based on the previous examination of the
Preventive Model and the nature of intelligence, as well as on personal experience with the country's education system:

1. Domain-specific competencies and not labels should determine resources and options for the above-average exceptional student. At present, the primary education system streams students of the same age according to academic ability or "brightness." The A class being the "brightest" and then descending in brightness to the D class. Streaming children of similar ability does not ensure that their domain-specific needs are being met, since each streamed group experiences the same curriculum with respect to content and pace. Once domain-specific competencies are considered, there would be no need for streaming, and decisions regarding educational options would be domain-specific.

2. Multiple forms of assessment should be employed, which include formal, informal, formative, and summative assessments. There is a tendency to focus mainly on formal and summative assessments in the country's education system, for example, the Common Entrance Examination (CEE), which is the examination taken by primary school students to determine their placement in secondary schools. Assessment of students' competencies would be more balanced if complemented with informal and formative assessments.

3. Above-level testing in domain-specific areas should be carried out every term to identify above-average students. It is common practice in the country's schools to set tests based on the syllabus written for the particular age group. Therefore, there is no opportunity to identify the student who is above average in different areas of the curriculum. Those children whose test scores are high in different areas of curriculum should be considered for the above-level testing in domain-specific areas. The Education Policy Paper 1993-2003 (1994, p. 47) does suggest that above-average performing students at the primary level be given the opportunity to sit the CEE before age 11, once psychological testing proves the student competent to cope with the level of the examination and the social environment at the next level of education.

4. The assessment of the fit between educational options and student's learning should include the teacher's involvement and
participation in the learning process. It is often assumed that gifted students can educate themselves, but teacher guidance is necessary if the advancement in learning is to persist. The teacher’s presentation of material and interaction with the student are considered environmental variables that influence learning.

5. Assessment of social skills should also be included in assessments so that social skills programming on an individual basis could be carried out. Social skills training should be incorporated into the gifted programme to ensure all-round development. Opportunities should be made available to learn how to communicate with people, especially if programming options like apprenticeships, mentorships, and above-grade classes are included. Assessment should include both independent and group work, thus programming in these areas will have to be done.

6. DPS officers should be trained in the area of gifted education and be further equipped to train teachers to identify, assess, and plan for a student who is underserved.

7. In-service and pre-service teacher training should be carried out in the following areas: positive and negative behaviour, and performance of gifted students at all levels of education; informal assessment training; understanding and interpreting formal test results; training in motivating students; and interpersonal skills development to facilitate collaboration between regular and special education staff.

The literature on the Preventive Model strongly suggests, to educators and specialists who deal with students, that intelligence is not static and, by extension, improvement in learning and academic achievement can be accomplished. In light of this model, it is possible that there are students in Trinidad and Tobago who are underserved. Research should be conducted to identify the underserved and monitor the success of interventions, many of which have been proposed in the CAP. Other research should pursue the perceptions of educators on streaming and “bright” students, as well as a comparison of educational practice in streamed and mainstreamed settings. Such research would influence local and regional teacher training and educational practice for the above-average exceptional student.
References


