



# Teaching Material of B. Ed. in Special Needs Education

## Compendium : Gifted and Talented Children

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Gifted and Talented Children  
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By

Rabindra Shiwakoti

Tribhuvan University, Faculty of Education

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## Specific objectives of the course

After the completion of the course, the students will be able to:

- Describe the concept of Gifts and talents
- Explain the major characteristics of students with special gifts and talents
- Explain the determinant of children with gifts and talents
- Identify the prevalence of Gifted and talented students
- Describe the assessment of children with gifts and talents
- Explain the basic concept of educational approaches for Gifted and talented children
- Explain the educational approaches of differentiating curriculum
- Describe the concepts of lesson differentiation in the regular classroom
- Identify the curriculum differentiation outside the classroom for Gifted and talented children.
- Describe concept of the school wide Instructional Model for Gifted and talented children
- Explain the Instructional Model for Maker's Active problem Solver Model.
- Describe the problem based learning methods for Gifted and talented children
- Explain the three basic RTI approaches for students with special Gifts and talents
- Describe the fundamental concept of educational placement alternative
- Explain the basic concept of ability grouping for Gifted and talented children





## Unit I: Understanding Gifted and Talented Children

Children are gifted when their ability is significantly above the norm for their age. Giftedness may manifest in one or more domains such as; intellectual, creative, artistic, leadership, or in a specific academic field such as language arts, mathematics or science. It is difficult to estimate the absolute number of gifted children in the U.S. and the world because the calculation is dependent on the number of areas, or domains, being measured and the method used to identify gifted children. However, many consider children who are in the top 10 percent in relation to a national and/or local norm to be a good guide for identification and service. It is important to note that not all gifted children look or act alike. Giftedness exists in every demographic group and personality type. It is important that adults look hard to discover potential and support gifted children as they reach for their personal best.

Furthermore, Giftedness is a somewhat abstract term applied to people who, by virtue of outstanding abilities, are capable of high performance. Several variables figure in the scenario of giftedness, including aptitude, creativity, personality, and motivation. Gifted, creative, and talented students have special educational needs: they may learn in ways different from other students; they are more curious; and they think more abstractly. At the same time, students who are gifted are vulnerable to the same forces that affect other children and youth and can become frustrated and bored in unstimulating learning environments. Hence, while many issues circulate in the education of students with gifts, talents, and creativity, the major issue is whether a public education system that is philosophically and administratively egalitarian in nature should provide special services for children who are already well-endowed.

### 1.1 Concept of Special Gifts and Talents

Children are gifted when their ability is significantly above the norm for their age. Giftedness may manifest in one or more domains such as; intellectual, creative, artistic, leadership, or in a specific academic field such as language arts, mathematics or science.

It is difficult to estimate the absolute number of gifted children in the U.S. and the world because the calculation is dependent on the number of areas, or domains, being measured and the method used to identify gifted children. However, many consider children who are in the top 10 percent in relation to a national and/or local norm to be a good guide for identification and services. It is important to note that not all gifted children look or act alike. Giftedness exists in every demographic group and personality type. It is important that adults look hard to discover potential and support gifted children as they reach for their personal best. Some people suggest that gifted education is just sort of fluffy or enriching-gravy on the potatoes, perhaps, but not anything especially substantial or critical in the way of mental fare. Others propose that all gifted education is what's good for all students. Unfortunately, those two criticisms sometimes stem from observing classrooms where gifted learners are taught inappropriately. So what does it mean to teach a highly able student well?

Of course it will vary some with the age of the child, the subject, the learning style of the student-and possibly even the child's gender or culture. Certainly appropriate instruction for such learners varies for a child who comes to school rich with experiences vs. a child who is equally able but lacks richness of experience. And it will vary with a child who has immense potential vs. a peer with somewhat less capacity. Nonetheless, there are general indicators of appropriate curriculum and instruction for highly able students (in their areas of strength)-and general indicators of inappropriate curriculum and instruction for such learners.

A condition of being well known and successful or a person of high rank or achievements is called eminence. The eminence also deals about an area of high ground of a common person. Subotnik et al. (2011 as cited in Kirk et al. (2015) suggested that eminence , meaning high rank or importance , should be the goal of gifted education. But does eminence refer only to those well known in society such as movie stars or politicians? Consider the following people:

- The first chair in the Cleveland and Symphony
- A vice president of Bank of America

- A distinguished professor of literature at Duke University
- A senior engineer at NASA
- The U.S. ambassador to France

Most of us could not name even one from this group of people but are they eminent? Would we be happy if our programs for students with SGT helped nurture these people as they are all making important contributions to society? Finally, the condition of being well known and respected is called eminence person. The brilliant scientist had earned *eminence* in her field is the appropriate example of eminence.

### **1.1.1. Meaning and Definition of Special Gifts and Talents**

Gifted children comprise a minority of the population, although not such a small minority as is sometimes thought. Internationally, the most widely used definition of giftedness and talent is that defines gifted children as those who have high levels of innate ability, in any domain of human ability, that places them within the top 10 percent of their age-peers even if their high potential is not yet being demonstrated as high performance. Talented children, by contrast, are those whose abilities have already been translated into achievements, and who are currently performing at a level that places them within the top 10 percent of their age-peers. Gifts are natural abilities whereas talents are systematically developed skills.

Furthermore, giftedness is not an automatic guarantee of success. A range of environmental variables affect talent development, such as parental encouragement, family relationships, the provisions the child's school makes, or fails to make, to develop his or her gifts into talents, and even the social ethos of the community that can dictate that talents are valued and, therefore, which programs of talent development will be established or funded. Encouragement and assistance from home and school are essential if gifted children are to develop as talented, but the children themselves must maintain their motivation to succeed. Children, no matter how gifted, will not achieve high levels of talent unless they are prepared to work and study to develop their abilities. A child may be gifted in any domain of ability,

intellectual, creative, physical, or social. However, although talent in music, sports, or athletics is valued and actively sought and fostered in many cultures, high intellectual ability is often undervalued (Gross 1999). This can affect how gifted children come to view, or value, their gifts. On the other hand, gifted education is a broad term for special practices, procedures, and theories used in the education of children who have been identified as gifted or talented. The main approaches to gifted education are enrichment and acceleration. An enrichment program teaches additional, related material, but keeps the student progressing through the curriculum at the same rate. For example, after the gifted students have completed the normal work in the curriculum, an enrichment program might provide them with additional details about a subject in the curriculum. An acceleration program advances the student through the standard curriculum faster than normal. When gifted students have completed the normal work, they move on to the next subject in the curriculum, even though the rest of the class is still working on the first subject.

Multiple definitions of giftedness are used by different groups. Most of these definitions select the students, who are the most skilled or talented in a given area, e.g., the students with the most skill or talent in music, language, logical reasoning, or mathematics. The percentage of students selected varies, generally with 10% or fewer being selected for gifted education programs. However, since students vary in their aptitudes and achievements, a student who is not gifted in one area, such as music, may be considered gifted in another, such as language. Consequently, even if all programs agreed to include only the top 5% of students in their area, more than just 5% of students would be identified as gifted.

Moreover, some definitions address the asynchronous found in gifted kids. One such definition comes from the Columbus Group (1991): Giftedness is asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching and counseling in order for them to develop optimally. Through the Jacob Javits Gifted and Talented students Education Act part of the

Elementary and Secondary Education Act the federal government currently *defines gifted students as*: Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by the school in order to fully develop those capabilities. The National Association for Gifted Children defines giftedness as gifted individuals are those who demonstrate outstanding levels of aptitude or competence in one or more domains. Domains include any structured area of activity with its own symbol system and/or set of sensor motor skills.

### **Identification of Students with Gifts and Talent**

Before we can provide children who have SGT with special services to match their special needs, we have to find these children. Identification is not always an easy task. In every generation, many such children pass through school unidentified, their talents uncultivated (Johnson, 2004 as cited in Kirk et al. 2015). Identifying these students requires an understanding of the requirements of the program for which they are chosen. If we want to choose a group of students for an advanced mathematics class, we would use a different approach than we would if we were looking for students with high aptitude for a creative writing program. Specific program needs and requirements shape the identification process (Coleman, 2012 as cited in Kirk et al. 2015).

Any program for identifying children who have SGT in a school system should include both subjective and objective methods of evaluation. Classroom behavior, for example, can point out children's ability to organize and use materials and can reveal their potential for professing information, sometimes better than can a test. Products such as superior essays and term projects can be kept in a student portfolio and serve as an indication of special gifts. Project using science talents and abilities to recognize students, promoting learning for underrepresented students (U-STARS- PLUS) capitalizes on the teachers' knowledge of their students to help identify young children with outstanding potential. The U- STARS approach relies on three key elements:

- Teachers who know what to look for how to recognize potential.
- Teachers who know how to structure their classroom so that children will be engaged.
- Teachers who know how to provide a psychologically safe environment in which students can show their best abilities.

The structured observation approach used by U-STARS includes an observational note taking system that gives teachers specific behaviors to look for. In this case, children to be observed would include those who learn easily, show advanced skills, display curiosity and creativity, have strong interests show advanced reasoning and problem solving, display spatial abilities, are motivated, show social perceptiveness, and have leadership strengths. The basic belief underlying this approach and similar ones is that we must go beyond the use of IQ scores and standardized measures of achievement if we hope to identify hidden giftedness. In the visual and performing arts, talents usually are determined by the consensus of expert judges, often in an audition setting. Experts in the arts are not enthusiastic about tests of artistic ability or musical aptitude. They trust their own judgement more, although their judgement is susceptible to bias. Sometimes it is possible to judge the quality of a series of products or a portfolio of drawings or compositions that students produce over a period of time (Clark & Zimmerman, 1998 as cited in Kirk et al. 2015).

### **1. Underachievers**

One of the many myths surrounding children with SGT is the cannonball theory. The idea, simply put is that such children can no more be stopped from achieving their potential than a cannonball, once fired can be diverted from its path. Like most simplistic ideas about human beings, this one too is wrong. There is a subgroup of children referred to as underachievers with SGT, students whose academic performance consistently falls far short of expectations despite high cognitive abilities. A substantial proportion of students never achieve the level of performance that their scores on intelligence and aptitude tests predict for them. In the Terman longitudinal study, researchers identified a group of 150 men who had not achieved to the level

of their apparent ability and compared them with 150 men who had done well (Terman & Oden 1947 as cited in Kirk et al., 2015).

In their self ratings and in ratings by their wives and parents, four major characteristics separated the under achievers the underachieving men from the achieving men: greater feelings of inferiority, less self confidence, less perseverance and less of life goals. More striking was an examination of teacher ratings that had been made on the men 20 years earlier while they were in school. Even at that time, their teacher believed that the underachievers lacked self- confidence, foresight, and the desire to excel. It is difficult to change the maladaptive behavior patterns of students who for 8 to 10 years have been developing precisely the wrong approach to academic stress or challenge. This goal of change requires a great intensity of effort and duration of effort on the part of both the student and those trying to help that student change.

## **2. Culturally diverse**

A consensus is growing about what is needed to support students from different cultural environments to succeed in school. For many students and their families, such support would include a range of health and social services and teachers with broad training in special education methods and understanding of the child's cultural milieu (Callahan, 2007; Ford, 2002 as cited in Kirk et al., 2015). Just about every research project cites as positive forces in such families a home environment characterized by warmth and stability of mother child interactions, opportunities for learning and a neighborhood with play resources and security for children and youth (Ford, 2002 as cited in Kirk et al. , 2015). A strong partnership between school and families can encourage these favorable conditions for educational success.

Kitano (2007 as cited in Kirk et al., 2015) specifically urges universal access to high quality early childhood programs for those who face extreme poverty in the first four years of life. Such programs would include a multicultural curriculum early literacy development and support for creative thinking as well as health and social services. Van Tassel- Baska (2004 as cited in

Kirk et al., 2015) proposed curricula that place emphasis on openness to experience and that allow creativity and fluency in thinking, opportunity to express ideas through the arts rather than verbally, preference for hands on applications, and preference for oral expression. The problem based learning (PBL) approach contains many of these characteristics and has been shown to be effective with low income populations with SGT (Gallagher & Gallagher, 2013 as cited in Kirk et al., 2015).

### **3. Twice exceptional**

Students with disabilities under the Individuals with Disabilities Education Act (IDEA) must have access to all of the programs and services offered in their district, including gifted and talented education. Students who qualify as a student with a disability and for gifted education under their local district plan are often considered twice exceptional. In November 2013, the National Twice Exceptional Community of Practice Summit at the National Association for Gifted Children National Convention came up with a working definition of twice exceptional individuals. Twice exceptional individuals evidence exceptional ability and disability, which results in a unique set of circumstances. Their exceptional ability may dominate, hiding their disability, their disability may dominate, and hiding their exceptional ability, each may mask the other so that neither is recognized or addressed. Twice exceptional students, who may perform below at or above grade level, require the following:

- Specialized methods of identification that consider the possible interaction of the exceptionalities
- Enriched/advanced educational opportunities that develop the child's interests, gifts, and talents while also meeting the child's learning needs
- Simultaneous supports that ensure the child's academic success and social emotional well-being, such as accommodations, therapeutic interventions, and specialized instruction
- Working successfully with this unique population requires specialized academic training and ongoing professional development.



The Council for Exceptional Children also mentions twice exceptional students in its position on Response to Intervention. Specifically, CEC states that an Rtl process shall consider the educational needs of children with gifts and talents and their families, particularly related to the identification of children considered to be twice exceptional because they have gifts and talents as well as a disability. These advanced learners shall be provided access to a challenging and accelerated curriculum, while also addressing the unique needs of their disability. The Wisconsin Rtl Center provides professional development and technical assistance to help schools operationalize implementation of culturally responsive multi-level systems of support that supports all students, including those who are twice exceptional.

DPI encourages individuals to use the Match Supports to Needs Learning Module as one way to support twice exceptional students. The IDEA does not specifically address twice exceptional students. Local education agencies must evaluate all children suspected of having a disability under IDEA, including those with high cognitive skills. Students who have high cognition, have disabilities and require special education and related services are protected under the IDEA and its implementing regulations. For more language from the United States Department of Education visit the 2013 Letter to Delisle or 2015 memorandum from the Office of Special Education Programs.

On the other hand, a student's inability to see hear or walk does not mean that he or she does not have special gifts and talents (Hua & Coleman, 2002 as cited in Kirk et al., 2015). It only means that the child stands a good chance of having special talents overlooked. Coleman (2002 as cited in Kirk et al., 2015) studied the coping strategies used by students who had both SGT and learning SGT and learning disabilities had constructive coping strategies, where as the students with average ability and learning disabilities often displayed learned helplessness, escape/avoidance and distancing. Another condition in which giftedness and exceptionality may be mixed is autism. Although the majority of children identified as autistic have average or below average ability, a subset of children, sometimes those diagnosed with the autism spectrum disorder Asperger's syndrome, can be highly intelligent. This high intelligence takes on a special flavor with such children who can be encyclopedic in their

knowledge but very poor in their social relationships. There are similar examples of students with SGT who also have vision impairment, hearing loss and orthopedic disabilities that need to be identified for a special education program.

### **1.1.2. One Gift or Many?**

Should giftedness be regarded as one overriding the general mental ability or as a series of special abilities? Howard Gardner is one of the latest of a group of psychologists to view giftedness as a series of special abilities (Ramos & Gardner, 2003 as cited in Kirk et al., 2015). He has proposed a list of eight distinct and separate abilities called multiple intelligence that needs specific educational attention, linguistic, logical, mathematical, musical, spatial, bodily kinesthetic, interpersonal, intrapersonal, and naturalist. Everyone knows persons who are particularly good at one or two of the abilities listed by Gardner but who are not superior in them all. Think of a student who is a math whiz but is not an expert in linguistic or interpersonal intelligence. Consequently, the educational issues becomes not only how to plan one over all program for student s with SGT in many of these areas but also what should be done with students who have specialized talents in a single area such as mathematics, music, visual perception, or interpersonal relationships.

A high ability is not the sole predictor of student productivity but only the base on which the student must build. Extended practice, dedication, and high motivation to succeed are the characteristics necessary to complete the portrait of a productive person. These are easily recognized components of the successful athlete or musician, and so this should be of no surprise to educators. The school and educators can play a significant role by exciting the student about learning, and providing resources and access to advanced knowledge that keep a student's high motivation alive.

### **1.1.3. Children with extraordinary ability**

It is generally accepted today that superior intellectual ability often predicts high academic performance and favorable personal adjustment. But doubts linger about the youngster of

extraordinary ability the 1 in 100, 000 at the level of an Einstein. What happens to the rare students who are seven or eight years ahead of their age group in intellectual development? One of the standard assumptions has been that once the threshold of an IQ of 120 or 130 is reached, intellectual or artistic production depends on other factors such as motivation and persistence. These characteristics are certainly important, but the notion that there is a ceiling on the importance of IQ level is incorrect.

Lubinski (2009 as cited in Kirk et al. 2015) reported on over 2, 000 students who represented the top 1 percent of ability drawn from the study of Mathematically Precocious Youth project (SMPY). When these students were divided into quartiles, the top quartile was enormously more productive than the bottom, even within the top 1 percent. The quartiles received many more doctoral degrees, wrote more scientific articles, were named on more parents, had higher income, and had more literacy publications than did the lowest quartile. As Lubinski commented overall, there does not seem to be an ability threshold within the top 1% so higher IQs can make a difference in performance. The great developmental distance between youngsters with SGT and their peers necessitates individual programs for them, not unlike the individualized education programs (IEPs) proposed for children with disabilities. Extraordinarily precious students represent one of our greatest and rarest natural resources. We must learn more about them to understand the origin of their giftedness and development ways to help them adapt to an often difficult social environment.

There are people who have extraordinary abilities. By this, we mean things most average everyday people disregard. Natural telekinesis, pyrokinesis, extreme clairvoyance, way above average perceptions, clairaudience, the ability to put thoughts in or will the minds of others, the ability to use one's bioelectricity to shut down, disable and/or affect sensitive electrical equipment computers, televisions and other abilities are all examples of extraordinary ability. These gifts can also result from power meditations. If we find we have these abilities, keep them to our self. Unbeknownst to many, the CIA, NSA, and other world powers have programs where they use people with these abilities. People who have these abilities are a serious threat to the powers that be, because they cannot be controlled. The movie Hearts in

Atlantis though a work of fiction, has much basis in fact. Gifted people who are under their thumb are able to sense others with the same abilities. There aren't too many people with extraordinary abilities just walking around freely out there. For those with abilities, we know what we are saying when we come into contact with another person who has these abilities they could be in the drugstore, supermarket, restaurant we can sense them and they can sense us. We are aware of each other.

This is because we both have an open energy field. We must program our aura (which is usually very large) to go about undetected if we wish to maintain our privacy. We can also program our aura not to affect electrical equipment unless we intend it to do so. We do this simply by telling it to stop doing what we don't want it to do. This may take several times, but should be effective. The same goes for thought reading. You program your aura so others cannot pick up on our thoughts. Of course, one with a much stronger energy field can overpower someone who is weaker, regardless of programming, but programming to go undetected should serve its purpose here. The USA, world powers, even China have programs where they employ psychics and those with abilities that one only sees in the movies. These people do not have freedom. They are used and many times murdered when they no longer serve a useful purpose to their employers.

## 1.2. Major Determinants of Children with Gifts and Talents

Students who are gifted and also have learning disabilities are those who possess an outstanding gift or talent and are capable of high performance, but who also have a learning disability that makes some aspect of academic achievement difficult. Some of these students are identified and their needs are met. This happens only rarely, however, unless a school specifically decides to identify and then serve these students. The majority of students who are gifted with learning disabilities fall through the cracks in the system. There are at least three subgroups of children whose dual exceptionality remains unrecognized. The first group includes students who have been identified as gifted yet exhibit difficulties in school. These students are often considered underachievers, and their underachievement may be attributed to poor self

concept, lack of motivation, or even some less flattering characteristics, such as laziness. Their learning disabilities usually remain unrecognized for most of their educational lives. As school becomes more challenging, their academic difficulties may increase to the point where they are falling sufficiently behind peers that someone finally suspects a disability. A second group includes students whose learning disabilities are severe enough that they have been identified as having learning disabilities but whose exceptional abilities have never been recognized or addressed. It has been suggested that this may be a larger group of students than many people realize. Inadequate assessments and/or depressed IQ scores often lead to an underestimation of these students' intellectual abilities. If their potential remains unrecognized, it never becomes a cause for concern or the focus of their instructional program. Due to this underestimation or too inflexible identification and/or instructional expectations in the gifted program, they are rarely referred for gifted services.

Perhaps the largest group of un-served students are those whose abilities and disabilities mask each other; these children sit in general classrooms, ineligible for services provided for students who are gifted or have learning disabilities, and are considered to have average abilities. Because these students typically function at grade level, they are not seen as having problems or special needs, nor are they a priority for schools on tight budgets. Although these students appear to be functioning reasonably well, they are, unfortunately, performing well below their potential. As course work becomes more demanding in later years, and without the help they need to accommodate their limitations, their academic difficulties usually increase to the point where a learning disability may be suspected, but rarely is their true potential recognized. For all three of these subgroups, the social and emotional consequences of having exceptional abilities and learning disabilities, when one or both of the conditions is unrecognized, can be pervasive and quite debilitating, as well as difficult to address if appropriate diagnosis and programming never take place or are delayed until adolescence. With an increasing number of LD researchers questioning the relevance of a child's aptitude in determining intervention strategies even fewer students with high potential and learning disabilities will be recognized or fully served, resulting in a great waste of intellectual potential.

### **1.2.1. Genetic and Hereditary factors**

Are the children born with special gifts and talents? Do outstanding abilities emerge no matter what opportunities or education a person has? What role does heredity play in giftedness? How important is the environmental context for the child with special gifts? More than one hundred years ago, Francis Galton, in a study of outstanding Englishman, concluded that extraordinary ability ran in families and was genetic in origin. Galton overlooked the environmental advantages of being born into an upper class family. Ever since, there has been a strong belief in the powerful role that heredity plays in producing mental ability. Certainly, studies of twins and the close relationship of the abilities of adaptive children to the abilities of their biological parents demand that we recognize a heredity element. One of the strongest arguments for hereditary influences on giftedness lies in the small but still impressive number of prodigies. These children perform as adults at a young age in music, dance, writing, and so on. Their extraordinary talents cannot be explained by environmental conditions.

### **1.2.2. Neurology and Brain development**

Most of the research on brain function has been devoted to what happens when the brain does not function well (Newman, 2008 as cited in Kirk et al., 2015). But another significant question is what happens when the brain is operating efficiently as it does with children with special gifts and talents. One of the original ideas from neurology was that the frontal lobes were linked to intellectual ability and executive function. Such functions as control processing, strategy formation, and monitoring the contents of working memory fit into this category. But more recent evidence from a variety of MRI studies now suggests that the neural basis of giftedness is distributed throughout the brain, and it is the interconnectiveness of the brain that determine high efficiency (Just & Verma, 2007 as cited in Kirk et al., 2015). While there are areas within the brain that have specialized functions, it is the ability of these areas to work together in synergy that contributes to giftedness.

Furthermore, the brain is most flexible, or plastic, early in life to accommodate a wide range of environments and interactions, but as the maturing brain becomes more specialized to assume more complex functions, it is less capable of reorganizing and adapting to new or unexpected challenges. For example, by the first year, the parts of the brain that differentiate sound are becoming specialized to the language the baby has been exposed to at the same time, the brain is already starting to lose the ability to recognize different sounds found in other languages. Although the windows for language learning and other skills remain open, these brain circuits become increasingly difficult to alter over time. Early plasticity means it's easier and more effective to influence a baby's developing brain architecture than to rewire parts of its circuitry in the adult years.

### **1.2.3. Social and Emotional Development**

While it is true that gifted children have the same basic needs as other children, and progress through the same developmental stages as other children though often at a younger age, and can be confronted with same problems such as family poverty, substance abuse, or alcoholism and the research indicates that there are needs and problems that appear more often among gifted children. In addition, there are three important factors that interact to influence a gifted child's well-being: type of giftedness, educational fit and personal characteristics. Because gifted children demonstrate greater maturity in some domains over others, they may be at greater risk for specific kinds of social-emotional difficulties if their needs are not met. These aspects may include heightened awareness, anxiety, perfectionism, stress, issues with peer relationships, and concerns with identity and fit. Parents, adults, and caregivers in their lives need to stay in tune with their specific child's needs, and help shape a strong framework for social emotional health. Common considerations of SGT children are as follows:

- A child gifted in one area does not mean gifted in all
- Giftedness can lead to the masking and misunderstanding of problem signs
- Not all gifted children are alike, including their own unique social-emotional profile
- There is no single, definitive recipe for maintaining a child's emotional equilibrium

- Parents need to model balance and set the tone to reduce stress/anxiety in the gifted child's life
- We can teach our children strategies and provide tools for dealing with the ebb and flow of life

Furthermore, despite their demonstrated ability to make friends and generally to adapt well, people who have SGT may shoulder some challenges that stem from their exceptionality. A volume produced by members of the National Association for Gifted Children presented a summary of what was known about the social and emotional status of students with gifts. There have been substantial differences of opinion with regard to the linkage of giftedness to such issues as depression, delinquency, perfectionism, suicide, and response to stress. Giftedness does not provide an inoculation against emotional problems. The question is whether it provides a buffer against them because of these students' cognitive abilities to solve problems and to examine their own feelings.

#### **1.2.4. Family Background**

Extraordinary talents may be shaped by heredity, but it is nurtured and developed by the environment. We have discussed the role that society plays in defining SGT and rewarding individuals with SGT. A more powerful influence because it is closer, is the family. We stress that intellectual production takes more than talent; it also takes persistence, hard work, and desire. It is clear that the family plays a major role in the development of these traits.

#### **1.2.5. Environmental Factors**

Effective educators of students with gifts and talents create safe learning environments that foster emotional well-being, positive social interaction, leadership for social change, and cultural understanding for success in a diverse society. Knowledge of the impact of giftedness and diversity on social-emotional development enables educators of students with gifts and talents to design environments that encourage independence, motivation, and self-efficacy of individuals from all backgrounds. They understand the role of language and communication in



talent development and the ways in which culture affects communication and behavior. They use relevant strategies and technologies to enhance oral, written, and artistic communication of learners whose needs vary based on exceptionality, language proficiency, and cultural and linguistic differences. They recognize the value of multilingualism in today's global community. Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes. Students with gifts and talents demonstrate growth in personal competence and disposition for exceptional academic and creativity productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.

Students with gifts and talents develop social competence manifested in positive peer relationships and social interactions. Students with gifts and talents demonstrate personal and social responsibility and leadership skills. Students with gifts and talents value their own and others' language, heritage, and circumstance. They possess skills in communicating, teaming, and collaborating with diverse individuals and across diverse groups. They use positive strategies to address social issues, including discrimination and stereotyping. Students with gifts and talents develop competence in interpersonal and technical communication skills. They demonstrate advanced oral and written skills, balanced bi literacy or multi literacy, and creative expression. They display fluency with technologies that support effective communication.

## Let Us Sum Up

Children who have special gifts and talents may show outstanding abilities in a variety of areas, including intellect, academic aptitude, creative thinking, leadership, and the visual and performing arts. Intellectual giftedness appears to be created by a strong combination of heredity and environment, with a close and counting interaction between these two forces. Creativity depends on the individual's capacity for divergent thinking, a willingness to be different, strong motivation, and a favorable context. Longitudinal studies indicate the most children who are identified as having SGT are healthy and well adjusted and achieve well into

adulthood. There are some exceptions, called underachievers. Ability grouping, combined with a differentiated program, has been demonstrated to be an effective strategy that results in improved performance by students who have SGT. Adaption can be made in the common core state standards for students with SGT. Society's traditional gender roles may provide special obstacles for girls with SGT, limiting their willingness to explore the full range of their talents. Children with physical and sensory disabilities may have intellectual gifts but often their abilities are undiscovered because less has been expected of them.

### Unit-end Activities

#### • Objective questions

#### Group A

Tick (✓) the best answer.

1. Giftedness may manifest in one or more domains such as.....
  - a. Intellectual and creative
  - b. Artistic and leadership
  - c. Specific academic field
  - d. All of the above**
2. A condition of being well known and successful or a person of high rank or achievements is called .....
  - a. eminence**
  - b. one gift of many
  - c. extraordinary ability
  - d. high achiever
3. The main approaches to gifted education are enrichment and acceleration
  - a. enrichment
  - b. acceleration
  - c. both a and b**
  - d. enrichment and reinforcement

4. The program for identifying children who have SGT in a school system should include..... of evaluation.
- subjective methods
  - objective methods
  - subjective and objective methods**
  - Special methods
5. Extended practice, dedication, and high motivation to succeed are the characteristics necessary to complete the portrait of a .....
- productive person**
  - social person
  - progressive
  - eminence person
6. One of the standard assumptions has been that once the threshold of an IQ of 120 or 130 is reached.....
- intellectual or artistic production depends on learning and persistence
  - intellectual or artistic production depends on motivation and persistence**
  - intellectual or artistic production depends on teaching and learning
  - intellectual production depends on heredity endowment
7. There has been a strong belief in the powerful role that heredity plays in producing.....
- communicative ability
  - interrelationship ability
  - mental ability
  - social ability
8. The brain is most..... early in life to accommodate a wide range of environments and interactions.
- Common, or plastic
  - extraordinary, or plastic
  - complex, or plastic

**d. flexible, or plastic**

9. Extraordinary talents may be shaped by heredity, but it is nurtured and developed by the environment.

**a. environment**

b. family background

c. school environment

d. communicative skills

**• Short answer questions:**

**Group B**

1. Introduce the concept of special gifts and talents.
2. Explain the meaning and definition of Gifted and Talented children.
3. What are the current components of definitions for children with SGT?
4. What are the major determinants of students with SGT?
5. How do we identify students with SGT?

**• Long answer question**

**Group C**

1. Introduce the key concept, meaning and definition of special gifted and talented children. EBD.
2. What are the major determinants of children with Gifted and Talented children? Explain them briefly with suitable examples.

### Points for Discussion

- Concept of special Gifts and talents in terms of eminence, one Gift or Many, and children with extraordinary ability.
- Identification of students with Gifts and talents in terms of underachievers, culturally diverse, and twice exceptional.
- Major determinants of children with Gifts and talents
- Genetic factors of SGT
- Neurology and Brain development of SGT
- Social and emotional development of SGT
- Family and environmental factors of SGT

## Unit II: Prevalence, Assessment of Gifted and Talented children

Individuals with special gifts and talents may be extraordinary in intellectual ability, specialized academic areas, music, or the arts (Clark, 2002 as cited in Kirk et al., 2015). Although gifted, creative, and talented individuals are not included in IDEA, these students have unique needs that require special attention and accommodations for them to succeed in school. Various definitions of gifted, creative, and talented exist in the literature, and there is little agreement on the best definition. Earlier definitions relied heavily on the use of IQ scores for identifying gifted individuals. The Gifted and Talented Act passed in 1978 included creative capabilities or high performance in the performing arts.

Many academically talented students with learning disabilities are identified later in school, either in middle or high school. This late identification occurs even if these students were referred earlier by teachers or parents for testing or various types of assistance because of difficulties in primary or elementary school (Reis et al., 1997 as cited in William, 2006). The situation is complicated, as the abilities of gifted students often mask their disabilities, and, in turn, their disabilities can disguise their giftedness. Due to this contradiction between high levels of ability and critical problems with learning, students who are academically talented but also have learning disabilities are at risk of under identification. They may be excluded or underrepresented in both programs for students with learning disabilities and in programs for gifted and talented students. More flexible identification and assessment will enable more twice-exceptional children to be both appropriately identified and served.

### 2.1. Individual Differences among Gifted and Talented Students

In the social negotiation of meaning, different learners negotiate meaning differently. Individual difference can arise in a range of ways. Students may represent their existing knowledge differently or engage in the re-organizing process in different ways. Some can communicate their ideas in some ways more easily than others. Learners may differ in their preparedness to

construct challenges or to show that their existing knowledge is insufficient. In terms of a metaphor for learning at any time it is proposed that

- Learners have one or more sites for learning, in which the reorganization of existing knowledge occurs. Terms used to refer to these sites include thinking space and short term working memory (Baddeley, 1990 as cited in William, 2006).
- The total amount of data that can be accommodated at any time in the learning sites is limited. This restriction can be interpreted in terms of thinking space and the allocation of attentional resources.
- New ideas are learnt in terms of the learners' existing knowledge; learners interpret information during learning in idiosyncratic ways.
- The ideas the learner is thinking about can be coded or represented in these 'sites' in different ways; we can look at ideas in different ways. Each code links the new ideas with what is already known in particular ways, is associated with thinking about the ideas in a particular way and delivers a different perspective on the same ideas.
- Ideas can be 'moved' between codes via a recoding process that brings the new code to bear on the ideas. The meanings that they had in earlier codes can be retained.
- Learners differ in how they act on the ideas during learning: some learners operate more analytically while others may operate more synthetically.
- In any particular learning act, learners manage, control and direct their learning; they can, for example, monitor progress being made during the learning, ask themselves questions about what they are learning etc. Our knowledge as learners affects how we learn. We tell ourselves early in learning how we will feel about learning the idea.
- The opportunity to display what has been learnt is necessary for a variety of reasons and that learners prefer to do this in different ways. We may ensure that the change in knowledge is retained; we act on an idea in various ways to retain it.

### 2.1.1. Differences in How Ideas are coded During Learning

The ideas manipulated during learning need to be coded or represented in the sites in forms that allow learners to think about them. Whenever we think about an idea we need to link it with other ideas, using what we already know. Our existing knowledge gives us these ways of thinking or thinking codes. These codes represent what we 10 already know about how ideas can be related or linked. Ideas can be coded or represented in different ways. Each code involves organizing or relating the ideas in particular ways, that is, draws attention to particular aspects of an idea. Contemporary models of cognitive processing propose two main encoding systems; verbal-propositional and nonverbal imagery knowledge. Preferences in how learners use particular thinking codes leads to cognitive styles which are dispositions in how we think. The present model proposes that students have access to several alternative codes in which to learn, as follows:

1. **Verbal/Linguistic Code:** Knowing by using one's understanding of words and properties of language, thinking by using words, sentences and verbal propositions. It allows some students to think at an advanced level using linguistic templates. They have a rich vocabulary, read and comprehend sophisticated text, engage in complex verbal discussions and debates and reason about verbal concepts at an advanced level. They readily learn and think about ideas by discussing, arguing and debating. They may have difficulty using what they know to solve real-life problems and translating their ideas into actions.
2. **Logical/Mathematical Code:** Understanding by using abstract mathematical or scientific concepts logic and symbols' to link ideas. This code allows some students to build ideas by reasoning inductively and deductively, look for organization and logic, analyze complex patterns and recognizes order and consistency at a high level, make objective observations, draw conclusions and formulate sophisticated hypotheses as well as applying general rules to particular situations.
3. **Visual/Spatial Code:** Understanding by making nonverbal images of ideas, either by processing earlier episodes or by constructing icons or templates that operate as

prototypes for concept that they have learnt. This code allows students to relate ideas using spatial and temporal properties. When used most efficiently, some students can manipulate a comparatively large number of spatial relationships or images or episodes at once allowing them to synthesize high levels of previously unrelated ideas; they slot several specific pieces of information into a mental picture in unique ways. They can manipulate images by moving them around, imagining how they change over time. This leads to high level creative and lateral thinking.

4. **Body/Kinesthetic Code:** Understanding by using actions to represent ideas. Learners using this code think in terms of action sequences or procedures. Some students think about action sequences in complex and sophisticated ways. They solve complex problems efficiently and elegantly using action based comprehension.
5. **Rhythmic Code:** knowing by using rhythm, repetitive patterns and rhyme, learning ideas by rote or by chanting. Some students develop an elaborate rhythmic knowledge that they use to identify and produce intricate and creative rhythmic patterns in music, movement and in other conceptual areas.
6. **Affective/Mood Representation:** Understanding in terms of affect, emotion, feeling or mood. Some students develop a highly differentiated and integrated mood representational system that they use to learn and understand ideas. They can recognize and respond to fine discriminations in affect or mood, can display differences in mood in a range of ways and can read and respond effectively and rapidly to the emotional characteristics of a context a painting, novel, a social interaction, etc. They can understand the factors that manage emotion the attribution of success and failure, level of persistence, etc.
7. **Interpersonal Representation:** Understanding in terms of historical, social, cultural or religious knowledge. This involves ideas referenced against a network that is defined either by historical, cultural or religious relationships. Cultural and religious logic refer to the linking of ideas on the basis of cultural and religious belief systems. These beliefs achieve the status of propositions. These logics meet criteria that differ from those for mathematical scientific logic, verbal linguistic logic and episodic logic. Students from



different cultures can interpret the same teaching differently. One cultural perspective may encourage unquestioning construction of the ideas as accurately as possible while another may encourage questioning and successive approximations. Learning from a perspective that sees no gender difference in access to mathematics learning will be different from one that believes that males have a greater right to learn mathematics.

### 2.1.2. Creativity

Many writers and teachers believe that creative ability is central to the definition of giftedness. Clark (1997 as cited in William, 2006) calls creativity the highest form of giftedness and Sternberg (1998 as cited in William, 2006) suggest that gifted individuals who make the greatest long range contributions to society are probably those whose gifts involve coping with novelty specifically, in the area of insight. Creativity and insightful individuals make discoveries and devise the interventions that ultimately change society. Although we all profess to know creativity when we see it, there is no universally accepted definition of creativity who studied the emergence of creativity as one aspect of his overall theory concerning human intelligence, describe these dimensions of cognitive creative behavior which he called divergent production in his structure of intellect model:

1. **Fluency:** The creative person is capable of producing many ideas per unit of time.
2. **Flexibility:** A wide variety of ideas, unusual ideas, and alternative solutions are offered.
3. **Novelty/Originality:** Unique, low probability words and responses are used the creative person has novel ideas.
4. **Elaboration:** The ability to provide details is evidenced.
5. **Synthesizing ability:** The person has the ability to link unlikely ideas together.
6. **Analyzing ability:** The person has the ability to organize the ideas into larger, inclusive patterns. Symbolic structures must often be broken down before they can be reformed into new ones.
7. **Ability to recognize or redefine existing ideas:** The ability to transform an existing object into one of different design, function, or use is evident.

**8. Complexity:** The ability to manipulate many interrelated ideas at the same time is shown.

Piirto (2004b) studied creative individuals in a variety of areas and summarized the characteristics of highly creative individuals within their fields of creativity, thus linking their high abilities to particular areas of expertise. She reports that (1) each of these fields has specific predictive behaviors in childhood; (2) there is a developmental process in the emergence of talents in various domains, and (3) IQ score should be minimized in importance and subsumed into a more contextual view of children who are performing tasks within specific domains. Piirto maintains that all people are creative and that creative is more an aspect of personality than a type of giftedness. Testing for creative potential is often invalid and not reliable.

Although many gifted and talented students do become scientists, physicians, inventors, and great artists and performers, they have no obligation to do so. Providing them with differentiated education they need should not be predicted on an expectation that they owe society any more than all children do. It is often difficult to differentiate between the concepts of talent and creativity, perhaps because they may exist on a continuum rather than as separate entities. If we examine the life of a highly talented individual, such as the famous dancer Martha Graham, we can see the relationship between creativity and talent. Her creativity was evident in her pioneering modern dance techniques and her innovative methods of expression in the choreography of the dance. However, her great talent as a dancer, seen in her elegant movements, was equally impressive and deserves notice. Creativity, talent, and /or extreme intellectual ability that is a typical for their age most often identify gifted and talented children.

## 2.2. Prevalence of Gifted and Talented students

The definition of giftedness is the broadest and most comprehensive and is used by many school districts. It speaks of talent, which includes all areas of a child's life: academic, artistic, athletic, and social. Most schools limit their definition and their programs to academics, but it is important to focus on performance and accomplishment. It is not enough to just have the talent;

we must be using that talent to achieve at remarkably high levels. However, this definition does also recognize that while all very talented students have the potential to achieve at high levels, some may not have yet realized or demonstrated that potential. Such students may be underachievers, twice exceptional, or represent underserved groups who have not had a nurturing environment to bring out those talents.

Finally, this definition is a comparative one; these students achieve or have the potential to achieve at levels way above their peers. With no universal definition of giftedness, it is difficult to accurately estimate the prevalence of children who are gifted and talented. In general, giftedness is said to occur in 2 to 5 percent of the school-aged population. Gifted education varies widely across the United States. Although Federal law acknowledges that children with gifts and talents have unique needs that are not traditionally offered in regular school settings, it offers no specific provisions, mandates, or requirements for serving these children. Currently, gifted education is a purely local responsibility and is dependent on local leadership.

Unfortunately, leaving gifted education up to chance increases variability in the quality of services and creates inequities of access for students in poverty, from racial and ethnic minority groups, English learners, and those with disabilities. According to the Office of Civil Rights within the U.S. Department of Education, in 2011-12 there were approximately 3.2 million students in public schools in gifted and talented programs. Participation varies widely by state and by demographic subgroup. More needs to be done to ensure quality and equity in access to services.

On the other hand, using the normal curve, one would predict that 3% to 5% of students would be gifted and talented in the category of superior cognitive ability, scoring two standard deviations above the mean on a standardized intelligence test. If we include those students regarded as highly talented, estimates for the prevalence of giftedness can range as high as 10% to 15% of the total school age population. During the 1998-1999 school years, 43 states reported serving more than 2 million students in k-12 gifted programs. This number ranks gifted and talented students as the second largest group of exceptional children receiving special

education services. The number and percentage of students identified as gifted and talented vary widely from state to state for instance six states identified more than 10 % of the student population as gifted and talented, and six states identified 3% or less. On the basis of an estimate that gifted and talented children comprise 5% of the school age population approximately 2.5 million additional gifted and talented children may need special education (Clark, 2002 as cited in William, 2006). The National Association for gifted children (2004) estimated that there are 3 million students who could be called gifted. This discrepancy is tween need and the level of service may make gifted and talented children the most underserved group of exceptional children.

In fact, the No child Left Behind Act which emphasizes the measurement of educational progress for all students, especially those who may risk lack of academic success, may not serve the gifted and talented students adequately. DeLacy (2004) asked these questions (1) what group of students makes the lowest achievement gains in school. (2) What group of students has been harmed most by the No Child Behind Act? The answer was the brightest students. She explained that studies by various states had shown that the emphasis on bringing up the lowest achieving students mean that the highest achieving students are neglected and ignored while teachers concentrate on the lowest achieving students. Gifted students are truly our forgotten children. Neglected in our schools and ignored by our policy makers, they spend their days dozing through classes in which they aren't learning. Many suffer from depression. It is time to take them out of their holding pens and give them a chance to stretch and to grow.

### **2.3. Identification and Assessment**

What is giftedness? There is no universal definition. Some professionals define gifted as an intelligence test score above 130, two or more standard deviations above the norm, or the top 2.5%. Others define gifted based on scholastic achievement a gifted child works 2 or more grade levels above his or her age. Still others see giftedness as prodigious accomplishment adult-level work while chronologically a child. But these are far from the only definitions. Most identification happens in schools and is for the purpose of selecting students to participate in the

school's gifted program. There are no nation-wide or even state-wide standards for identification. Each school district makes a determination about which and how many students it is able to service within its programs based on its definitions, philosophy and resources. Gifted and talented students have different learning needs from those of their age peers and therefore need special educational planning to support them in developing their potential. To help these students, the first step is to accurately locate and describe their specific or multiple gift and talent commonly termed identification. To identify gifted and talented students, schools must first understand giftedness and talent. Some gifted students may not easily be identified because many factors mask the expression of giftedness. It is important to recognize that many factors can hold back the expression of giftedness, and that gifted and talented students are found in all communities regardless of their cultural, socio-economic or ethnic background. There are gifted students who also present with one or more disabilities or other factors that impair identification. When we are able to effectively identify gifted students, we are able to:

- Locate the student's domain of giftedness (intellectual, creative, social, perceptual, physical [muscular or motor control])
- Describe the student's level of giftedness (mild, moderate, high, exceptional, profound)
- Describe the student's fields of talent (academic, realistic, investigative, artistic, social, enterprising, conventional, games, sports)

Identification is a process with a diagnostic purpose. A collaborative process between parents, teachers, school psychologists and other professionals is most beneficial. Identification should occur throughout schooling, not only at a particular time such as at enrolment. Once a student has been identified as gifted, schools can use appropriate educational provisions and strategies to cater for them. In the process, schools may find students have additional gifts in specific areas, students whose needs are not being met by the current curriculum and evidence for inclusion in a particular program. These are the main purposes of identifying gifted and talented students and the desired outcomes of successful identification. School principals need to ensure that there are processes used to identify gifted students. Identification of students can be a complex issue and the selection of suitable tests, checklists and tools for each school is

important. Where required, a psychologist must oversee assessments to ensure their relevance to the individual needs of the students and that results are communicated to parents and the school. Examples:

- Underachieving students with high intellectual potential may score poorly on achievement tests.
- Other diagnostic tests, requiring reasonable literacy levels, may be ineffective in identifying students with higher abilities from culturally diverse backgrounds or who have a specific learning disorder.

### **Characteristics of giftedness: How do we know?**

Early identification of giftedness is an important mechanism which provides a pathway to the full realization of a gifted student's potential. There are characteristics that researchers have shown to be:

- Consistent indicators of giftedness
- Possible indicators of giftedness that there is conflicting evidence or they are also observed in children who are not gifted
- Not related to giftedness that there is no proven link

There are also child and family characteristics which can mask giftedness. Not every characteristic needs to be evident for a child to be considered gifted there will be individual clusters of these characteristics as well as individual expressions of them.

### **Consistent indicators of giftedness**

- **Good thinking** – e.g. reasoning, conceptual understanding, abstract thinking, problem solving, generalizing
- **Ease or speed of learning** – may learn from being told/shown just once, quick to see errors as learning opportunities

- **Advanced verbal abilities** – early/sophisticated expressive language development, sophisticated vocabulary and/or complex sentences, advanced receptive language that can be observed
- **Exceptional memory** – e.g. can retain information after brief exposure, able to recall early life events in complete detail
- **Exceptional concentration or attention span** – a long attention span when interested; children in the upper levels of giftedness may be able to concentrate on more than one thing at a time
- **Perseverance or motivation** – e.g. greater goal-directedness and persistence to completion, an appetite for learning
- **Wide ranging interests and knowledge** – interests may be intense and outside what is expected for young children
- **Preference for older companions** – prefer older children/adults to age peers, which may reflect advanced language levels, preferences for complexity in play, mature views of friendships
- **Keen observation** – an eye for detail; notes subtle changes
- **Quantitative ability and interests** – interest and skill in numbers, greater interest in time, calculators, money
- **Exceptional spatial ability** – interest and skill in puzzles, maps, diagrams, advanced sense of place and direction
- **Early use of symbolic representation** – early or sophisticated drawing or writing
- Possible indicators of giftedness
- **Early development** – e.g. begins to sit and walk earlier than other children; begins to speak, read, write or use numbers earlier than other children
- **Intense curiosity** – shows intense curiosity/deeper knowledge than other children e.g. insatiable need to know/explore
- **Wide range of temperaments** – e.g. perfectionism (concern with precision, especially in area of interest), sensitivity (easily hurt, empathetic), intensity, concern with moral or social issues

- **Often exhibits imagination and creativity** – e.g. finds imaginative ways to get out of doing things they don't want to do
- **Has an advanced sense of humour** – is humorous in speech, social interactions, art or story telling; makes jokes, puns, or plays on words.

### **Child characteristics that can mask giftedness**

- **Problematic behavior** – disruptiveness, stubbornness, lack of cooperation, refusal, questioning of authority
- **Introversion** – shy and hesitant children can be underestimated; introversion is more common in a gifted population
- **Uneven development** – it is common for gifted children to be more advanced in one area than another
- **Learning difficulty** – can result in the giftedness and learning difficulty masking each other so that the child appears average
- **Physical or sensory disability** – may result in fixation on disability and failure to recognize strengths
- **Hiding ability** – to gain acceptance, to meet teacher expectations, or to avoid failure or perceived adult demands
- Family characteristics that can mask giftedness
- **Economic disadvantage** – potential may be hidden without experiences to reveal it
- **Minority language/bilingualism** – proficiency in a language may be greater than the language of the educational setting
- **Cultural customs** – e.g. drawing attention to self; approaches to thinking; views of what giftedness is
- **Gifted siblings** – if one child has been identified as gifted, siblings may not be recognized if different in skills, interests etc



## Characteristics of Gifted and Talented Children

The term gifted has been thrown around in public education circles for decades often misused, misdiagnosed and misunderstood. Gifted children may present in various ways; some are positive characteristics and some, are not as desirable. When determining giftedness in a student, it is essential to take a number of factors into consideration, since not all gifted children will exhibit the same characteristics at the same time. Following are the most common ten characteristics seen in gifted students.

1. **Verbal Ability:** Gifted children often begin communicating verbally at an early age, and they use vocabulary far beyond their age. These children are often referred to as precocious because of their language usage. The website for Amend Psychological Services lists some of the verbal features of gifted children as avid storytellers, early talkers or those with an extensive and precise vocabulary. These children often choose their words carefully, but tend to use a lot of them. They can also get frustrated with children in the same age group who are unable to understand them and often turn to older children or adults for conversation.
2. **Information Processing:** Education.com states that gifted children often have an unusual capacity for processing information and are often able to process that information more quickly and accurately than their peers. These children typically master subjects like reading and math much more quickly than their peers, which can make it difficult to keep them challenged in a regular school setting. Bright Hub Education explains that some gifted children become disruptive in classrooms often because they are bored with the material that is taught over and over again.
3. **High Curiosity Level:** Gifted children often have a high curiosity level and dive into subjects with a passion not seen in most children their age. Amend Psychological Services says it is not unusual for a gifted child to learn the names of all the dinosaurs or the stats for every player on a baseball team at a very young age. Beth Israel Deaconess Medical center calls this characteristic a deep absorption in activities that interest them, and parents of gifted

children learn quickly just how saturated that absorption can go, when they have to take a child to the library or help them find facts on the Internet over and over again.

10. **Memory Retention:** Gifted children are often able to retain information faster and for longer periods of time than average children of the same age. Their rapid learning ability allows them to process facts quickly and retain them for efficient recall later on. High memory retention combined with fast information processing often means these children learn subjects at a rapid-fire rate that can make it challenging for parents and teachers to present information to gifted children as fast as they like.
11. **Intensity and Persistence:** There are many gifted children are intense in the way they learn, which is often why they pick up large amounts of information so quickly. They can also be intense socially, with acute sensitivity to the needs and feelings of others, according to Education.com. These children are able to show compassion to others at a much deeper level than other children their age. However, the intensity and persistence can also work against a gifted child on occasion, when the child encounters a problem he cannot easily solve or a topic he cannot seem to master as quickly.
12. **Sense of Humor:** Gifted children are enjoyable to be around because many exhibit a sense of humor that goes well beyond their years. Bright Hub Education states that these children often have a special appreciation for more subtle types of humor like satire. They also enjoy plays on words, such as puns, and are particularly adept at using these comic techniques themselves. Whether their sense of humor comes out in their conversation or their writing, these students can be a joy to converse with.
13. **Sense of Justice:** Gifted children often have an acute sense of justice, which can translate to high expectations of themselves and others. While their strong moral compass can make them effective leaders, and ensure good choices in many situations, this characteristic can also make it difficult for them to forge long-lasting relationships with others. These children often become interested in justice and fairness at a very early age, which continues throughout their lives.

14. **Strong Imagination:** Gifted children often exhibit a strong imagination, with an ability to spin tales that parents and teachers do not necessarily expect. Education.com says these children often show originality in their oral, written or artistic expression and are viewed as highly creative. Gifted children may spend time fantasizing, and are often categorized as independent thinkers.
15. **Keen Observation:** Children who fall into this group may have the ability to pick on details much more acutely than other children in the same age bracket. Whether reading a book, watching a movie, gifted students often notice seemingly nonessential pieces of information that others might miss. Their attention to detail often results in long, drawn out renditions of situations or conflicts a frequent source of frustration for parents and teachers at times.
16. **Problem Solving Capabilities:** Often perceived as effective problem solvers, gifted children typically relish nothing more than breaking down a complex issue and finding a solution that no one else has every thought of. These children, according to Education.com, have an advanced cognitive and affective capacity for conceptualizing societal problems the potential leaders of the future. On the other hand, each school must develop a set of characteristics that reflects its own definition of, and approach to, the concept of giftedness and talent. Furthermore, a multi-factored assessment approach that uses information from a variety of sources is considered to be more accurate and equitable in identification of the gifted and talented. This approach includes data from a variety of sources, including the following:
  - Group and individual intelligence tests
  - Achievement tests
  - Portfolios of student work
  - Teacher nomination based on reports of student behavior in the classroom
  - Parent nomination
  - Self-nomination
  - Peer nomination
  - Extracurricular or leisure activities

Thinkers in the field of education of the gifted and talented describe a comprehensive approach for identifying students who requires specialized services for their talents. Each state has its own identification procedures in USA. Based on an identification model first developed by the California Association for Gifted Children, this model features a progressive filtering process that refines a large pool of potentially gifted students down to a smaller, formally identified group. The process is time consuming and through beginning with the development of a large pool of potentially gifted students in the initial stage, screening, testing, consulting and analyzing data, identification decisions and placement and finally the development of an appropriate educational program for the child.

Quantitative and qualitative approaches to assessment include portfolios, interviews, and observations. Observation can be made to find students who are demonstrating characteristics that indicates giftedness. Observations may be done with checklists or rating scales as well as with simple jot down procedures. Interviews of peers and parents can also indicate potential talent. We can demonstrate how this process would work with a student thought to have great potential say the little girl Janie described at the beginning of this chapter.

### **2.3.1. Multicultural Assessment and Identification**

Biases inherent in the identification process are primarily to blame for the underrepresentation of students from non Asian minority groups such as African Americans, Latinos, and Native Americans in gifted programs nationally. According to the U.S Office of Education, demographic studies predict an increase in the minority group population in the United States. The white college age population will expand slowly until 2010 and then decline, where as the college age population of racial and ethnic minorities will continue to rise. In addition, minorities are not entering many important fields requiring mathematical and science skills. For example, although African Americans make up 12% of the population, they earned just 5% of the bachelor's degrees awarded in 2001 in mathematics and science, received 3% of the doctoral degrees in 2001 ( National Science Foundation, 2004 as cited in William, 2006), and make up just 2% of all employed scientists and engineers in USA.

Hispanics comprise 9% of the population but represent just 3 % of the bachelor's degrees in science and mathematics, and 2% of the doctoral degrees and 2% of all employed scientists in USA (U.S. Office of Census, 2004 as cited in William, 2006). Fewer students plan to major in engineering which is a typical bastion for the gifted and talented. There has been a 35% drop in interest in engineering in the past 10 years (Field, 2004 as cited in William, 2006). However, there is room for optimism because by the year 2000, 4.3 million African American, Hispanic Asian American, and American Indian students had attended college up from just fewer than 2 million in 1980 (Gomstyn, 2003 as cited in William, 2006). Frasier and colleagues showed 10 core attributes of gifted across socioeconomic, ethnic, and racial group. Gifted and talented people across ethnic groups demonstrate

- Communication skills
- Imagination/Creativity
- Humor
- Inquiry
- Insight
- Interests
- Memory
- Motivation
- Problem Solving
- Reasoning

Many youth from special populations have not had the extensive opportunities to develop such a broad pattern of giftedness but they have often developed special talent within a particular domain. The identification process should be designed to find the special talent. Subsequent educational services should focus on facilitating growth in this talent area. Current best practices for identifying gifted and talented students from diverse cultural groups involve a multicultural group involve a multi-factored, or multidimensional, assessment process that meets these criteria. All sources agree on these goals for the identification of nonwhite and poor students:

- Identification should have a goal of inclusion rather than exclusion.
- Data should be gathered from multiple sources providing both objectives and subjective data (e.g. parents interviews, individual intelligence testing, performance on group problem solving tasks, motivational and behavioral factors, individual conferences with candidates).
- A combination of formal and informal testing techniques including teacher referrals, the results of intelligence tests, individual achievement tests, should be used.
- A Generally greater sensitivity to aspects of acculturation and assimilation that allows for multiple perspectives to be identified and honored should be demonstrated.
- Identification procedures should begin as early as possible before children are exposed to prejudice and stereotyping and be continuous.
- Unconventional measures involving arts and aesthetic expression such as dance, music, creative writing, and crafts should be used.
- Information gathered during the identification process should be used to help determine the curriculum.

Maker (2001 as cited in William, 2015) developed a procedure called DISCOVER which has been used to assess children from diverse cultural groups and females in an equitable fashion. Based on Gardner's theoretical framework of multiple intelligences, the DISCOVER assessment process involves a series ways to demonstrate their problem solving competence by interacting with the content and with one another. Maker et al. (2001 as cited in William, 2006) report positive results from using the DISCOVER model to assess the problem solving abilities of students from African American, Navajo, Tohono o'odhum, and Mexican American cultural groups:

- The children identified by the process closely resemble the cultural characteristics of the communities from which they come
- Equitable percentages of children from various ethnic, cultural, linguistic, and economic groups are identified.

- The process is equally effective with boys and girls and
- Students identified through the process make gains equal to or greater than those of students who were identified by traditional standardized tests when placed in special enrichment programs.

Identifying gifted and talented children from diverse and underrepresented groups is of course just the beginning. In the absence of high quality curriculum and instruction that is sensitive and response to their cultural heritage, gifted students from diverse backgrounds will not benefit.

### **2.3.2. Gifted and Talented by Gender**

One of the many goals of education is to challenge students of all levels to learn and to grow. Gifted education is important in order to ensure that all students have an appropriately challenging curriculum and teachers who are trained to meet their need. However, bias in identifying high ability students and in programs designed to serve these students may results in unequal opportunities. The purpose of the current study was to combine the results on gender differences in identification of gifted youth and in gifted programming across all available studies in order to determine whether a gender bias exists. The decades of research on gender differences in identification of gifted youth reveal mixed results. Although some research suggests that boys are more likely to be identified as gifted than girls are other research suggests the opposite and still more re-search provides evidence for no gender differences at all. There has been a great deal of research conducted on gender differences and stereotypes of both regular and gifted students. A study by Benbow (1992 as cited in William, 2006) reported that fewer females are labeled as mathematically gifted than males. The study also stated that females labeled as gifted are less likely to take demanding high school math and science courses, major in math or science in college (40% vs. 72%), or pursue a career in a math or science-related field (24% vs. 56%).

Some studies have shown that differential treatment of males and females begins at an early age, starting with parents. Astin, Suniewick, and Dweck discovered that parents of female

children generally do not buy as many mathematics-related toys and games as do parents of males, thus putting their female children at a distinct disadvantage when they enter the classroom. Other studies found that parents of female children are more likely to downplay the importance of mathematics. The study of sixth to eleventh grade students and their parents portrays an alarming finding: Females hold more negative beliefs about their abilities in mathematics even when they earn consistently higher grades than males. Jacobs points to the possibility that parents can influence their children's perceptions of ability.

### **2.3.2.1. Gifted and Talented Girls**

Cultural barriers test and social biases, organizational reward systems sex role stereotyping and conflicts among career, marriage, and family all act as external impediments to the advancement of gifted and talented woman. In reviewing the topic of gifted woman, Silverman (1986 as cited in William, 2006) points out that the history of genius and woman's role has been contradictory and that identification procedures reflect masculine i.e. product oriented versus feminine i.e. development oriented concepts of giftedness. Thus, some of the key issues that appear in the literature concerning the identification and education of females who are gifted and talented involve conflicts concerning role definitions, extreme stress related to a lack of self-esteem, poor course selection based on academic choices made in middle school and high school and a lack of parental and general community support for female achievements.

### **2.3.2.2. Gifted and Talented Boys**

Recently, the problems and situations of gifted and talented boys have been highlighted as well. Among these are negative stereotyping for boys who have talented in and want to enter the arts, a boy code (Pollack, 1998 as cited in William, 2006) that operates against the expression of feelings and emotions, and a reluctance on the part of parents and teachers to permit boys creative behavior. However, despite the stereotyping and name calling that is present in U. S schools; boys continue to outscore girls at the highest levels on tests such as the Scholastic Aptitude Test, the American College Test, The differential Aptitude Test, and most achievement



test. Boys we believe that all children are entitled to an education that will enable them to develop their full potential, be that intellectual, physical, aesthetic, creative, emotional, spiritual or social, finding appropriate challenge in our learning environment. All students have individual needs, which put personalized learning at the heart of our teaching and learning. Boys are committed to providing a sufficiently challenging curriculum for all its students. In addition, we will provide opportunities to identify and in turn nurture those who are more able and their abilities. All students have an entitlement to the following:

- Staff commitment and training to develop students' full potential at all times. Lessons that stimulate, engage, challenge, inform, excite and encourage through partnership and dialogue with teachers and other students and active participation in the lesson.
- Courses that lead to examinations and accreditation. Skilled, well-prepared and informed teachers who have a perspective and understanding of whole-school needs, problems and policies, especially those concerning issues related to those students identified as more able.
- An entitlement beyond subject teaching, including preparation for adult life and preparation for the world of work. This should include extracurricular activity, personal and social education, careers guidance and counseling, visits to local industry and work experience.

### **2.3.3. Gifted and Talented with Disabilities**

It may be surprising to learn that the incidence of giftedness and talent among a large proportion of students with disabilities mirrors that of the larger general education population. So we would expect to have almost as many gifted students within the subpopulation of all students with disabilities. However, the combination of a disability and giftedness brings with it an even more complicated set of behaviors and attitudes to challenge educators and parents. Whitmore and Marker (1985 as cited in William, 2006) conducted in depth case studies of the needs and accomplishments of five gifted and talented students with visual, hearing, physical, and learning

disabilities. They concluded that teachers and parents can foster the intellectual and talent development of children with disabilities by conveying positive realistic expectations.

Encouraging independence, guiding constructive coping strategies, providing daily opportunities to build abilities and enjoy success and pursuing positive social experiences for the child. Similar implications for practice were drawn by Willard- Holt (1998 as cited in William, 2006) who reported case study analyses of the academic and personality characteristics of gifted students with cerebral palsy and no speech. An appropriate education for gifted students with disabilities requires the creation of what Nue (2003 as cited in William, 2006) terms a dually differentiated curriculum that recognizes and meets the needs of students who exhibit two contradictory sets of learning characteristics by creating a balance between nurturing the students' strengths and compensating for their learning deficits. Affective concerns for twice exceptional and second language learners prevail. These include issues of acculturation, including culture shock, loss of first language and second language acquisition and delayed identity formation.

## Set Us Sum Up

The federal government defines gifted and talented children as those exhibiting high performance capabilities in intellectual creative and /or artistic areas, possessing an unusual leadership capacity or excelling in specific academic fields. Renzulli's definition of giftedness is based on the traits of above average general abilities, high level of task commitment, and creativity. Piirto defines the gifted as having superior memory, observational powers, curiosity, creativity, and ability to learn. Maker defines the gifted and talented students as a problem solver who is capable of (1) creating a new or clearer definition of an existing problem, (2) devising new and more efficient or effective methods and (3) reaching solution that may be different from the usual.

The most commonly cited prevalence estimate is that high IQ gifted students make up to 3% to 5% of the school age population and that there are many forms of talents that do not

require a high IQ. Perhaps 10% to 15% of students possess such talents. IQ test are one, but not necessarily the best, means for identifying students with high intellectual ability. The usual means of identification include a combination of IQ scores, achievement measures, checklists, teacher, parent, community, and peer nominations, self nomination and leisure interests. Teachers and parents can foster the intellectual and talent development of children with disabilities by conveying positive, realistic exceptions, encouraging independent, guiding constructive coping strategies, providing daily opportunities to build abilities and enjoy success and pursuing positive social experiences for the child.

### Unit- end activities

#### • Objectives questions

#### Group A

#### Tick the best answer

1. Knowing by using one's understanding of words and properties of language, thinking by using words, sentences and verbal propositions is related to .....
  - a. Mathematical code
  - b. Linguistic code**
  - c. Kinesthetic code
  - d. Spatial code
2. How many percent of giftedness is occurs in the school-aged population in USA?
  - a. 2% to 5 %**
  - b. 3% to 5 %
  - c. 2% to 6%
  - d. 3% to 7%
3. The number and percentage of students identified as gifted and talented vary widely from state to state for instance six states identified..... of the student population as gifted and talented.
  - a. more than 20%
  - b. more than 15%

- c. more than 25%
  - d. more than 10 %**
4. Reasoning, conceptual understanding, abstract thinking, problem solving, and generalizing is the indicators .....
- a. Speed of learning
  - b. exceptional memory
  - c. good thinking**
  - d. attention span
5. The multi-factored assessment approach that uses information from a variety of sources is considered to be .....in identification of the gifted and talented.
- a. specific and equality
  - b. more accurate and equitable**
  - c. appropriate and assessable
  - d. suitable and equitable
6. Based on Gardner's theoretical framework of multiple intelligences, ..... involves a series ways to demonstrate their problem solving competence by interacting with the content and with one another.
- a. RECOGNIZATION assessment process
  - b. IDENTIFICATION assessment process
  - c. DISCOVER assessment process**
  - d. SPECIFIC assessment process
7. Gifted education is important in order to ensure that all students have an appropriately .....and teachers who are trained to meet their need.
- a. differentiated curriculum
  - b. hidden curriculum
  - c. parallel curriculum
  - d. challenging curriculum**

8. Maker defines the gifted and talented students as a problem solver who is capable of .....
- creating a new or clearer definition of an existing problem
  - devising new and more efficient or effective methods and
  - reaching solution that may be different from the usual
  - All of the above**
9. The usual means of identification include.....
- a combination of IQ scores, achievement measures
  - checklists, teacher, parent, community
  - peer nominations, self nomination and leisure interests.
  - All of the above**
10. Renzulli's definition of giftedness is based on the traits of.....
- above average general abilities
  - high level of task commitment and creativity
  - both a and b**
  - none of the above

#### Group B

- **Subjective questions**
  - **Short answer questions**
1. Introduce the concept of individual differences among gifted and talented students and explain with appropriate examples.
  2. Define creativity. Discuss the types of creativity with suitable examples.
  3. Describe the prevalence of Gifted and Talented students.
  4. What are the characteristics of Giftedness? Explain any one of them
  5. Introduce the concept of multicultural assessment and identification

### Group C

- **Long answer questions**

1. Describe the identification and assessment procedures of Gifted and talented by Gender.
2. State and explain the gifted and talented children with disabilities. Also present the suitable example.
3. Explain the concept of assessment of gifted and talented children. Also describe the prevalence of them.

### Points for Discussion

- Individual differences among gifted and talented children
- Prevalence of gifted and talented children
- Identification and assessment of gifted and talented children
- Multicultural assessment and identification
- Gifted and talented by gender
- Gifted and talented children with disabilities.

## Unit III: Educational Approaches for Gifted and Talented Children

### 3.1. Educational Approaches

The overall goal of educational programs for gifted and talented students should be the fullest possible development of every child's actual and potential abilities. In the broadest terms, educational goals for these youngsters are no different from those for all children. Feelings of self-worth, self-sufficiency, civic responsibility, and vocational and a vocational competence are important for everyone. However, some additional specific educational outcomes are especially desirable for gifted and talented students. Gifted students need both content knowledge and the abilities to develop and use that knowledge effectively. Most educators of gifted and talented students agree that the most important concern in developing appropriate curriculum is to match the students' specific needs with an adequately different curricular intervention. According to Kaplan (1988 as cited in William, 2006) a differentiated curriculum should do the following:

- Be responsible to the needs of the gifted students as both a member of the gifted population and as a member of the general population.
- Include or subsume aspects of the regular curriculum.
- Provided gifted students with opportunities to exhibit those characteristics that were instrumental in their identification as gifted individuals.
- Not academically or socially isolate these students from their peers.
- Not be used as either a reward or a punishment for gifted students.

Piirto (1999 as cited in William, 2006) recommends that curriculum and instruction for gifted and talented students should have the following characteristics:

- i. **Be based on learning characteristics of academically talented students in their area of strength:** These characteristics include their ability to learn at a faster rate, their ability to think abstractly about content that is challenging their ability to think productively, critically, creatively and analytically and their ability to constantly and rapidly increase

their store of knowledge, both knowledge of facts and knowledge of processes and procedures.

- ii. **Posses' academic rigor:** The widespread abuse of grading practices, the dumbing down of the curriculum, and the lowered expectations of teachers have all sapped curriculum of its strength and rigor. Research skills, key boarding and computer use speed reading, at least one foreign language, and interpersonal and effective development should be systematically taught as part of the curriculum. There is a distinct need to increase the relevance, discipline, and depth of current curriculum, primarily within the regular education setting where most gifted students are for most of the day.
- iii. **Be thematic and interdisciplinary:** Academically talented students should be exposed to the structures, terminologies, and methodologies of various disciplines. The skills of systematic investigation are fundamental abilities that gifted students use throughout a life mate of learning. These skills include the use of references, the use of the library, the gathering of information and the reporting of findings in a variety of ways. These skills may ultimately be used in diverse setting such as law and medical libraries, musicians, chemical and electrical laboratories, theatrical archives, and national park

### 3.1.1. Differentiating Curriculum

Differentiation is an educational strategy. Differentiation is a broad term referring to the need to tailor teaching environments, curricula, and instructional practices to create appropriately different learning experiences for different students. The special education premise that learners differ in important ways is the guiding premise of differentiation. The point is to engage learners in instruction through different learning modalities, appeal to differing interests, use varied rates of instruction, and provide varied degrees of complexity within and across a challenging and conceptually rich curriculum. Because gifted students learn at a faster rate than most students and can absorb and reconfigure more concepts, they benefit from a differentiated curriculum that is modified in both its pace and depth. Acceleration is the general term for modifying the pace at which the student moves through the curriculum, enrichment means probing or studying a subject at a greater depth than would occur in the regular curriculum.



## 1. Acceleration

Acceleration is permitting the student to move as swiftly as possible through the required material. What the classroom teacher decides to do to differentiate for the academically talented student depends on the subject matter. There are essentially two types of curriculum materials

- that which readily lends itself to enrichment such as reading or social studies and
- that which readily lends itself to acceleration, such as mathematics or foreign languages.

Subjects that are sequences are candidates for accelerative treatment. In mathematics, a child must learn to add before subtracting must learn to multiply before dividing. By the time an academically talented child is in the fourth grade, he or she will probably have mastered the skills of reading enrichment with more difficult reading matter is a way of differentiation. However, in mathematics, the child must be taught and the sequence of mathematics proceeds from arithmetic to algebra to calculus etc. Often one of the most difficult tasks for the teacher of the academically talented is to persuade the administration and fellow teachers that acceleration in mathematics is necessary for the academically talented student and that this acceleration must take place in the structure of more advanced course taking.

Academically talented students often need less explanation; they just need to know the next step. A young academically talented student interested in fractal geometry and attending the John Hopkins University summer program told how he had sat, bored, during a plane geometry class that was required at his for intellectually academically talented students but where testing out of a course was not permitted. To this student, plane geometry consisted of nothing but two points on a line. Even though the plane geometry class was being offered to eight grades, whereas in most schools it is offered to sophomores, this student had already mastered the material and was interested in fractal geometry. The high point in his day was being able to ask the teacher one or two questions about fractal geometry at the end of the period when the students began their homework. Although the teacher kept him pointed in the right direction, and he experimented with fractal geometry on his home computer an accelerated

curriculum would have prevented this student from having to sit through plane geometry day after day.

## **2. Enrichment**

Enriching the content of instruction to include more innovation, novelty, and sophistication is the most common method of differentiating curriculum for academically talented students. The use of new teaching techniques is also advocated, including new technologies for the organization, manipulation and presentation of student products. Enriching the curriculum generally involves adding new and different information from a variety of disciplines outside the traditional curriculum. This is the strategy of choice among most regular education teachers who are attempting to provide additional opportunities for gifted and talented students in their classrooms. It is important to remember that enrichment is meant to be thoughtfully and systematically applied to the educational program of targeted students.

Enrichment experiences let students investigate topics of interest in greater detail than is ordinarily possible with the standard school curriculum. Topics of investigation may be based on the ongoing activities of the classroom but may permit students to go beyond the limits of the day to day instructional offerings. However, by allowing the students to help define the area of interest and independently access a variety of information and materials, the teacher can learn to facilitate the development of gifted and talented students' competencies and skills. Enrichment is not a do your own thing approach with no structure or guidance. Children involved in enrichment experiences should not be released to do a random, haphazard project. A basic framework that defines limits and sets outcomes is necessary. Projects should have purpose, direction, and specific outcomes. A teacher should provide guidance where necessary and to the degree that is necessary to keep students working efficiently. Although acceleration and enrichment are often viewed as separate options for talented students as Southern and Jones (1991 as cited in William, 2006) point out the two strategies are intertwined advanced study in any discipline may entail the kind of activities normally associated with enrichment. Enrichment is supposed to broaden the curriculum and include material that is not in the regular course of

study. However, acceleration often involves advanced material not contained in the regular course of study.

### 3.1.2. Lesson Differentiation in the Regular Classroom

In a well differentiated curriculum the student completes against him or herself more than against other students. The teacher modifies content, activities or process and products by student readiness, interest, and learning profile. Methods of differentiation within the regular classroom include curriculum compacting, tiered lesson, and using Bloom's taxonomy as a guideline for phrasing questions and creating lesson activities.

1. **Curriculum Compacting (Adjustment):** Many gifted and talented students have already mastered much of the content of the regular curriculum when the school year begins. Curriculum compacting involves compressing the instructional content and materials so that academically able students have more time to work on more challenging materials. One study found that when teachers used curriculum compacting to eliminate 36% to 54% of content in mathematics or language arts curricular for 336 students in grade two through six with demonstrated advanced content knowledge and superior academic ability, there were no perceivable differences in achievement test scores between gifted students whose curriculum had been compacted and those who had received the regular curriculum. Another study showed that when teachers, compacted the curriculum, gifted and talented students scored significantly higher on tests of mathematics and science concepts after the content was altered (Reis as cited in William, 2006).

These steps are involved in curriculum compacting (1) assess the target content areas; (2) determine the content to be eliminated and (3) substitute more appropriate content. Step 3 is the most difficult for teachers as many teachers have a lack of expertise in knowing what to substitute for high ability students. When pre-testing academically talented students to find out what they already know, the most difficult problems or content should be presented first. Students who can solve the most difficult problems do not need to do the

other easier problems. For curriculum compacting to be effective, teachers must have a substantial understanding of the curricular content and not only condense the material but also modify its presentation, create more meaningful instruction, and evaluate that instruction for individual students. For examples, Juan's teacher, Mr. Dominguez suspects that Juan has already mastered substantial amounts of the mathematics that students are doing in the fourth grade, perhaps by as much as two grade levels. To discover if Juan is a good candidate for curricular compacting, Mr. Dominguez first, determine the scope and sequence of the mathematics problems that Juan should be able to do in the fifth and sixth grades. Then he constructs an evaluation process that will accurately determine at what level Juan is able to perform the mathematics problems. If Juan is found to have mastered the content and strategies of the higher level math then Mr. Dominguez must design and provide replacement activities that are a more challenging and productive use of Juan's time.

2. **Tiered Lessons:** A tiered lesson provides different extensions of the same basic lesson for groups of students of differing abilities. For examples, after the whole class is exposed to a basic lesson on a poem, three groups of students might work on follow up activities or assignments of basic, middle, and high difficulty. The following figure shows an example of a tiered lesson on riddles.

#### **A tiered lesson using riddles to promote thinking and problem solving skills**

<b>Author:</b> Mr. Rabindra Shiwakoti	<b>Author's email:</b> rabindra2028@gmail.com
Curriculum areas: Math, Science, and Social Studies	Grade level: 3
Time required: 30 minutes	Instructional Grouping: heterogeneous
<p><b>Overview</b></p> <p>This is a thinking skills lesson to help students practice thinking openly and flexibly. Use this lesson as a mental warm up session before beginning a challenging lesson that requires the students to think flexibly or counter-intuitively. Use this lesson to prepare the students for times when making assumptions would be bad. Examples: Solving word problems in math, finding patterns in math, drawing conclusions from reading selections, and making decisions during a</p>	

unit on economy. In this lesson students first solve a riddle as a whole class and then divide into small groups to solve additional riddles. Groups are formed according to the students' readiness to read and understand difficult vocabulary. Each group work independently as the teacher moves from group to group, facilitating discussions.

### **Standards**

This lesson helps students develop the skills necessary to achieve any standard that involves problem solving. Examples include math and science problems as well as dilemmas in social studies and analysis of literature.

### **Materials**

There are three levels of riddles. Level 1 consists of three simple riddles, level 2 consists of one medium hard riddle, and level 3 consists of one difficult riddle.

**As a result of this lesson, student should know::** Riddles are written puzzles

### **Understand**

Riddles requires people to think creatively

Riddles requires people to not make assumptions

### **Be able to do**

Students should be able to solve riddles

### **Preassessment**

One main difference between the riddles is the difference in vocabulary involved. Groups should be formed based on the student's verbal proficiency.

### **Basic riddles**

What can go up a chimney down but can't go down a chimney up? ( an umbrella)

If a rooster laid a brown egg and a white egg, what kind of chicks would hatch? (None. Roosters don't lay eggs)

What needs an answer, but doesn't ask a question? (the phone)	
<p><b>Medium hard riddle</b></p> <p>I can sizzle like bacon, I am made with an egg I have plenty of backbone but lack a good leg, I peel layers like onions but still remain whole; I can be long like a flagpole yet fit in a hole.</p> <p>What am I? (A snake)</p>	<p><b>Challenging riddle</b></p> <p>This thing devours all, Birds, beasts, trees, flowers, Gnaws iron, bites steel, Grinds hard stones to meal, Slays kings, ruins towns, And beats high mountains down. (time )</p>

### 3.1.3. Curriculum Differentiation outside the Classroom

For some students with outstanding talents, the things that take place outside the classroom may be more important and rewarding than many of the activities within it. The teacher should always attempt to connect class work with human and physical resources available in the community. Much more flexibility is offered by outside learning environments because of their relaxed scheduling and lack of physical barriers. Curriculum differentiation is a broad term referring to the need to tailor teaching environments and practices to create appropriately different learning experiences for different students. Keirouz (1993 as cited in William, 2006) suggests typical procedures in the case of gifted and talented students include:

- Deleting already mastered material from existing curriculum,
- Adding new content, process, or product expectations to existing curriculum,
- Extending existing curriculum to provide enrichment activities,
- Providing course work for able students at an earlier age than usual,
- And writing new units or courses that meet the needs of gifted students.

Maker's model of differentiated curriculum suggests that curriculum needs to be differentiated in terms of:

**1. Learning Environment:** The aim is to create a learning environment which encourages students to engage their abilities to the greatest extent possible, including taking risks and building knowledge and skills in what they perceive as a safe, flexible environment. It should be:

- **Student-centered** - focusing on the student's interests, input and ideas rather than those of the teacher, encouraging independence - tolerating and encouraging student initiative,
- **Open** - permitting new people, materials, ideas and things to enter and non-academic and interdisciplinary connections to be made,
- **Accepting** - encouraging acceptance of others' ideas and opinions before evaluating them,
- **Complex** - including a rich variety of resources, media, ideas, methods and tasks, and
- **Highly mobile** - encouraging movement in and out of groups, desk settings, classrooms and schools.

**2. Content modification:** The aim is to remove the ceiling on what is learned, and use the student's abilities to build a richer, more diverse and efficiently organized knowledge base.

This building can be facilitated by encouraging:

- **Abstractness** - with content shifting from facts, definitions and descriptions to concepts, relationships to key concepts, and generalizations,
- **Complexity** - with content shifting to inter-relationships rather than considering factors separately,
- **Variety** - with content expanding beyond material presented in the normal program,
- **Study of people** - including the study of individuals or peoples, and how they have reacted to various opportunities and problems, and

- **Study of methods of inquiry** - including procedures used by experts working in their fields.

**3. Process modification:** The aim is to promote creativity and higher level cognitive skills, and to encourage productive use and management of the knowledge the students have mastered. This can be facilitated by encouraging:

- **Higher levels of thinking** - involving cognitive challenge using Bloom's Taxonomy of Cognitive Processes, logical problems, critical thinking and problem solving,
- **Creative thinking** - involving imagination, intuitive approaches and brainstorming techniques,
- **Open-endedness** - encouraging risk-taking and the response that is right for the student by stressing there is no one right answer,
- **Group interaction** - with highly able and motivated students sparking each other in the task, with this sometimes being on a competitive and sometimes on a cooperative basis,
- **Variable pacing** - allowing students to move through lower order thinking more rapidly but allowing more time for students to respond fully on higher order thinking tasks,
- **Variety of learning processes** - accommodating different students' learning styles,
- **Debriefing** - encouraging students to be aware of and able to articulate their reasoning or conclusion to a problem or question, and
- **Freedom of choice** - involving students in evaluation of choices of topics, methods, products and environments.

**4. Product modification:** The aim is to facilitate opportunities for talented students to produce a product that reflects their potential. This can be encouraged by incorporating:

- **Real problems** - real and relevant to the student and the activity,
- **Real audiences** - utilizing an audience that is appropriate for the product, which could include another student or group of students, a teacher, an assembly, a mentor, a community or specific interest group,
- **Real deadlines** - encouraging time management skills and realistic planning,



- **Transformations** - involving original manipulation of information rather than regurgitation, and
- **Appropriate evaluation** - with the product and the process of its development being both self evaluated and evaluated by the product's audience using previously established real world criteria that are appropriate for such products.

A number of management strategies that are often useful in implementing curriculum differentiation strategies include the use of contracts that allowing individualized and student negotiated programs and promoting the student's time-management skills and autonomy, conferencing which allowing dedicated student negotiation and review, and grouping strategies which facilitating children to work with like minds and encouraging group interaction.

- 1. Internships and Mentor programs:** The value and power of a viable mentor to the realization of talent or creativity have been recognized since the middle ages. The importance of mentors cannot be underestimated in certain artistic and scientific fields, where the development of both conceptual and performance skills is critical to success. These opportunities allow students with exceptional talents to be exposed to one of the most powerful and proven educational strategies modeling, practice, and direct feedback and reinforcement of important behaviors within a real word setting.
- 2. Special Course:** Specialized courses and workshops are offered in many communities, arts and cultural venues, museums, and recreation centers. These courses, which may or may not award high school or college continuing education credits, form a rich variety of opportunities for students to encounter mentors, new friends, and expansive concepts that may not be available in the confines of the school curriculum.
- 5. Juniors Great Books:** This is a highly structured educational program in which students read selections from a number of areas, including classics, philosophy, fiction, and poetry, and then discuss their meaning with teachers. The teachers must undergo special training and use specific questioning techniques designed to evoke high-quality responses from the students.

**6. International Experiences (Exposures):** New Zealanders have a cultural rite of passage they refer to as the trek, wherein they pack their bags and travel in modest fashion to the far reaches of the planet. It is an eye opening experience for people from a tiny Pacific island and one that gives them an exceptional opportunity to see and touch the world in an intimate fashion. An international curricular experience can merge this act of exploration with the demands of a structured learning experience, for example, International Baccalaureate Program. Numerous international programs offer academic credits for study at participating educational agencies around the world. They are excellent opportunities for students to develop global international skills with academically rigorous studies.

### Let Us Sum Up

Curriculum should consider the learning characteristics of gifted and talented students, preserve academic rigor, be thematic and interdisciplinary, consider various curriculum orientations, and be balanced and articulate. Differentiation is a broad term referring to a variety of strategies for providing gifted and talented students with a challenging and conceptually rich curriculum. Acceleration is the general term of modifying the pace at which the student moves through the curriculum. Enrichment means probing or studying a subject at a greater depth than would occur in the regular curriculum.

Curriculum compacting involves compressing instructional content so students have time to work on more challenging materials. Tiered lessons provide extensions of the same basic lesson for groups of students of differing abilities. Options for learning outside of school include internships and mentorships, special courses and workshops in the community, Junior Great Books, and international experiences. Three models for differentiating curriculum for gifted students are Renzulli's School wide Enrichment Model, Maker's Active Problem Solver Model, and the Problem Based Learning Units.

## Unit-end Activities

### • Objective Questions

### Group A

1. The overall goal of educational programs for gifted and talented students should be the fullest possible development of
  - a. **every child's actual and potential abilities**
  - b. every child's external abilities
  - c. every child's internal abilities
  - d. every child's internal and external abilities
2. Which of following is NOT the characteristic of curriculum and instruction for gifted and talented students?
  - a. Be based on learning characteristics of academically talented students in their area of strength
  - b. Posses' academic rigor
  - c. Be thematic and interdisciplinary
  - d. **Be disciplinary as well as interdisciplinary**
3. The gifted students learn at a faster rate than most students and can absorb and reconfigure more concepts, they benefit from a.....
  - a. vertical organization of curriculum
  - b. horizontal organization of curriculum
  - c. **differentiated curriculum**
  - d. parallel curriculum
4. The general term for modifying the pace at which the student moves through the curriculum is called
  - a. enrichment
  - b. **acceleration**
  - c. both a and b
  - d. curriculum differentiation

7. Enriching the content of instruction to include more innovation, novelty, and sophistication is the .....for academically talented students.
- common method of special curriculum
  - specific method of hidden curriculum
  - most common method of differentiating curriculum**
  - common method of parallel curriculum
8. Methods of differentiation within the regular classroom .....as a guideline for phrasing questions and creating lesson activities.
- curriculum compacting
  - tiered lesson
  - Bloom's taxonomy
  - All of the above**
9. The aim is to promote creativity and higher level cognitive skills, and to encourage productive use and management of the knowledge is related to.....
- learning environment
  - content modification
  - process modification**
  - product modification
10. Which of the following is NOT the curriculum differentiation outside the classroom?
- Special course
  - Junior great books
  - Internship and mentor program
  - Local experiences**
- **Subjective Questions**
  - **Short-answer questions**
- Group B**
1. Introduce the basic concept of differentiated curriculum. Also explain the characteristics of curriculum differentiation.

2. Discuss the fundamental concept of acceleration and enrichment in relation to curriculum differentiation with examples.
3. Describe curriculum compacting, and tiered lesson in relation to lesson differentiation in regular classroom.
4. What are the fundamental components of product modification? Explain each of them.
5. What are the major programs of curriculum differentiation outside the classroom? Explain any two them with examples.

• **Long-answer questions**

**Group C**

1. Clarify the concepts lesson differentiation in regular classroom in brief with examples.
2. State and explain the major programs of curriculum differentiation outside the classroom with suitable examples.

**Points for Discussion**

- Educational Approaches for Gifted and Talented Children
- Differentiating Curriculum in term of acceleration and enrichment
- Lesson differentiation in the regular classroom
- Curriculum compacting and tiered lessons in regular classroom.
- Curriculum differentiation outside the classroom
- Internships and mentor programs
- Special courses and Junior great books
- International exposure

## Unit IV: Instructional Models and Methods for Gifted and Talented Children

Many people have been attracted to the issue of curriculum for the gifted because they feel it is new territory. While it is true that curriculum has not been a central focus in the field until recently, it would be inappropriate to conclude that we need new models and methods to provide appropriately differentiated learning experiences for gifted learners. The purpose of this chapter is effective curriculum and instructional models that should form the basis of our curriculum efforts and to discuss their relevance to current school practices. Over the last twenty years, general principles about appropriate curriculum for gifted children have been delineated. Ward (1961 as cited in William, 2006) developed a theory of differential education for the gifted that established specific principles around which an appropriate curriculum for the gifted would be developed. Meeker (1969 as cited in William, 2006) used the Guilford Structure of Intellect (SOI) to arrive at student profiles that highlighted areas of strength and weakness so that curriculum planners could build a gifted program to improve weak areas.

Curriculum workbooks were structured specifically to address this need in the areas of memory, cognition, convergent thinking, divergent thinking, and evaluation. Renzulli (1977 as cited in William, 2006) focused on a differentiated curriculum model that moved the gifted child from enrichment exposure activities through training in thinking and research skills into a project-oriented program that dwelt on real problems to be solved. Gallagher stressed content modification in the core subject areas of language arts, social studies, mathematics and science. Stanley, Keating, and Fox also concentrated on a content acceleration model to differentiate programs for the gifted

Recent writings, including Tassel-Baska (1984 as cited in William, 2006) have stressed a confluent approach to differentiation of curriculum for the gifted that includes both acceleration and enrichment strategies. Passow (1982 as cited in William, 2006) formulated seven cardinal curriculum principles that reflect content, process, product, behavioral, and evaluative

considerations. In examining the state of the art of curriculum and instruction for the gifted, it is clear that there is a multiplicity of approaches that are adopted wholesale for classroom use without adequate testing in a research context and without consideration of their value in the overall educational context. In fact, the recipe approach seems the most popular at the present time. Throw together a special unit on the latest topic of interest in the larger socio-cultural context, add creative problem-solving, mix with higher level thinking skills, and stir in a special research project until done. In order to implement appropriate curriculum for gifted students, there must be concern for the faithful translation of sound models for curriculum and instruction into an action research arena where effectiveness can be continually tested. The curriculum and instructional models presented in this paper have all been tested and found effective with gifted learners. Furthermore, each model emerges from a clearly delineated theoretical and research context. The three relatively distinct curriculum models that have proven effective with gifted populations at various stages of development, domain-specific areas may be termed: 1) the content mastery model; 2) the process/product research model; and 3) the epistemological concept model.

#### 4.1. Instructional Models

Each of the four instructional models described in this section engages students in similar ways, focusing on independent exploration and inquiry, substantial modifications to the individual student's learning environment and tangible products as an outcome of the learning activities. These models were selected because they offer the best examples of how special education for gifted and talented students can truly be differentiated from the regular curriculum. Although the School wide Enrichment Model is the only model to attempt to provide activities for both typically developing and gifted students, each of the other models includes components that can be modified and applied to a broad range of student abilities and talents within inclusive classrooms.

#### 4.1.1. The school Wide Enrichment Model

The School wide Enrichment Model (SEM) not only attempts to meet the needs of gifted and talented students within the regular classroom setting but also is meant to be used with the other students in the class. SEM focuses on applying the know-how of gifted education to a systematic plan for total school improvement. This plan is not intended to replace existing services to students who are identified as gifted according to various state or local criteria. Rather, the model should be viewed as an umbrella under which many different types of enrichment and acceleration services are made available to targeted groups of students, as well as all students within a given school or grade level.

The first step of the SEM is identifying a talent pool of high ability students usually 15% to 25% of the school's enrollment by using a multi-factored assessment approach, including achievement tests, teacher and peer nominations, and creativity assessments. Once the students are identified, they are able to take part in specialized services, many of which are also available and appropriate for other learners in the same classroom. Reis (1995 as cited in William, 2006) discuss some of the relevant features of this instructional approach:

- Interest and learning styles assessments are used with talent pool students. Informal and formal methods are used to create and/or identify individual students' interests and to encourage students to further develop and pursue their interests in various ways.
- Curriculum compacting is offered to all eligible students. The regular curriculum of the classroom is modified by eliminating redundant or repetitious information and materials.
- Three types of enrichment activities are offered to students: Type I, general exploratory experiences Type II, purposefully designed instructional methods and materials, and Type III, advanced level studies with greater depth and complexity.



Reis and Cellerino (1983 as cited in William, 2006) recommend using a revolving door identification model that allows all children in the talent pool to participate in Type I and Type II enrichment activities. Only students who show serious interest in a specific topic evolve into Type III investigators. Students are never compelled to begin Type II Projects; the level remains an open option for them.

#### 4.1.2. Maker's Active Problem Solver Model

Maker proposes a process by which the key elements of content, process, products, and environment of a child's learning situation can be modified. Extensive research on reliability and validity of the DISCOVER assessment and curriculum model has been conducted, showing that teachers whose beliefs parallel the theory behind the model can help students raise their test scores. Arts infusion with this model has also been successful. Active problem solving model consists of five steps

- Identify the problem
- List all possible solutions
- Evaluate options and select the best choice
- Take action
- Evaluate

1. **Content Modification:** The content of curriculum is the type of subject matter being taught. In general, the goal is to develop content that is more advanced, complex, innovative, and original than what is usually encountered in the classroom.
2. **Process Modification:** The strategies and methods used in delivering the content to learners are key features of instruction. The goal is to provide students with many opportunities to actively respond to the content, including independent research, cooperative learning, peer coaching, simulations, and apprenticeships.
3. **Product Modification:** The products of learning are the outcomes associated with instruction. The goal is to encourage a variety of ways that students can present their thoughts, ideas, and results.

**4. Environment Modification:** The learning environment includes both the physical characteristics of the settings and the ambiances created by the teachers or facilitators. The goal is first to establish a positive working environment and then to rearrange the layout. Ideas such as peer tutoring, learning centers, management sheets, and learning packets can help students take more active control over and interests in their learning.

#### 4.2. Problem Based Method of Instruction

Problem based learning challenges students to learn to learn while working cooperatively in groups to seek solutions to real world problems. The problems are used to engage students' curiosity and initiate learning of subject matter. Since the mid 1990s, Joyce Van Tassel Baska at the College of William and Mary has served as overall project director for a series of federally funded grants to develop thematic, interdisciplinary, problem based curriculum for gifted students. Gifted educators throughout the country created and field tested units in science, language arts, and the social sciences. Can ill-formed, real world problem serves as the basis for each of the science units, and understanding and applying the concepts of systems is the overarching theme. These units give students experience in collecting, organizing, analyzing, and evaluating scientific data and learning to communicate their understanding to others.

The Problem based learning language arts units feature change as the overarching theme; the social studies units focus on the concept of interdependence. The PBL units have won many majors curriculum awards from discipline based subject matter groups as well as the National Association for Gifted Children's red apple award for excellence. In addition to wide use in the United States, PBL units are used by teachers in 18 countries and have been adopted by the American Embassy Schools and the Department of Defense Schools. Although the PBL units were developed initially for gifted and talented students, they can be used with students of all ability levels by modifying the activities up or down depending on student ability. There are specific strategies to help students learn search techniques so that they themselves can gather information that will allow them to solve problems. The essence of problem based learning (PBL) is as follows:

- The students are presented with a problem in which the solution is not stated. For examples, a student has suddenly become ill with a number of odd symptoms. The cause of this condition is not evident.
- The students are made stakeholders in the problem. They are to play the role of medical detectives tracking down the diagnosis for the condition and must use a variety of search techniques, such as surfing the internet, to arrive at an answer.
- The instructors play the role of metacognitive coach, not information giver. The teacher may point out possible sources of information or ways of accessing various sources, perhaps even suggesting that students interview community medical personnel, but will not provide the answer.

Using combination of small-group and individual work, the students try to arrive at the answer. In the preceding problem, the students finally decided that the case was the West Nile virus. They recommended controlling mosquitoes but not closing the school as the disease is not contagious. Teachers receive special training for the role of coach in the PBL model. These PBL methods have been used to teach economics, social studies, language arts, science, and even medical school subjects. The observations from diverse PBL programs are remarkably similar: The students are energized by the nature of the problems presented, play an active and enthusiastic role in seeking new knowledge to solve each problem, and report excitement and increased interest as a byproduct of PBL approach.

One example of the use of all three levels of the RtI approach in education for gifted students is a problem based learning unit on the Black Death (Gallagher & Gallagher, 2013 as cited in Kirk et al., 2015). The process begins with the entire class of low income sixth grade students taking the roles of council members in a medieval Italian town who have heard that a terrible plague is coming. The students' task is to determine how to protect their fellow citizens and what actions they need to take as a council. The students study in small groups, explore the Internet, and have discussions and sometimes debates about what should be done. From this Tier I whole class exercise; a number of high performing students were identified and placed in a special group that met three times a week (Tier-II). They were given special lessons in self

assessment, discussed career goals, and were encourage believing in themselves and their special abilities. Some of these students were then given individual tests and interviews to determine whether they qualified for the school program for students with special gifts and talented (Tier-III). Furthermore, the problem solving approach is tailored to individual student's learning needs. When children are not responding to effective curriculum, then individualized adaptations are made. While problem solving approaches consider primarily students who are not progressing when compared with their same-age peers, they also need to address gifted students who are not progressing at above grade levels commensurate with their abilities. These accelerated interventions allow students to increase their levels of knowledge and skills in their areas of strengths and may include advanced educational options such as continuous progress learning, curriculum compacting, advanced placement, and grade or subject skipping, and post secondary enrollment.

The standard protocol approach uses a common, standardized curriculum in Tier 1, monitors students to identify those that are not making progress as expected, provides for collaboration among special and general educators, and refers to specialized services in Tier 3 if the students not progress as expected. While the standard protocol approach is used primarily for children who may need additional support for success to meet grade level standards, it needs to be differentiated and use with children who are advanced or beyond grade level. Collaboration between professionals guides both approaches. If the general education classroom curriculum does not appear to be effective, then professionals and parents work together to develop plans for student success. This collaboration is particularly important for students from diverse backgrounds and whose achievement is uneven. These professionals need to include general, special, and gifted educators who determine when individualized adaptations are needed. If the general education classroom cannot provide sufficient improvement in all students' learning then special services are considered.

### 4.3. RTI Approaches for Children with Special Gifts and Talents

The Association for the Gifted, a division of the Council for Exceptional Children recognizes the importance and the impact of the Response to Intervention (RTI) method of identifying and serving students with diverse educational needs. The position paper on RTI issued by the Council for Exceptional Children specifically addressed the needs of children who are twice-exceptional indicating that these needs must be met through the provision of access to a challenging and accelerated curriculum, while also addressing the unique needs of their disability. The inclusion of students who are twice exceptional within the RTI framework provided a starting point for addressing students who are gifted. In this paper we extend the application of RTI to include children who are gifted.

The National Association of State Directors of Special Education and the Council of Administrators of Special Education state that RTI challenges the assumptions that separate, often disconnected silos are the best method to address the learning needs of students. Thus, while gifted education has organized and maintained programs separate from general education, the nature of general education is shifting. The Council for Exceptional Children (2007) has noted that RTI must be viewed as a school- wide initiative, spanning both special education and general education. Gifted education must review its relationship to general education given the framework of Response to Intervention model and the changing relationships among the components of education. In addition, the National Center for Culturally Responsive Educational Systems (2005) has noted that RTI must be addressed within the context of cultural learning and that the diversity of students must be recognized through the nature and implementation of RTI

- 1. Critical Elements of RTI:** There are several aspects of RTI that are critical to its development and implementation across educational spectra, including students with gifts and talents. These components include:
  - universal screening, assessments, and progress monitoring
  - established protocols for students who need additional supports and services

- problem-solving that includes parental involvement to determine what the student/child need
- a tiered system of intervention, based on level of need and support.
- Screening and Assessment Issues

Universal screening is a process through which all students and their educational performance are examined in order to ensure that all have an equal opportunity for support. It is our contention that universal screening is applied for the purpose of recognizing student strengths and abilities in an effort to provide appropriate education to students whose development is advanced. A universal screening process helps to ensure that access to high end learning opportunities are open for all students. Progress monitoring, a key component of RTI, is also appropriate for students who are gifted. For these students, who learn more easily and quickly in their area of strength, progress monitoring should be used to document mastery. Once mastery has been documented, students must be given opportunities to continue learning with enriched and advanced materials related to their area of strength.

- 2. Established Protocols:** Established protocols are based on standard treatments that have been shown through evidence-based studies to be successful. While these protocols have been designed to promote acquisition of new knowledge and skills for most students, they also need to include curriculum and materials that are differentiated and respond to students who are ready to learn curriculum that is beyond their current grade level. Gifted students need to be able to access a flexibly paced, advanced curriculum that provides depth and breadth in their area of strength.
- 3. Tiered Supports and Services:** The current implementation models of RTI demonstrate multiple levels of intervention, with the more significant levels of intensive intervention serving the fewest numbers of students with the most intense needs. Typical models have three levels of intervention, with Tiers I and II focused on small group interventions, increasing in intensity to the individual level of Tier III. When considering gifted students, each tier is governed by the intensive services required for students whose achievement is greater than typical students in specific areas. RTI for gifted students differentiates the depth

and breadth, pacing and complexity of content for students within each Tier through acceleration and enrichment opportunities. Gifted students, who need more intensive services beyond the general education differentiated curriculum, will move into different tiers.

- 4. Fluidity and Flexibility:** According to the Council for Exceptional Children, the RTI services are “flexible and fluid, based on student need. When considering the needs of gifted children, a similar level of flexibility is needed, since gifted children, and particularly twice-exceptional students will not demonstrate high levels of achievement in all areas. A flexible system of continuous and comprehensive services allows schools to meet the needs of gifted students at varying levels of development. In this way, services are less dependent on a student’s label and more dependent on a student’s need.
- 5. Professional Development:** Faculty and staff need to become aware of, and capable of progress monitoring across a wide range of developmental levels. As noted by the Council for Exceptional Children (2006), professional development includes development of essential knowledge, skills and beliefs and attitudes. For gifted students, such knowledge, skills and attitudes are clearly noted in the NCATE Preparation Standards established through collaboration. Such training in strengths-based educational strategies is needed at all levels of education, from state to classroom levels.
- 6. Resources:** There is a wealth of literature available in the fields of gifted education and special education regarding appropriate funding. Because RTI is an allowable expense through IDEA and gifted children with disabilities must be served under IDEA, it is foreseeable that many of these services can be incorporated by realigning them to meet the needs of all students. In addition, existing funds under special education and gifted education can be aligned to meet these varying needs, using the same process that focuses on growth of all students.
- 7. Twice Exceptional Students and Response to Intervention:** Nowhere else is the issue of a flexible system of RTI most appropriate than with children who are gifted with disabilities. The current system of RTI allows great flexibility in services designed to support a child’s area of challenge. However, it is even more critically important to support a child’s area of strength as well. A system in which both systems coexist and flexible services can

simultaneously provide support, remediation, enrichment and acceleration. This system can provide a cohesive, unified system of education for children with such diverse needs.

#### **4.3.1. Universal Tier-I**

Our first goal for students with special gifts and talents in Tier-I is differentiating the curriculum. In differentiating curriculum for students with SGT, a teacher is faced with the problem of time, not too little time which is problem with other exceptionalities, but too much time because these students will finish the required work early and will be looking around for something to do. Tier-I is characterized by a high quality curriculum for all learners, a Universal Design for Learning (UDL) approach, periodic screening and assessment to monitor a student's progress, and family engagement with school and classroom activities (Coleman, 2012 as cited in Kirk et al., 2015).

We must realize that no matter how many interesting variations to the regular program we may suggest, we are still faced with data that suggest that such variations are rarely done in the general classroom, unless specific planning is done in advance of the session. Renzulli and Reis (1997 as cited in Kirk et al., 2015) examined the work in general classrooms and found that rarely are differentiated experiences proposed. Similar results have been found by Subotnik et al. (2011). The instructional team should plan ahead for such assignment because it is too much to expect the general classroom teacher to come up with these UDL type activities on the spur of the moment.

#### **4.3.2. Targeted Tier-II**

The additional stimulation through Tier-I activities often does not seem enough to meet the needs of many students with SGT, so they are placed in a more responsive setting. One of these strategies is to move them forward, to accelerate them, to find a more favorable setting for their intellect. Tier-II represents a major difference from the regular program, as recognition of the substantial knowledge and aptitude differences between some students with SGT and students in the average program. Tier-II activities will often remove the student with SGT from the regular classroom for a considerable amount of time, and perhaps for all of the time.



**Student Acceleration:** we can adapt the educational program by abandoning the traditional practice of moving from grade to grade and by varying the length of the educational program. Since more and more knowledge and skills must be acquired at the highest levels of the professionals, students with SGT who are seeking advanced degrees or professional training in fields such as medicine can find themselves still in school at age 30 and beyond. The process of student acceleration passing students through the educational system as quickly as possible is a clear educational objectives for some students. Gallagher and Gallagher (1994 as cited in Kirk et al., 2015) described six ways of accelerating students.

- **Early school admission:** The intellectually and socially mature child is allowed to enter kindergarten at a younger than normal age.
- **Skipping grades:** The child can accelerate by completely eliminating one semester or grade in school. The primary drawback here is the potential for temporary adjustment problems for the student.
- **Telescoping grades:** The child covers the standard materials but in less time. For example, a three year middle school program is taught over two years to an advanced group.
- **Advanced placement:** The student takes courses for college credit while still in high school, shortening the college program.
- **Dual enrollment in high school and college:** The student is enrolled in college while finishing high school.
- **Early college admission:** an extraordinary advanced student may enter college as young as 13 years of age.

From early admission to school to early admission to college, research studies invariably report that children who have been accelerated, as a group, have adjusted as well as or better than children of similar ability who have not been accelerated. The major objection to the strategy is the fear that acceleration can displace individual children with SGT from their social and emotional peers, affecting their subsequent social adjustment.

### **Ideas on why schools hold back America's bright students**

- School's lack of familiarity with the research on acceleration
- A belief that children must be kept with their age peers
- A belief that acceleration hurries children out of children
- A concern that acceleration could hurt students socially
- Political concerns about equality for all
- The concern that other students will be offended

A more longitudinal study are completed, it becomes possible to learn what actually happened to students who were accelerated, instead of what people hoped or feared would happen. Lubinski et al. (2001 as cited in Kirk et al., 2015) conducted a ten year follow up of 320 students with profound gifts who scored high enough on the SAT to qualify as the top students among 10,000. Of these 320 students, 95 percent had taken advantages of various forms of acceleration such as grade skipping, taking college courses while in high school, taking exams for college credit, entering college early, and so forth.

The perceptions of these students regarding their acceleration were highly favorable. They saw the procedures as an advantage in their academic progress and in maintaining their interest in learning. They found little or no effect of such acceleration on their social lives or peer relationships. By their early 20s, 23 had already attained Ph. Ds, 9 had law degrees, and 7 were doctors of medicine. Another 150 or so of this sample continued to work toward advanced degrees. These results are even more positive than those of similar studies and clearly suggest that the fears of educators and parents that such acceleration would harm the students socially are largely unfounded.

### **Resource Rooms and Cluster Grouping**

Teachers can change the learning environment in many ways, but most of those ways are designed to bring children who have SGT together in small groups for instruction for a period of time and require collaborative teaching. The aim is threefold:

- To provide students with SGT with an opportunity to interact with one another and to learn with and be stimulated by their intellectual peers
- To reduce the range of abilities and performance within the classroom to make it easier for the teacher to provide appropriate instruction matched to the student's needs
- To place students who have gifts with an instructor who has expertise in working with such students or in a relevant content field since changes in this learning environment affect the entire school system, they have received more attention at the school district level than have changes in skills and content, which remain primarily classroom issues.

#### 4.3.2. Intensive Tier-III

Tier-III takes the students with SGT into totally new environment with special programming and staff.

1. **Residential Schools:** Another type of educational setting for students with SGT is the residential school for science and math. Established in 10 states, these schools bring together highly talented students for their last two or three years of secondary school. Instead of floating through their last two years of high school, as many students with SGT do, students in these residential schools are given a rigorous introduction to higher level thinking and study. The North Carolina School of Science and Math and the Illinois Math and Science Academy are two such schools. Additional stimulation can be had in Governors Schools, a summer program of several weeks in many states that replaces the summer wasteland for intellectual interests with a program that may focus on self-understanding and special content not covered in second secondary school.
2. **Home Schooling:** One important educational phenomena are a steady interest in homeschooling, involving more than one million children who have been receiving their education at home (Kunzman, 2008 as cited in Kirk et al., 2015). Although homeschooling originated with parents anxious to maintain a religious element in their children's education, it has also become a vehicle for many parents of students with SGT. Many of these parents have despaired of the public schools' ability to meet the needs of their exceptional children.

Such education has now become more feasible through the Internet. No longer is the school the gatekeeper or exclusive dispenser of knowledge. The access that the internet provides opens wide the door to knowledge of all sorts. There have been few serious efforts to evaluate the overall impact of home schooling on students with SGT, but there have been favorable reports from parents seeking an educational alternative for a child with SGT. It has also caught the attention of educational administrators, who are aware of losing some of their better students to this alternative and who therefore seek ways to entice these children back into public school programs.

#### **4.3.3. Tier III Intensive Intervention**

Tier III is the most intense level of intervention on the continuum of pyramid options. At Tier III, the goal is remediation of existing academic, social, or emotional problems and prevention of more severe problems. Chronic non responders to Tier I instruction and Tier II support are candidates for these Tier III intensive interventions. It is possible that some students may have learning gaps so severe that the problem-solving team will recommend Tier III interventions without first trying Tier II support. Districts need to independently establish specific criteria for which students will be served at each tier. There is a considerable increase in intensity with Tier III interventions, namely:

- Group size is only one to three students.
- Time per week is 150-300 minutes.
- Duration is 9-12 weeks.
- Progress monitoring is conducted up to twice a week.
- Level of intensity generally requires a full period of instruction held outside a general education classroom.
- Educator responsible for intervention sessions requires specialized training (e.g. Title I reading teacher, psychologist, counselor, special education teacher, therapist, highly trained aide using a scripted program).

**1. Tier III Structure and Criteria:** Like Tier II, daily Tier III lessons need to be fast paced with good modeling followed by much focused guided practice. Ongoing positive corrective feedback is needed to keep student interest and involvement high. These lessons are more intense because of the smaller group size and longer sessions. Independent worksheets are minimized because active instruction is what these students need. The class routine needs to be so familiar that students are able to follow the lessons with little time wasted explaining basic directions. Lessons will reinforce old skills while modeling and teaching new ones. Tier III Instruction needs

- Systematic and explicit instruction that includes modeling and direct teaching using multiple examples
- Specialized programming that focuses on just a few key skills at a time
- Mirroring of skills being taught in the general education classroom, as well as attention to filling in skill gaps that are causing difficulty in the general education classroom
- A variety of practice opportunities that coordinate with identified classroom skills but use different approaches
- Continuous corrective feedback, encouragement, and self monitoring activities.

At Tier III, students who are two or more years below grade level need highly individualized instruction and support four or five times per week. These sessions often utilize intensive research-based programs to target the exact weaknesses of particular students. After 9-12 weeks of intensive Tier III intervention, the problem-solving team which includes the classroom teachers analyzes the student data and makes a decision to:

- Support the student using only Tier I and Tier II intervention if the Tier III strategies have been successful
- Recommend continuing Tier III instruction using new strategies if the student is showing growth but not closing the academic or behavior gap
- Recommend formal evaluation procedures for special education while continuing new Tier III strategies if Tier III intervention is unsuccessful.

## Let Us Sum-Up

Three models for differentiating curriculum for gifted students are Renzulli's School wide Enrichment Model, Makers' Active Problem Solver Model, and Problem Based Learning units. Cognitive strategies problem finding, problem solving, and creativity are the focus of many special programs for students with SGT. Adaptation can be made in the common core state standard for students with SGT. Acceleration the more rapid movement of students with SGT through their long educational span, has shown positive results. Society's traditional gender roles may provide special obstacles for girls with SGT, limiting their willingness to explore the full range of their talents. Many students possess SGT that is hidden by differing cultural perspectives, linguistic backgrounds and life experiences. A variety of tests, observations, and performance indicators are necessary to discover these students. Children with physical and sensory disabilities may have intellectual gifts but often their abilities are undiscovered because less has been expected of them.

## Unit-end Activities

- Objective questions Group A
- Tick the best answer.

1. ....is the only model to attempt to provide activities for both typically developing and gifted students.
  - a. **School wide Enrichment Model**
  - b. School wide Acceleration Model
  - c. Maker's Active Problem Solver Model
  - d. Outside School Enrichment Model
2. School wide Enrichment Model is identifying a talent pool of high ability students .....by using a multi-factored assessment approach.
  - a. usually 10% to 15% of the school's enrollment
  - b. usually 10% to 20% of the school's enrollment
  - c. **usually 15% to 25% of the school's enrollment**

- d. usually 15% to 30% of the school's enrollment
3. Which of the following step is NOT found in Maker's Active Problem Solver Model?
    - a. Identify the problem
    - b. List all possible solution
    - c. Evaluate options and select the best choice
    - d. **Termination of the problem**
  4. The learning environment includes both the physical characteristics of the settings and the ambiances created by the teachers or facilitators is related to .....
    - a. content modification
    - b. process modification
    - c. product modification
    - d. **environment modification**
  5. Problem based learning challenges students to learn to learn while working cooperatively in groups to seek solutions to real world problems, and used to engage students'.....
    - a. curiosity and initiate learning of subject matter
    - b. goals and objective of the lesson
    - c. review requisite skills
    - d. Life management skills
  6. The Association for the Gifted, a division of the Council for Exceptional Children recognizes the importance and the impact of the .....of identifying and serving students with diverse educational needs.
    - a. Collaborative method
    - b. **Response to Intervention (RTI) method**
    - c. Interactive method
    - d. Verbal and nonverbal method
  7. Which of the following is NOT the critical element s of Rtl?
    - a. Universal screening, assessments, and progress monitoring

- b. Established protocols for students who need additional supports and services
  - c. Tiered system of intervention, based on level of need and support.
  - d. **Problem generating system includes peer involvement to determine what the student/child need**
8. The first goal for students with special gifts and talents in Tier-I is differentiating the curriculum
- a. Establish protocols for need and support
  - b. Screening and progress monitoring
  - c. differentiating the curriculum
  - d. Intervention based on level of need and support

### **Group B**

- **Subjective questions**

- **Short answer questions**

1. Explain the basic concept of School wide Enrichment Model with examples.
2. Describe Maker's Active Problem Solver Model in terms of its modification.
3. Describe the Universal Tier-I concept of Rtl approach for children with special gifts and talents.
4. Describe the basic concept of resource room and cluster grouping.
5. Describe the concept of residential and home schooling in terms of Intensive Tier-III with examples.
6. Describe the Targeted Tier-II of Rtl approach for children with special gifts and talents.

### **Group C**

- **Long answer questions**

1. State and explain the essence of Problem based method of instruction. Also list out the essence of problem based learning with examples.
2. What are the six ways of accelerating students according to Gallagher and Gallagher? Explain each of them.



3. Describe the structure and criteria of Intensive Tier-III in terms of residential and home schooling with examples.

### Points for Discussion

- Instructional models
- School wide Enrichment Model
- Maker's Active Problem Solver Model
- Problem based method of instruction
- Rtl approaches for children with Special gifts and talents
- Universal Tier-I
- Targeted Tiered-II
- Intensive Tier-III

## Unit V: Alternative and Ability Grouping for Gifted and Talented Children

There is an alarming trend in many places to eliminate gifted education programs in the mistaken belief that all students are best served in heterogeneous learning environments. Educators have been bombarded with research that makes it appear that there is no benefit to ability grouping for any students. It also appears that all students, including average and below average students, may benefit when gifted students are placed in their own cluster. A group of three to six identified gifted students, usually those in the top 5% of ability in the grade level population, are clustered in a mixed-ability classroom. The teacher has had training in how to teach exceptionally capable students. If there are more than six gifted students, two or more clusters could be formed. In a tracking system, all students are grouped by ability for much of the school day, and students tend to remain in the same track throughout their school experience. Gifted students benefit from learning together, and need to be placed with similar students in their areas of strength. Cluster grouping of gifted students allows them to learn together, while avoiding permanent grouping arrangements for students of other ability levels.

When teachers try to meet the diverse learning needs of all students, it becomes extremely difficult to provide adequately for everyone. Often, the highest ability students are expected to make it on their own. When a teacher has several gifted students, taking the time to make appropriate provisions for them seems more realistic. Furthermore, gifted students can better understand and accept their learning differences if there are others just like them in the class. Finally, scheduling out of class activities is easier when the resource teacher has only one cluster teacher's schedule with which to work. Since these students have previously mastered many of the concepts they are expected to learn in a given class, a huge part of their school time may be wasted. They need exactly what all other students need: consistent opportunity to learn new material and to develop the behaviors that allow them to cope with the challenge and struggle of new learning. It is very difficult for such students to have those needs met in heterogeneous classes. Gifted students need consistent opportunities to learn at their

challenge level as all students do. It is inequitable to prevent gifted students from being challenged by trying to apply one level of difficulty for all students in mixed ability classes. When teachers can provide opportunities for all students, including those who are gifted, to be challenged by rigorous curriculum, there is nothing elitist about the situation. When gifted students are placed in mixed-ability groups for cooperative learning, they frequently become tutors. Other students in these groups may rely on the gifted to do most of the work and may actually learn less than when the gifted students are not in their groups.

Research indicates that a particular structure of cluster grouping raises everyone's achievement level. When class placements are made, students should be sorted into 5 groups: I, II, III, IV, V. One class, taught by a teacher with some gifted education training, should be assigned the cluster group of gifted students (group I) and some students from groups II to IV. All other classes should include a range of students from groups II through V. This method creates a more narrow range of student achievement levels, allowing the teacher to focus instructional activities. It is important to place some group II students in each non cluster class; even if it means placing no group II students in the gifted cluster class. Research on role modeling (Schunk, 1987 as cited in William, 2006) indicates that to be effective, role models cannot be drastically discrepant in ability from those who would be motivated by them. When gifted students are grouped in their own cluster, they have the benefit of working with one another and new leadership emerges in the other non-cluster classes. As classes are formed, be sure the classes without clusters of gifted students include several highly capable students. Teachers and administrators can expect measurable achievement gains across all classes.

The inclusion model, in which students with exceptional learning needs are integrated into regular classrooms, is compatible with the concept of cluster grouping of gifted students, since both groups have exceptional educational needs. The practice of cluster grouping allows educators to come much closer to providing better educational services for groups of students with similar exceptional learning needs. In non-cluster classrooms, teachers report they are able to pay more attention to the special learning needs of those for whom learning may be more difficult. Some schools choose to avoid placing students with significant learning difficulties in

the same class that has the cluster group of gifted students. A particular class may have a cluster of gifted students and a cluster of special education students as long as more than one adult is sharing the teaching responsibilities.

## 5.1. Specials Schools

Special schools for gifted and talented students have a long history. Special high schools for students of both genders began in the early 20<sup>th</sup> century with the establishment of Stuyvesant High School in New York City. The establishment of the Hunter College High School for Gifted Girls came even earlier. The Hunter College Elementary School for gifted students opened in 1941. Children are selected for admission to these schools on the basis of competitive examinations and scores on individual IQ tests. These arrangements for academically talented children became popular in the 1980s as mandates for desegregation caused urban school systems to change the concept of the neighborhood school to the concept of the magnet school. Even on the elementary school level in many urban areas, special magnet schools emphasize various themes: for example, Columbus, Ohio, has a French language school; most large cities have a special high school for the visual and performing arts and special schools for mathematics and science. Recently, many states have permitted special charter schools for gifted and talented students.

### 5.1.1. Namuna Machhindra School

Ashish and Rojina are students of Namuna Mchhindra School in Mangalbazaar, Patan. Namuna Machhindra and Laboratory School are two private schools in Kathmandu, which impart education to the blind. The sightless kids share the same classroom with the sighted. The blind kids are first taught Braille and then judging from their ability, are placed in various grades. Established in 1965, The Namuna School was extended to introduce a blind section in 1986. Credit goes to Mario Masuda of Japan who opened up the first Braille library at Thimi and provided for the library at the school in 1986. The visually impaired Masuda introduced education for the blind in Nepal and the teachers today give continuity to his legacy. The school

provides teachers according to government regulations, which stipulate that there must be one teacher for every ten blind students. Bishnu Upadhyay, a college student visits the school quite often. He had attended this school for a short period of three months. He has consumed our salt of almost ninety days, Buddha Laxmi, the teacher teases and Bishnu concurs. A major problem the school faces is that each year they have to come up with new Braille books as the syllabus changes every year. An ordinary typed book is equivalent to three Braille books at least. Six students are appearing for SLC this year. During exams, blind students are normally given extra time for writing in Braille.

For SLC, they are given an hour and half added time. However the sighted students are supplied with answers from the blind students, who then write for them, informs teacher, Purna Subba. The school has been supported by NAWB (Nepal Association and Welfare of the Blind) while Funech Germany is sponsoring blind students and funds are received from many organizations from time to time. When asked if the blind students learn better if taught along with sighted kids, both Purna Subba and Bishnu say it is best growing naturally, while Bishnu strongly proclaims, we are forward or at the least, the same in studies as the sighted students. Their biggest lament is that the Braille library at Thimi is not very well maintained although the place abounds in books. The teachers are of the opinion that people should consider blind people as part of the society as there are more than 3 Lakh blind people amongst us.

### **5.1.2. Laboratory Boarding School**

Purna Devi Kansakar was the first blind woman to pass SLC from the Laboratory Boarding School of Kirtipur in 1973 and Bunu Dahal one of their brightest students is a career consultant for blinds in the US, herself being sightless. Nestled below the hills of Kirtipur, the Laboratory School opened its doors for the sightless and sighted students in 1965 and enrolled them along with other students. Till date, eighty students have passed SLC from here while four students are appearing for this year's SLC. Prabite Shrestha, the Braille teacher informs that in subjects like Math and Science, figurative questions are replaced by extra theoretical questions. Sita Gyawali, a sightless Nepali grammar teacher and ex-student of the school who had studied

computers in the US for nine months says its difficult checking papers. A lot of interpretation and time is needed. Her zeal towards her duties was quite apparent as she resumed her work immediately after we left. Being a private school, the teachers here have to prepare the Braille books themselves, besides the government books which are provided by NAWB. Prabite Shrestha informs that the blind students are very motivated and many are class toppers. Most of them are motivated enough to pass masters, she points out.

### **5.1.3. Adarsh Saula Yubak H.S School**

Bungmati is famous for its woodcarving and the fact that it is the resting place of the god Rato Machhendranath. The educated community of Bungmati started a library Saulya Puchaha at a time when classrooms did not exist. Subsequently, the rapid growth of students led to the Adarsh Saula Higher Secondary School being established in 1969 and extended upto high school in 1998. Three years ago, the school went up to grade twelve. A product of the school, Daya Ram Maharjan, the current principal of the primary school, is a man whose work does all the talking. The government school started education for the sightless in 1990. When word spread around, parents also brought their hearing-impaired children to the school. So, in 1992, the school was also opened to the deaf after which, Maharjan learnt Braille and sign language. He then registered an association for the disabled in 1997, where the disabled students of the school could be housed.

In the resource class, the students are firstly taught Braille and then placed in the grades they are suited for. However, the deaf kids cannot be taught together with the sighted and blind kids, so most of them do not continue studies, informs Maharjan, there are 586 students in the primary section out of which 27 are disabled and there are two teachers each for teaching Braille and sign language. One blind ex-student of the school, Jiwan Dongol returned and now teaches the others. The school provides the books other than that stipulated by the government curriculum which are provided by NAWB. Students come from as far as Solukhumbu, Kalikot and Rolpa. The school's total annual fee is Rs 200/- for lower grades and Rs 500/- from grade five onwards. The disabled service association houses the blind, deaf and the disabled students

of the school and takes care of their feeding and lodging. As we leave the last school, we look back on the real stories of parents putting their disabled kids in stables along with cattle. Many such people are mistreated and schools for the disabled are doing more than imparting education, they are also providing them protection. All they need is a hand to hold and guidance.

## 5.2. Self-contained Classroom

There is always the option of creating a self-contained room for talented and gifted students. The primary advantage of the self-contained classroom is that all curriculum and instruction can be focused on needs of high ability students. Other advantages of self-contained classrooms are that students are more likely to work at a pace commensurate with their abilities, and membership in a class of intellectual equals may challenge some gifted students to excel even further. The self-contained classroom model may also be more efficient because gifted education teachers do not have to move from classroom to classroom or school to school to serve students. In addition to sharing many of the disadvantages of self-contained classrooms for students with disabilities such as limited opportunity to develop friendships with peers in general education, self-contained classroom programs for gifted and talented students must often deal with stigma of being viewed as elitist. Some district may be too small to support the self contained classroom option, even multi age or across grade level classes.

### 5.2.1. What are Self-Contained Classrooms?

Unlike standard classrooms with a large number of peers, self-contained classrooms are typically smaller settings with a fewer number of students. Created to help foster enhanced support for students with special needs or specific difficulties, self-contained rooms are generally comprised of about ten students with unique struggles who are most commonly instructed by a lead teacher with a certification in special education. Self-contained classrooms will also have at least one paraeducators who provides instructional support under the guidance of the classroom teacher. Due to recent curriculum shifts, some self-contained rooms cater to

the diverse needs of students, such as those coping with autism spectrum disorder. A lead teacher, who is highly trained to help support students with autism, is able to provide greater assistance than what these students would typically receive in a classroom with a larger student to teacher ratio. Other examples of students who may be enrolled in self-contained rooms include students with developmental issues, behavioral concerns, and students with specific academic struggles i.e. in math, reading, science or students learning to read with dyslexia. Subsequently, due to the unique demands of all students enrolled in public schools, many educators have found that self-contained classrooms provide a more positive and supportive environment for academic, personal, and even social development. Traditionally, self-contained classrooms were intended to help students who demonstrated special needs, or to assist students who were struggling with classes or curriculum content. However, as the achievement gap among students continues to grow, many public schools question whether self-contained classrooms are the best avenue for student learning and support.

### **5.2.2. The Purpose of Self-Contained Classrooms**

A self-contained classroom is generally designed to provide struggling students with specialized support and interventions. For example, many students coping with autism spectrum disorder are pulled out of standard classes in order to work with special needs experts on an array of skills, lessons, and tutorials to enhance each student's progress. In many other cases, students who are learning to read with dyslexia, students with Disorder or ADHD, or students who display a general struggle in regular classrooms are also candidates for self-contained instruction. In the past, students with special needs might have spent their entire day in a self-contained classroom. And while severely disabled students may still do so, for the most part, special needs kids spend at least part of their day in regular education classrooms. The level to which special needs children are integrated into regular education classrooms largely rests upon that child's Individualized Education Plan (IEP). Among other things, an IEP explicitly states what services a child will receive in school. This includes how the curriculum is delivered to the child and what aids and services the child is eligible to receive, including program modifications like self-contained classrooms.



Although self-contained classrooms provide many benefits for children with special needs, interaction with their peers is also very important. In recent years, schools have moved toward a model of mainstreaming or inclusivity. Wisconsin Education Association Council (WEAC) defines mainstreaming as selective placement of special education students in one or more regular education classes. The purpose of mainstreaming is to give special needs students the peer-to-peer interaction they need, but doing so in classes that suit the child's strengths or academic interests. For example, a child with a traumatic brain injury who particularly enjoys social studies might spend his entire day in a self-contained classroom, except for the daily period in which he joins the regular education social studies class. In this situation, the child would be accompanied by a paraeducator who would assist the child with reading, writing, note taking, test taking and other common classroom duties.

Inclusion, as defined by WEAC, is educating a child to the maximum extent appropriate in the school and classroom he or she would otherwise attend. In this situation, services are brought to the child with special needs, rather than the child leaving the regular education classroom. Again, paraeducators will often work with the special needs student to assist with assignments, testing and other tasks. The regular education teacher and the student's peers will also engage with the special needs student to create an environment in which the student gleans academic knowledge and skills, as well as social and emotional skills.

### **5.2.3. Which Students should be placed in Self-Contained Classrooms?**

While most community members and school leaders agree that self-contained classrooms provide struggling students with much needed support, many parents and school leaders are concerned about the target audience for this educational intervention. As researchers Algozzine and Morsink explain in the journal *Exceptional Children*, there are specific cases of students who, without doubt, need more personal and unique interventions: Clearly, there is a need for specially designed instruction for some exceptional students. For example, it is difficult to imagine not providing specialized classroom interventions for individuals who are blind or

deaf. While students with specific needs are provided with interventions and public school support, a new wave of educational experts argue that this approach is leaving out a significant student population the academically gifted. Talented and Gifted students often express that their standard courses of study fail to meet their own unique and special needs. While schools address the needs of those who are cognitively, behaviorally, and emotionally struggling, many public schools have not extended this support to students who desire a greater challenge. As the University of Michigan reveals in their resource Gifted Education self-contained classrooms for gifted children provide unique instruction and intervention strategies for all public school students.

As many academically gifted kids often feel excluded by peers, bullied, teased, or taunted for their skills and abilities, self-contained rooms for gifted kids would allow this population of students to work with peers who are faced with the same struggles. This, as research supports, is a benefit that struggling students are able to experience in self-contained classrooms as well. The National Association for Gifted Children estimates that 5% to 7% percent of children attending U.S. public schools are academically gifted. To address the needs of these students, many schools across the nation have implemented special programs and classes. This might take the form of Advanced Placement, International Baccalaureate or honors courses in public high schools.

In elementary and middle schools, gifted children might be pulled out of a regular classroom for part of the day to engage in studies in a self-contained class with other gifted students. Some public school districts offer specialized gifted and talented programs that provide gifted students more rigorous classroom studies, as well as opportunities to compete in academic-related competitions such as History Day and Odyssey of the Mind. The debate over equality in education is not one that will soon be resolved. However, mainstreaming, inclusivity and self-contained classrooms are moves in the right direction.

### 5.3. Resource Room or Pull-out Programs

Some educators of the gifted and talented believe that the resource room or pull-out model is the best option for serving these students. While resource room programs offer many of the advantages of a self-contained classroom, they pose a number of challenges and disadvantages of complete segregation from the regular classroom. They pose a number of challenges and disadvantages as well.

#### 5.3.1. Advantages of Resource Room and Pull-out Models for Gifted and Talented Students

Following are the advantages of resource room and pull-out models of gifted and talented students:

- Pull-out programs are quite easy to set in motion
- The teacher in the regular classroom has more time to work with the other students
- Students who are left in the classroom have a chance to shine
- The teacher in the pullout program can focus on critical and creative thinking since the teacher in the regular classroom focuses on the standard curriculum
- The differentiation of curriculum is separated from the classroom flow
- Students receive special help in areas of strength
- Teachers can feel as if they have their kids
- Students can have time with other students to discuss intellectual interests that may not be shared by students in the regular classroom.
- Collaboration with other teachers is encouraged
- Small groups of students can do special projects that would not be possible in the regular classroom
- Teachers of the talented can provide intensive instruction in areas of expertise (e.g., the arts, foreign language)

### 5.3.2. Disadvantages of Resource Room and Pull out Models for Gifted and Talented Students

Following are the advantages of resource room and pull-out models of gifted and talented students:

- Costs more as extra teachers have to be hired and special facilities provided
- The regular classroom teachers get frustrated and often feel that students leaving disrupts their instructional plan
- Students in the regular classroom might feel resentful
- The academically talented students might have to make up work in the regular classroom while having more work in the pullout classroom
- Curriculum may have no relationship to curriculum in the regular classroom
- Students are treated differently according to ability
- Teachers are isolated from the other teachers
- Students may feel different from the rest of the students in their regular classroom
- Students are academically talented all the time, and not just during pullout time
- Small groups of students may receive special privileges other students don't receive (e.g., access to computers field trips)
- Turf issues with regular classroom teacher may arise (e.g., homework, lessons and assemblies missed).

Administrators and teachers in schools that provide resource room /pull-out services for gifted and talented students should recognize that these children do not stop being gifted when they leave the resource room and return to the regular classroom. Although the learning opportunities and instruction provided to talented students in the resource room may be of the highest quality, they do not eliminate the need to differentiate curriculum for these students when they are in the regular classroom during the rest of the school day.

## 5.4. Regular Classroom

For gifted and talented students, inclusion in the regular classroom has not been an issue as it is with other exceptional children. Most academically or otherwise talented students are served in regular classrooms. If the school district has a program for gifted and talented students, a teacher with special training in gifted education provides direct and indirect support for the regular classroom teacher. Working in consultation with the regular classroom teacher this special educator sometimes called a facilitator, a consulting teacher, or an intervention specialist for the gifted might provide specialized instruction in science, math, the humanities, or other subjects to flexible groups of students. She may work with a high ability reading or math group while the rest of class is working in these domains. She may mentor projects and displays, design special learning centers, and help plan special field trips.

An advantage of this model is that the gifted education teacher is no longer isolated and alone, working in her resource room or pull-out classroom without knowledge of what the students are doing in their home classrooms. She is a partnership with regular classroom teachers, collaborating on curriculum planning teams as they plan multi level lessons. Another important advantage of the consultant teacher model is that students of all ability levels in the regular classroom can benefit from smaller student teacher ratios, participating in multi-tiered lessons and learning activities on creativity, critical thinking, or study strategies that the gifted specialist may teach to the whole lesson. Landrum (2002 as cited in William, 2006) has written extensively about the consultation/collaboration model. Possible activities can consist of

- Team or grade level co-planning sessions, where the talent development specialist joins in the planning sessions with regular education team
- Communicating about organizational needs such as grouping and scheduling
- Identifying and placing students in groups
- Gathering materials to supplement regular classroom activities
- Facilitating differentiation activities
- Administering and managing independent studies and student learning contracts

- Monitoring the progress of students learning through rubrics and pre-assessment.

However many schools do not have a specialist in the education of the gifted and talented, and the regular classroom teacher is responsible for differentiating curriculum for students with advanced educational needs.

## 5.5. Ability Grouping

An issue involving considerable debate and strong opinions over the years is the extent to which academically talented students should be taught in groups composed of their intellectual equals or in heterogeneous groups of students of all abilities. Social injustices and upheavals have resulted in increased calls for equality in all of society's institutions. For some, equality in education includes the idea that all students should be taught in heterogeneous groups so that no one group can progress faster than any other. But most educators and researchers in the field of gifted education believe that heterogeneous group instruction means that talented students will not be able to reach their potential. Finally, ability grouping has been used in schools, both formally and informally, for more than 100 years. As soon as the number of students in any classroom or school became so large that the differences in their abilities to learn stood out, teachers automatically put students into groups for subject matter instruction. These groups were often informal consisting of two or more students who could keep pace with each other. When students started to be grouped according to chronological age and when developmental experts cautioned that students should remain in classes only with their age mates, ability grouping began to be the norm rather than the exception.

### **National Association for Gifted Children's Policy on Ability Grouping**

The national Association for Gifted Children (NAGC) is fully committed to national goals that advocate both excellence and equity for all students, and we believe that the best way to achieve these goals is through differentiated educational opportunities, resources, and encouragement for all students. The practice of grouping, enabling students with advanced abilities and/or performance to be grouped together to receive appropriately challenging

instruction, has recently come under attack. NAGC wishes to reaffirm the importance of grouping for instruction of gifted students. Grouping allows for more appropriate, rapid, and advanced instruction, which matches the rapidly developing skills and capabilities of gifted students. Special attention should be given to the identification of gifted and talented students who may not be identified through traditional assessment methods including economically disadvantaged individuals, individuals of limited English proficiency, and individuals with handicap to help them participate effectively in special grouping programs. Strong research evidence supports the effectiveness of ability grouping for gifted students in accelerated classes, enrichment programs, advanced placement programs etc. Ability and performance grouping has been used extensively in programs for musically and artistically gifted students, and for athletically talented students with little argument.

#### **5.5.1. XYZ Grouping or Tracking**

XYZ grouping places students into different levels of curriculum requirements of offerings according to high, middle, and low ability based on test scores or other indicators or predictors of performance. Detroit had such a plan as early as 1919. Students had the same curricula and the same textbooks, the only differences were in pace of instruction and depth of enrichment. Students in the top 20% in achievement were placed in the X classes. Students in the next 60% were placed in the Y classes, and lowest 20% were placed in the Z classes. Another name for XYZ grouping is tracking. Well founded concern over the potential dangers such as reduced exceptions and limited learning opportunities for children in lower tracks, permanent placement in lower tracks at an early age and abuse of tracking such as a procedures for de facto segregation of students by race, culture, and/or socioeconomic status have caused some critics to call for an elimination of all forms of ability grouping for instruction.

#### **5.5.2. Within Class Grouping**

In contrast to tracking, a second type of ability grouping is within class grouping in which students within the same heterogeneous class are grouped for instruction according to their

achievement. The most common form of within class grouping is regrouping by subject; students are generally grouped into three or more levels, and they study materials from different textbooks at different levels. Meta analysis studies found that this type of ability grouping had positive results, with gains for low, middle, and high ability students averaging 1.2 years in a school year. Student should be grouped by ability for reading and mathematics. Kulik (2004 as cited in William, 2006) said that well designed and well controlled studies unequivocally show that homogeneous grouping helps children when it is used as a means of providing appropriate curricular materials to them. Another form of within class grouping is cluster grouping, in which several talented students receive specialized instruction from a teacher who treats them as talented. Four to six talented students should make up a cluster.

Cluster grouping can be used effectively at all grade levels and in all subject areas. It can be especially effective when there are not enough students to form an advanced placement section for a particular subject. Cluster grouping is also a welcome option in rural setting or wherever small numbers of gifted students make appropriate accommodations difficult. The advantage of this type of grouping is that it fits philosophically with the special educational practice of inclusion yet still provides talented students with a peer group. Teachers have found that cluster grouping helps for achievement of the other students as well.

### **5.5.3. Cross Grade Grouping**

It was first tried in the Joplin Plan in Missouri in the 1950s. In this model, students in the fourth, fifth, and sixth grades were broken into nine reading groups, ranging from the second grade to the ninth grade levels. Students went to reading class at the same hour but to the level of instruction at which they were achieving. Other types of cross grade grouping are

- Ability grouping class assessments
- Ability grouping for selected subjects
- Non- graded plans and



- Special classes

Cross grade grouping is an effective means of delivering differentiated instruction, and achievement gains similar to those of within grade grouping have been found (Lloyd, 1999 as cited in William,2006). Still other types of grouping are peer tutoring dyads, cooperative grouping for like ability students and mixed ability cooperative grouping using the default option. It is important to note that using the brighter student to tutor a child of lower ability does not increase the bright child's achievement. Peer tutoring using mixed ability dyads will only enhance the achievement and behavior of the lower ability student. Studying heterogeneous and homogeneous grouping of high ability eighth grade science students, said that high ability students could learn in heterogeneous groups if the group dynamics were suitable. Grouping is not going to go away, but it should always be flexible. That is, students should be able to move into and out of groups depending on task and subject and even on whim.

The days of the child's being put into the redbird reading group in first grade and remaining with the same students until high school graduation are over. Ability grouping, when used properly, produces academic gains for academically talented students when challenging materials are also used. If students are grouped across grades for high level instruction, there are no lasting social or emotional effects (Rogers, 2002 as cited in William, 2006). Language and mathematics seem most amenable for ability grouping. And if there is to be grouping, the curriculum should be adapted as well. While this may seem obvious, some teachers think that just putting children into different ability groups is enough, and they do not provide differentiated curriculum. The National Research Center on the Gifted and Talented recommends the following guidelines for ability grouping:

**Guideline 1:** Although some school programs that group children by ability have only small effects, other grouping programs help children a great deal. Schools should therefore resist calls for the wholesale elimination of ability grouping.

**Guideline 2:** Highly talented youngsters profit greatly from work in accelerated classes. School should therefore try to maintain programs of accelerated work.

**Guideline 3:** Highly talented youngsters also profit greatly from an enriched curriculum designed to broaden and deepen their learning. Schools should therefore try to maintain programs of enrichment.

**Guideline 4:** Bright, average, and slow youngsters profit from grouping programs that adjust the curriculum to the aptitude levels of the groups. Schools should try to use ability grouping in this way.

**Guideline 5:** Benefits are slight from programs that group children by ability but prescribe common curricular experiences for all ability groups. School should not expect student achievement to change dramatically with either establishment or elimination of such programs.

## Let Us Sum Up

Special schools for gifted and talented students have a long history. Students are selected for admission based on competitive exams and IQ scores. Magnet schools emphasize themes such as foreign language, performing arts, or math and science. Curriculum and instruction in self contained classrooms can focus on the needs of high ability students. In addition to sharing many of the disadvantages of self contained classroom for students with disabilities, self contained classroom programs for gifted and talented students may be viewed by some as elitist. Some school used a resource room or pull out model for serving gifted and talented students. While resource room programs offer many advantages, they pose a number of challenges and advantages as well. Most gifted and talented students are served in regular classroom. A consultant teacher trained in gifted education often helps the regular classroom teacher plan and delivers specialized instruction. Most educators and researchers in the field of gifted education believe that ability grouping is necessary if gifted and talented students are to reach their potential. Within class grouping and cross age grouping are two forms of ability

grouping that offer effective means of delivering differentiated instruction to students according to their achievement and interests.

## Unit-end Activities

- Objective questions

Group A

Tick the best answer.

- The students with exceptional learning needs are integrated into regular classrooms is compatible with the concept of cluster grouping of gifted students in.....
  - enrichment model
  - contingency model
  - special model
  - the inclusion model**
- Special high schools for students of both genders began in the .....with the establishment of Stuyvesant High School in New York City.
  - early 21<sup>th</sup> century
  - 18<sup>th</sup> century
  - early 20<sup>th</sup> century**
  - early 19<sup>th</sup> century
- The Namuna Machhindra School was established in .....
  - 1950 A. D.
  - 1956 A.D.**
  - 1970 A.D.
  - 1965 A.D.
- The primary advantage of the self-contained classroom is that all curriculum and instruction can be focused on needs of .....
  - high ability students**
  - average ability student
  - academically sound level student

- d. disciplined and honest students
5. A self-contained classroom is generally designed to provide struggling students with .....
- regular support and intervention
  - specialized support and interventions**
  - partial support and intervention
  - full phase support and intervention
6. Some educators of the gifted and talented believe that the resource room or pull-out model is the.....
- compulsion option for these students
  - essential option for these students
  - best option for serving these students**
  - appropriate option for these students
7. The practice of grouping, enabling students with .....to be grouped together to receive appropriately challenging instruction, has recently come under attack.
- high ability and/or performance
  - special ability and/or performance
  - advanced ability and/or accountability
  - advanced abilities and/or performance**
8. The students within the same heterogeneous class are grouped for instruction according to their achievement is called .....
- within class grouping**
  - xyz grouping
  - ability grouping
  - cross grade grouping

• Short answer questions

Group B

1. Briefly describe the concept and purposes of special school also present the concrete examples in the context of Nepal.
2. State and explain the basic purposes of self-contained classrooms.
3. Which students should be placed in self-contained classroom? Discuss with appropriate examples.
4. What are possible activities of consultation/ collaboration model? Explain with examples.
5. Describe the basic concept of within class grouping with examples.

**• Long Answer Questions**

**Group C**

1. List out the advantages and disadvantages of resource room and pull-out models for gifted and talented students.
2. Define XYZ Grouping or Tracking? How does it differ from Cross Grade Grouping? Explain with suitable examples.
3. Describe the cross Grade Grouping guideline provided by the National research center on gifted and talented students.

**Point for Discussion**

- Special schools
- Self-contained Classroom
- Resource room/Pull-out room
- Regular classroom
- Ability grouping
- XYZ grouping
- Within class grouping
- Cross grade grouping

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### Recommended Book

- William, L. H. (2012). *Exceptional Children: An introduction to Special Education (10<sup>th</sup> ed.)*. New Delhi: Pearson
- Kirk, S., Gallagher, J., & Coleman, M.R. (2015). *Educating exceptional children (14<sup>th</sup> ed.)*. USA: Cengage Learning.