DOMAIN I. UNDERSTANDING INDIVIDUALS WITH DISABILITIES AND EVALUATING THEIR NEEDS

COMPETENCY 1.0 THE SPECIAL EDUCATION TEACHER UNDERSTANDS AND APPLIES KNOWLEDGE OF THE CHARACTERISTICS AND NEEDS OF STUDENTS WITH DISABILITIES

Skill 1.01 Knows the characteristics of individuals with disabilities including individuals with different levels of severity and multiple disabilities across eligibility categories.

This particular competency skill, 1.01, addresses the characteristics of individuals with disabilities. This skill answers the following questions:

- What is a disability?
- What causes a disability?
- What is an eligible disability category?
- What qualities do individuals with disabilities have?

The Term ‘Disability’

A disability is a general impairment, but what is the definition of ‘disability’ as encountered by teachers? The Americans with Disabilities Act (ADA) utilizes a three-part definition of disability. According to the ADA, a person with a disability: (1) has a physical or mental impairment that substantially limits one or more major life activities; OR (2) has a record of such an impairment; OR (3) is regarded as having such an impairment.

The ADA considers a physical impairment to be "any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological, musculoskeletal, special sense organs, respiratory (including speech organs), cardiovascular, reproductive, digestive, genitourinary, hemic and lymphatic, skin, and endocrine."

Students in our classrooms may also have learning disabilities, that may or may not be comorbid (occurring in conjunction with) other disabilities. Some students are learning disabled or have multiple disabilities, but may not have physical manifestations of such disabilities. The IDEA (Individuals with Disabilities Education Act) creates definitions for specific disability terms to assist how States define disabilities and delegate special education services. There is a general list of disabilities created by the IDEA. A student’s overall educational performance must be “adversely affected due to the disability” in order to receive special education services. The list is as follows:

- Autism
- Deaf-blindness
- Deafness
Developmental delay  Multiple disabilities  Speech or language impairment
Emotional disturbance  Orthopedic impairment  Traumatic brain injury
Hearing Impairment  Other health impairment  Visual impairment, including blindness
Intellectual disability  Specific Learning disability

The Causation of a Disability

The precise cause of a disability is often unknown, due to a wide variation of factors which may contribute to the development of a disability. Potential causes can occur before, during, or after pregnancy. They include:

- **Complications in Fetal Brain Development** - Throughout pregnancy, brain development is vulnerable to potential disruptions. Such disruptions to fetal brain development may result in miscarriage, or the infant may be born with extensive disabilities. Maternal factors that can complicate fetal brain development can include folic acid intake, thyroid function, exposure to medication(s), substance abuse, and contact to toxins.

- **Problems During Delivery** - Complications during delivery can contribute to the development of disabilities. Delivery difficulties in which the infant oxygen deprivation for any period of time can impact a child’s development can occur during an obstructed labor (the child does not fit through the mother’s pelvis) or a prolonged labor.

- **Genetic Factors** - Learning disabilities can run in families, a genetic predisposition to inherit or carry specific genes associated with disabilities is a strong possibility based upon recent research findings. Although some disabilities, such as Down Syndrome and Williams Syndrome, are related to chromosomal defects and deletions, and are not necessarily inherited, others are in fact inherited. For example, Fragile X Syndrome is inherited, as well as DYX1C1, which is the gene associated with familial patterns of dyslexia.

- **Environment** - Environmental factors within the context of upbringing and the home surroundings can also contribute to the development of disabilities. For example, a parent with an expressive language disorder may not verbally interact well with their child, or the child may mimic the parent’s articulation errors. In this case, the lack of a sufficient language model at home can contribute to a speech or language delay. Studies show parents and guardians who expose children to reading and language from birth onward increase the vocabulary base. These children enter kindergarten with a larger vocabulary lexicon then other students who in turn, have limited vocabulary knowledge.
**Exposure to Toxins** – Brain cells and critical neural connections are constantly being created and wired during fetal development. Certain environmental toxins, such as cadmium and lead, may contribute to the development of disabilities, learning disabilities in particular.

Neurological research has focused on cadmium, found in metal production processes, and lead, often found in the paint in older homes, which may be significant factors in the development of disabilities in children. These elements can leach into the soil, groundwater, and ultimately into the food supply. Lead was once common in paint and gasoline, and is still present in some water pipes.

Children with cancer who have been treated with chemotherapy or radiation at an early age can also develop learning disabilities. Radiation for the treatment of tumors carries a risk of the development of learning disabilities, as the radiation may damage brain cells. Doctors are particularly cautious with children under three years old. The likelihood of developing a learning disability is increased when both radiation and chemotherapy are used when the brain is targeted.

In order to prevent disabilities from occurring, information on the causes of disabilities should be widely available so that parents can take the necessary steps to safeguard their children from conception. While some of the causes of disability are unavoidable or incidental, there are many causes that can be limited or even prevented.

**Identify Characteristics of Students with Behavioral Disorders**

Children with behavioral disorders are not always easy to identify. The acting-out child who gets into physical altercations, or cannot stay on task for more than a few minutes, or who shouts obscenities when angry is readily identified. The child with a behavioral disorder may suffer from depression, shyness, or fears. Unless the problem becomes severe enough to impact school performance, the internalizing child may go for a long period of time without being identified or served.

Studies of children with behavioral disorders have identified general characteristics:

- **Lower Academic Performance**: While it is true that some children with emotional disturbance possess average or above average scores on intelligence (IQ) tests, many are behind their peers in measures of school achievement. A child with a behavioral disorder may also have a learning disability.

- **Social Skills Deficits**: Students behavioral disorders may be uncooperative, unacquainted with what to do in social situations, or—unaware of the consequences of their actions. As a result, a student may not be able to build strong relationships with peers, teachers, administrators, or even family members.
• **Classroom Behaviors:** Significant classroom behaviors frequently exhibited by the child with an emotional disturbance vary, but may include: habitually getting out of his or her seat or running around the room, invading the personal space of classmates, acting aggressively, exhibiting nonverbal tendencies or inability to communicate effectively, and displaying other types of inappropriate behavior. The child with an behavioral disturbance may be defiant, delinquent, noncompliant, and/or verbally disruptive.

• **Withdrawn Behaviors:** Children who manifest withdrawn behaviors may act in an immature fashion or prefer to play with younger children. The withdrawn child may daydream, or complain of regular illness despite good health. The withdrawn child may also exhibit behaviors such as crying, clinging to the teacher, and ignoring those who attempt to interact with him or her. Phobias can also be prevalent, such as social phobia or social anxiety disorder, which prohibits a student from fully interacting with others due to a paralyzing, unreasonable, or excessive fear.

• **Schizophrenia and Psychotic Behaviors:** Schizophrenia typically manifests itself between the ages of 15 and 45, but symptoms can be noted in childhood. Children with schizophrenia or related disorders may have bizarre delusions, hallucinations, incoherent thoughts, and disconnected thinking. These behaviors usually require intensive treatment beyond the scope of the regular classroom setting, including counseling, therapeutic sessions with a psychologist, and prescriptive medication.

• **Gender:** Many more boys than girls are identified as having emotional and behavioral problems, particularly hyperactivity, attention deficit disorder, autism, and childhood psychosis. Boys typically are identified as having problems with control, such as aggression, more often than are girls. Girls, tend to exhibit more difficulty with behaviors such as withdrawal and phobias.

• **Age Characteristics:** When girls enter adolescence, emotional disorders such as anorexia, depression, bulimia, and anxiety occur at twice the rate of boys, which mirrors the adult prevalence pattern. Other disorders such as ADHD, report an average onset age of seven years old, although children with more severe cases of ADHD were diagnosed earlier.

• **Family Characteristics:** Having a child with an emotional or behavioral disorder does not allude to a dysfunctional home or family life. However, there are family factors that may contribute to the development of behavior disorders and emotional disturbances.

  • Abuse and neglect
  • Lack of appropriate supervision
  • Lax, punitive, and/or lack of discipline
  • High rates of negative types of interaction among family members
- Lack of parental concern and interest
- Negative adult role models
- Lack of proper health care and/or nutrition
- Disruption in the family, such as moving, divorce, ill family member(s), or traumatic event(s)

**Identify Characteristics of Children with Intellectual Disabilities**

An intellectual disability, according to AAIDD (American Association on Intellectual and Developmental Disabilities), is “characterized by significant limitations in both intellectual functioning and in adaptive behavior.” It is diagnosed before age 18.

Intellectual functioning is a term for intelligence, which includes learning, reasoning, logic, and so forth. Intelligence is measured by IQ tests, such as the Stanford-Binet IQ test. In general, IQ scores that are less than 70 indicate intellectual limitations.

Significant limitations in adaptive behavior are observed from a mix of social and practical skills that students need to use in their everyday lives. This includes conceptual skills, such as language, reading, time, numeracy. It also includes limitations in social skills, such as following rules, self-esteem, and problem solving. Daily living skills are also impacted, such as personal hygiene, safety, and occupational skills.

**Identify Characteristics of Students with Learning Disabilities**

Learning disabilities can go unidentified; the identification of a learning disability requires psychological testing, such as psycho-educational evaluations. This testing confirms evidence and provides a platform for the diagnosis of a learning disability. According to NDCCD (National Dissemination Center for Children with Disabilities), learning disabilities include dyslexia, dysgraphia, and dyscalculia.

Characteristics of students with learning disabilities include:

- **Hyperactivity**: a rate of motor activity higher than normal
- **Perceptual difficulties**: visual, auditory, and perceptual problems
- **Perceptual-motor impairments**: poor integration of visual and motor systems, including fine motor coordination and evidence of dyspraxia
- **Disorders of memory and thinking**: memory deficits, trouble with problem-solving, weak concept formation and association, poor awareness of own metacognitive skills (learning strategies) and executive functioning (planning and organizing)
- **Impulsiveness**: acting out before considering consequences, poor impulse control.
- **Academic problems** in reading, math, writing or spelling; significant discrepancies in ability levels
• **Language-based impairments**: speech and language articulation, oral and expressive language difficulties

The severity of a learning disability widely varies. Learning disabilities are on a scaled continuum of moderate to severe. Early remediation and intervention efforts are critical to the lessening of severity, as the young brain is most receptive to rewiring new schemas for reading, writing, and mathematics. For example, a student with dyslexia should be taught specific spelling patterns through a prescriptive program such as Orton-Gillingham, and strategies for prosody and fluency when reading. Additionally, a student struggling with dysgraphia should encounter fine motor skills improvement programs, to increase legibility of handwriting, and ability to express written words fluidly. And a math student with dyscalculia could benefit from receiving small group and individualized instruction to strengthen concepts of arithmetic, sequencing, and pattern formation.

**Identify Characteristics of Students with Autism**

Autism appears very early in childhood and signs are often apparent by toddlerhood. If a child is not babbling or pointing by age 1, nor creating two word phrases by age 2, autism may be investigated. Poor eye contact and lack of social responsiveness are also early indicators of autism. Autism covers a broad spectrum of neurodevelopmental impairments, however, and entails communication problems, lack of sociability, and repetitive behaviors. This continuum starts with a milder form of autism, Asperger syndrome, as well as pervasive developmental disorder (PDD/PDD-NOS). It varies significantly in severity, and occurs across ethnicities, though males are four times as likely to have ASD then females. It is likely both genetics and environment play a role in this disorder, though scientists are not fully aware of its origins. Some studies suggest there are several irregularities in the brain; others indicate those with ASD have abnormal levels of serotonin and other neurotransmitters.

According to the National Institute for Neurological Disorders and Stroke, ASD symptoms may go unrecognized if a child is mildly affected, or when it is obscured by more apparent disabilities. ASD can co-occur with other disorders, such as Fragile X Syndrome, epileptic seizures, and learning disabilities. When assessing a child, expert evaluators look for ASD signs, including:

- no response to name
- lack of social skills
- loss of language
- reduced eye contact
- extremely repetitious or patterned behaviors, such as lining up objects
- no social responsiveness.
- inability to make friends or hold conversations with peers
- lack of imaginative play
- stereotyped, repetitive, or unusual use of language, such as echolalia
- fixation on very specific objects or subjects
- abnormal observance or lack of observance to specific routines and rituals
In accordance with the new DSM-5 (Diagnostic and Statistical Manual 5) released in May 2013, the diagnosis of autism has changed. The manual, last updated in 1994, is now modified because the 19 years of research that occurred. The diagnosis will be called Autism Spectrum Disorder (ASD). There are no longer subcategories (Autistic Disorder, Asperger Syndrome, Pervasive Developmental Disorder Not Otherwise Specified, Disintegrative Disorder). Additionally, Rett syndrome is now a discrete neurologic disorder and is not a subcategory under ASD. However, patients with Rett syndrome may have ASD as well.

The DSM-5 also includes a new category of Social Communication Disorder (SCD) which describes students with social and pragmatic language differences that impede upon verbal comprehension, speech production and social awareness in conversation. SCD is not caused by delayed cognition or other language delays.

**Fetal Alcohol Spectrum Disorder**

According to thearc.org, FASD (Fetal Alcohol Spectrum Disorder) is an umbrella term describing the range of effects that can occur in an individual whose mother drank alcohol during pregnancy. These effects can include physical, behavioral, mental and/or learning disabilities with possible lifelong implications. It is identified by abnormal facial features, central nervous system problems and slowness of growth, and occurs when pregnant women drink alcohol and pass the alcohol along to their unborn babies through the blood stream. FASD can cause physical and mental disabilities of varying levels of severity (including intellectual disability).

**Individuals with Medical Conditions**

Students afflicted with health conditions may be placed in the ‘OHI’ or Other Health Impairment disability category. This category of students is vast; it includes students who have a health impairment with adversely affects their educational performance, per the National Dissemination Center for Children with Disabilities. This umbrella term covers a large amount of conditions, such as diabetes, leukemia, nephritis, and Tourette syndrome.

These students may need medical and/or school nurse services in order to function in the school environment. Those with medical conditions may require these services for medication dispersal, disease management, and special feedings, to list a few.

**Disabilities Vary: Every Student is Different**

Students in all areas of disabilities may demonstrate difficulty in academic skills. The creation of an IEP, or Individualized Education Plan, is essential to the success of each student. The IEP is a written plan specifically for a student, to meet their academic, social, and cognitive needs. It is a hallmark of the federal legislation, IDEA (Individuals with Disabilities Education Act. The IEP is a highly goal-oriented document which delineates all facets of learning for the student, and must be regularly updated.
Mastered goals are replaced with new challenges to be met. For example, a student with mental retardation will need special instruction across all areas of academics, so his or her IEP may include goals in every subject area, as well as occupational therapy, physical therapy, as well as speech and language services. On the other hand, a student with a learning disability, such as dyslexia, may need assistance in only one or two subject areas.

Special education teachers should be aware that although students across disabilities may demonstrate difficulties in similar ways, the causes may be drastically different. For example, some disabilities are due to specific sensory impairments (hearing or vision), some due to delayed cognitive ability (mental retardation), and some due to particular neurological impairments (autism or some learning disabilities). The reason for the difficulty should be an initial consideration when planning the program, or IEP, of special education intervention.

Additionally, special education teachers should be aware that each area of disability has a range of involvement. Some students may have a very minimal disability and therefore, will not require services. Others may need only a few accommodations. These students may not have a full-length IEP, but perhaps they have 504 Plans. According to the US Departments of Education, Office of Civil Rights, a 504 Section 504 is a civil rights law that does not tolerate discrimination against individuals with disabilities, and safeguards these individuals so they may have equal access to an education, with accommodations and modifications if necessary. Section 504 requires educators to meet the individual needs of all students, regardless of disability.

Some students may need extensive goals and objectives that outline a specific special education program, which would be delineated in an IEP. Implementation of the goals and objectives could be carried out in a variety of settings, including general education and special education programs. For example, a student with an attentional deficit may be able to participate in the regular education environment with accommodations that may include a checklist system to keep the student organized and a therapy or wiggle cushion, to allow the student to receive stimulation in order to focus while sitting for a lesson. Other students with attentional deficits may need different accommodations, such preferential seating near the teacher and away from windows or doorways, modified homework assignments, and extra time for testing.

Special educators should be knowledgeable of the causes and levels of severity of disabilities and characteristics when planning an appropriate special education program for each individual student. Because of the unique needs of each child, such programs must be discussed among team members, parents, administrators, and should be well documented in the child’s Individualized Education Plan (IEP).
Skill 1.02 Knows how the developmental, academic, social, career, and functional characteristics of individuals with disabilities relate to levels of support needed, and applies knowledge of human development and disabilities to plan and implement appropriate curriculum.

Each child with a disability has unique needs that may not necessarily be applied to another child with the same or similar disability. In order to adequately assess a student’s educational needs, the teacher must plan for each student on an individual basis. Collaboration with others, such as the general education teacher, parents, and service providers is essential to assure appropriate programming and instruction for students with disabilities.

Students with mild learning, intellectual, and behavior disabilities are identifiable by academic and social behaviors that deviate from those of their classmates. Generalities can be made about this population. Students with mild intellectual disabilities, learning disabilities, and behavior disorders are the largest subgroups of students receiving special education services. Students with mild disabilities are typically served by special education during their school year, but mild disabilities are often unrecognized before and after school years.

No nationally accepted criteria for identifying mild disabilities exist; therefore, the categories of intellectual disabilities, learning disabilities, and behavior disorders can vary from state to state. Each state has developed its own identification criteria; therefore, a student may be eligible for special education service delivery in one state and not necessarily in another. Effective collaboration between general and special education teachers is vital to the development of appropriate educational programming for students with disabilities, regardless of the state.

Human development knowledge is the underpinning of good service implementation. Human development addresses biological, cognitive, emotional, and social factors that shape the development of all students, including those in the special education realm. Being familiar the stages of development, such as Erikson’s stages of psychosocial development, as well as the overall human development spectrum from birth to adulthood, gives insight into the appropriate times when communication, various emotions, sharing, and other behaviors are normally expressed.

Skill 1.03 Knows theoretical explanations for behavior disorders, and analyzes the varied characteristics of behavior disorders and their effect on learning.

Behavior disorders can range from mild to serious. A child is said to have a specific disorder when the behavior occurs frequently and to a degree that impacts the learning and safety of the child, as well as others.

One theoretical explanation for behavior disorders is developmental psychopathology. It is a premise for understanding disordered behavior when comparing it to normal human
development. This framework explores the origins of behavior disorders, how individuals develop with this disorder, and how adaptations and successes of individuals unfold.

**Social and Environmental Theory** is based on the premise that specific social and environmental factors influence the decision to commit or even exacerbate certain behaviors. Factors such as dysfunctional family environments and gang participation are related to the development of behavior disorders in children. The environment heavily impacts children and their behaviors.

**Interaction Theory** attempts to explicitly define interactions between characteristics of the individual and features of the social environment that are considered integral to behavioral development. There are two main approaches within this perspective. Dynamic-behavior theory focuses on developmental aspects, while the functional analysis model offers an explanation for the maintenance of the behavior.

**Instinct Theory** focuses on the innate and evolutionary nature of humans; it states we are driven by underlying biological instincts. Freudian Theory supports this through his psychoanalysis theory. Psychic energy is always being created, requiring an outlet. The release of such energy or aggression is considered a catharsis. It is believed that the id, ego, and superego act as a system of checks and balances on behavior. The id is the pleasure seeking, impulsive force that is dominant in childhood. The superego is the conscience, which represents moral and ethical beliefs. The ego mediates between the id and the superego. The ego guides actions by taking into account the natural consequences of behavior. Students need to learn ways to decrease excessive or aggressive energy through appropriate means.

**The Biophysical Perspective** emphasizes the relationship between physical and biological factors, including body chemistry and genetics, and that of behavior. Genetic factors are more readily being identified, and scientists find genetic inheritance determines many aspects of childhood functioning and behavior. Drug therapy is often utilized in this approach.

**The Psychodynamic Approach** underscores the need to understand why students are disruptive. This approach emphasizes the connection between how a student feels and how a student acts. The Psychoeducational framework utilized with the Psychodynamic Approach integrates clinical insights in behavior with practical methods for managing the behavior. This type of approach resulted from the merging of behavior management with the psychodynamic theory.

**The Behaviorist** views observable behavior as the critical element. Treatment strategies are focused on modifying environmental factors that reinforce appropriate behavior. The key points of behavioral theory and practice are summarized as follows.

1. Behaviorists view inappropriate and appropriate behavior as learned. Behavior is a response to a person’s interaction with the environment.
2. Learning occurs when environmental conditions reinforce a specific behavior. Reinforcement takes several forms, including imitation, modeling, and operant conditioning (i.e. consequences that shape behavior).

3. Inappropriate behavior is learned through environmental conditioning and new, appropriate behaviors can be learned with proper reinforcement.

4. Effective implementation of behavior treatments in classrooms requires observable descriptions of behavior to be changed, targeting of new behaviors, systematic application of reinforcers, and collection of pre- and post-data to determine treatment effectiveness. (Henley, Ramsey, & Algozzine, 1993, 125).

A synthesis of these models highlights the interactional nature of behavioral and emotional disorders. Typically, a combination of treatment approaches is used in many classrooms. For instance, one student may be taking medication to facilitate concentration and adequate attention span while another student may be participating in a token system designed to reinforce task completion.

The most common behavior disorders include the following:

**Adjustment Disorders** are demonstrated with emotional or behavioral symptoms that children display when they cannot adapt to stressful events that occur in their lives. The symptoms may occur within three months of a stressful event, and last no more than six months after the stressor has ended. A range of behaviors are associated with adjustment disorders including fear, anxiety, truancy, vandalism, and physical aggression.

**Anxiety Disorders** are a large family of disorders (School Phobia, Post-Traumatic Stress Disorder (PTSD), Avoidant Disorder, Obsessive-Compulsive Disorder (OCD), Panic Disorder, Panic Attack, etc.) where the primary feature is exaggerated anxiety. Anxiety disorders can result in expressed physical symptoms, disorders in conduct, or as inappropriate emotional responses such as excessive emotional outbursts or crying. Anxiety is also a brief normal reaction to stressful events. However, when the anxiety is intense, persistent and interferes with the child’s functioning, it may then result in a diagnosis of anxiety disorder.

The primary feature of **Oppositional Defiant Disorder (ODD)** is a recurrent pattern of negative, disobedient and hostile behavior toward authority figures, which lasts for at least six months. Typical behaviors include arguing with adults, defying or refusing to follow adult directions, deliberately annoying people, blaming others, or being spiteful or vindictive. A stubborn or malicious attitude is noted.

A primary feature of a **Conduct Disorder** is a repetitive and persistent pattern of behavior in which the basic rights of others, or age-appropriate social norms, are violated. Children with conduct disorder may bully or threaten others, and can potentially be physically cruel to both animals and people.
Attention Deficit / Hyperactivity Disorder is a condition in which the child shows symptoms of inattention and hyperactivity that are not consistent with his/her developmental level. The key feature of Attention Deficit Hyperactivity Disorder is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a similar level of development.

Post-Traumatic Stress Disorder (PTSD) can develop after exposure to an extremely traumatic event in a child's life, or witnessing or learning about a death or injury to someone close to the child. Victims of child abuse may also experience PTSD. The onset varies. Responses of PTSD in children include intense fear, helplessness, difficulty falling asleep, nightmares, persistent re-experiencing of the event, numbing of general responsiveness, or increased arousal. Young children that experience such stress may lose recently acquired skills, such as toilet training or expressive language skills.

Skill 1.04 Knows the different ways that students with and without disabilities learn.

The special education teacher has traditionally taught students with disabilities exclusively. Today, however, special education teachers must be versed in the needs of students with and without disabilities. More special education teachers are needed in the mainstream education classroom, to provide inclusive, in-class, and/or co-teaching services, to support students in their least restrictive environments. They are no longer ‘tucked away’ in a resource room or office unit, although these settings are still least restrictive environments in many respects, and can provide an exceptional learning environment for the appropriate genre of students. Regardless of locale, a special education teacher must have a broad knowledge of the different ways students with and without disabilities obtain knowledge.

The dawn of multisensory teaching techniques has come at an ideal time. All students, with or without learning disabilities, thrive in a learning environment which provides many different modalities of absorbing content material. Modern learning theorists, such as Howard Gardner, have proposed the methods for reaching all students by using a variety of teaching methods. Engaging all of a student’s senses enables information to be acquired in the brain through a multitude of pathways, whether a student has a disability or not.

Experiential and hands-on learning are both tactile and kinesthetic. In these manners, a student can derive information in a practical setting through centers, labs, field trips, reality-based projects, and other empirical learning experiences. Therefore, a student who has trouble reading or writing can still have the opportunity to learn important information through a diverse venue: experience. This is an excellent method for all students, regardless of learning ability.

This computer generation also responds to a visual means of teaching across the curriculum. Using technology, such as Smartboards, laptops, television clips, computer
generated graphics, and pictorials, inundates students of all levels with imagery to assist their learning and retention of content. Visual learning methods should be employed regularly, as students with and without disabilities will respond positively. For example, providing a classroom of students with a simple graphic organizer prior to writing a draft for an essay gives all learners a spatial sense of where information is placed, the inherent coherence of a written framework, and most importantly, a visual representation of idea placement. Additionally, the use of flashcards is also a visual method and tool that can be stretched from Dolch sight word practice to organic chemistry formula memorization. Today's learners respond to visual stimulus, and a disability does not hinder this method of conveyance.

Tiered lesson planning is also crucial when addressing students with and without disabilities, especially when they are taught heterogeneously. Tiered instruction allows a concept to be taught, but may be slightly augmented or modified to meet the needs of all students. Perhaps a special education teacher is giving a classroom assessment on the week’s science vocabulary words and definitions. His or her dyslexic students may have a modified test with a word bank for spelling pattern reference of multisyllabic words. The students with dysgraphia or graphomotor impairments may use a word processor or computer, or even an iPad, to type the words and definitions. The student with a marked processing disorder may be allowed to choose ten of the twenty words to work on. The students without disabilities may complete the general assessment as is. Providing such modifications can effectively help students with disabilities learn side-by-side with their peers who do not have disabilities.

Addressing the learning needs of both genres of students is not always easy, but is certainly necessary. Knowing the different ways students learn is essential to adhering to ethical teaching standards.

Skill 1.05 Applies knowledge of human development and the effects of various types of disabilities on developmental processes in order to identify the needs of individuals with and without disabilities.

Physical Development, Including Motor and Sensory

It is important for the teacher to be aware of the physical stages of development and how the child’s physical growth and development affect his/her learning. Factors determined by the physical stage of development may include: ability to sit and attend, the need for activity, the relationship between physical skills and self-esteem, and the degree to which physical involvement in an activity (as opposed to being able to understand an abstract concept) impacts learning.

Physical impairments manifest in a variety of disabling conditions. Although there are significant differences among these conditions, similarities also exist. Some physical disabilities are congenital, others occur later due to injury (trauma), disease, or other factors.
In the state of Texas, physical disabilities typically fall under the disability categories of Orthopedic Impairment (OI), Other Health Impairment (OHI), or Traumatic Brain Injury (TBI).

Characteristics of individuals with OI, OHI, or TBI may include:

1. Lack of physical stamina; fatigue
2. Chronic illness; poor endurance
3. Deficient motor skills; normal movement may be prevented
4. Physical limitations or impeded motor development
5. Limited mobility
6. Limited self-care abilities
7. Progressive weakening and degeneration of muscles
8. May experience pain and discomfort throughout the body
9. May have effects from disease or treatment
10. May exhibit erratic or poor attendance patterns

**Cognitive Development**

Children go through patterns of learning beginning with pre-operational thought processes and move to concrete operational thoughts. Eventually, they begin to acquire the mental ability to think about and solve problems mentally, because they have developed the ability to symbolically manipulate objects. Children of most ages can use symbols such as words and numbers to represent objects and relations, but need concrete reference points.

The teacher of students with special needs must be knowledgeable about cognitive development. Although the cognitive development of children with special needs may be different than the cognitive development of other children, a teacher of students with special needs must be aware of characteristics of each stage of development in order to determine what should be taught and when it should be taught.

The following information about cognitive development was taken from the Cincinnati Children’s Hospital Medical Center at www.cincinattichildrens.org. Some common features indicating a progression from more simple to more complex cognitive development include the following:

**Children (ages 6-12)**

- Begin to develop the ability to think in concrete ways. Concrete operations are operations performed in the presence of the object and events that are to be used.
- Examples: how to combine (addition), separate (subtract or divide), order (alphabetize and sort/categorize), and transform (change things such as 25 pennies=1 quarter) objects and actions
Adolescence (ages 12-18)

- Adolescence marks the beginning development of more complex thinking skills, including abstract thinking, the ability to reason from known principles (form own new ideas or questions), the ability to consider many points of view according to varying criteria (compare or debate ideas or opinions), and the ability to think about the process of thinking.

Cognitive Changes During Adolescence

During adolescence, particularly between 12 and 18 years of age, the developing teenager acquires the ability to think systematically about all logical relationships within a problem. The transition from concrete thinking to formal logical operations occurs over time. Every adolescent progresses at varying rates in developing his/her ability to think in more complex ways. Each adolescent develops his/her own view of the world. Some adolescents may be able to apply logical operations to school work long before they are able to apply them to personal dilemmas. When emotional issues arise, they often interfere with an adolescent’s ability to think in more complex ways. The ability to consider possibilities, as well as facts, may influence decision making, in either positive or negative ways.

Early Adolescence

During early adolescence, the use of more complex thinking is focused on personal decision making in school and home environments, including the following:

- Demonstrating use of formal logical operations in school work.
- Questioning authority and society standards.
- Beginning to form and verbalize his/her own thoughts and views on a variety of topics and queries, usually more related to his her own life, such as:
  - Which sports are better to play?
  - Which groups are better to be included in?
  - What personal appearances are desirable or attractive?
  - What parental rules should be changed?

Middle Adolescence

With some experience in using more complex thinking processes, the focus of middle adolescence often expands to include more philosophical and futuristic concerns, including the following:

- Questioning more extensively
- Analyzing more extensively
- Pondering and forming his/her own code of ethics
- Thinking about different possibilities and developing own identity
- Systematically considering possible future goals
- Beginning to think long term
- Using systematic thinking to influence relationships with others