The overriding critical attribute of Traumatic Brain Injury is that every person with a brain injury is affected uniquely, depending on factors associated with the injury. The attributes generally associated with a traumatic injury to the brain include the following:

1. Learning and understanding new knowledge is more difficult after the injury and the student may adopt different learning styles.
2. Although healing is life-long, the person with a Traumatic Brain Injury may experience spurts of rapid recovery and erratic changes in behavior, especially in the first two years after the injury. The effects of a brain injury are long lasting and may be permanent, but these effects are not always easy to predict.
3. Cognitive functioning is often affected by:
   - Slow processing or interpretation of what is seen or heard may delay response reactions
   - Memory problems
   - Organization problems
   - Sensory overload and fatigue
   - Attention and concentration problems, impulsivity, distractibility
   - Problems seeing the “whole picture” or getting a concept.
   - Difficulty with initiation
   - Varied performance
   - Inappropriate repetitions of thoughts or behaviors
4. Perceptual problems may result in difficulty with orientation to time or body in space, and difficulty with tasks, which require visual/auditory interpretational skills.
5. Speech and language difficulties or changes may appear in understanding others or expressing him/herself, including word retrieval problems, slurred speech, understanding abstract language, the need for a longer response time, and the tendency to make things up inappropriately.
6. Rapid fluctuations in emotions are commonly associated with Traumatic Brain Injury, as seen in frequent mood swings, overreactions, impulsive crying, inappropriate reactions, aggressiveness, apathy, and/or errors in judgment. The sense of cause/effect may be impaired, which may impact emotional responses to situations.
7. Self concept may be affected by the impact of dealing with newly acquired disabilities. A person with a Traumatic Brain Injury may or may not have a clear sense of being different from who he/she was before the injury. Different persons have different degrees of awareness about the changes.
8. Social readjustments are often necessary. Due to the combined effects of the injury and its impact on the student and his/her family, the student may experience a change in social activities and friendships.
9. Physical problems may be evident, including:
   - Decrease in energy: General discomfort and/or fatigue are often present and may be compounded by the effects of medication, stress, illness, and other physical conditions.
   - Motor planning (movement), balance and coordination
   - Constant or intermittent pain, headaches, or dizziness
• Sleep disturbances, appetite control, and nausea
• Seizure activity
• Visual and auditory impairments
• Paralysis and/or spasticity
ESSENTIAL LEARNINGS FOR STUDENTS WITH: TRAUMATIC BRAIN INJURY (TBI)

Students with traumatic brain injury need to learn:
1. Organizational and management skills, for time and materials, at school, home, and in the community.
2. How to develop skills and techniques to assist and improve memory, such as use of a daily planner, wall calendars, visualization strategies and memory-retrieval strategies.
3. How to select and use socially acceptable and sexually appropriate behaviors in response to feelings of anger, frustration, or confusion. The student needs to learn which behaviors are appropriate for a variety of social situations, e.g. school, community, home, and work.
4. How to transfer skills and abilities from one environment to another.
5. How to understand the nature of his/her own injury and its effects on personal learning styles and abilities.
6. How to set realistic academic, social, recreational, and career goals that are consistent with his/her healing and abilities.
7. Skills to improve and help concentration and attention to task, such as selecting the appropriate environment in which to study.
8. How to compensate for impaired judgment, balance and coordination problems, increased fatigue, and impulsivity.
9. How, when, and where to be an effective self-advocate, to ask for what he/she needs, or to find an advocate.
10. To use verbal and non-verbal communication skills with peers and adults in problem solving, conflict resolution, and social interactions.
11. Strategies for word retrieval and verbal expression, such as word association memory cues or taking time to organize thoughts before speaking.
12. Study skills such as:
   . when and how to ask questions
   . how to prepare for tests
   . how to take tests
   . where and how to find information
   . how to identify and separate essential information from nonessential information
   . active learning strategies such as note taking and outlining
   . strategies to enhance comprehension, such as rereading, summarizing main ideas, and self-questioning, using checklists, and role playing
13. How to re-learn skills, to the extent possible, that were mastered prior to and affected by the injury and to compensate for missing skills in an ongoing process.
14. How to prevent a second brain injury by not entering the hallway at the busiest passing times, using seat belts and protective headgear, and not drinking and driving.
**CLASSROOM PRACTICES FOR STUDENTS WITH: TRAUMATIC BRAIN INJURY (TBI)**

To provide effective classroom practices for students with Traumatic Brain Injury, educators need to:

1. **Focus on instructional strategies**
   - Teach organizational skills, e.g., with color coding, labeling of materials, assigning specific places for belongings, use of assignment notebooks, progress reports, daytimers. Provide written schedules/assignments that are systematically checked by student, teacher and family.
   - Specifically teach rules and routines of the learning environment, including building orientation, school and workplace rules, class policies, and room design.
   - Provide numerous opportunities for repetition, reinforcement and practice for all daily routines and skills.
   - Provide learning in the community to ensure the transfer and application of skills learned in one environment to another. These experiences should include using self-care skills, volunteer experiences, social activities, academic preparation and work.
   - Provide concrete learning experiences to reinforce abstract reasoning, memory, and language. Avoid subtleties and ambiguities.
   - Allow the student adequate time to respond to questions and information. Specifically ask the student to paraphrase questions or instructions.
   - Give explicit written and oral directions and have the student repeat or demonstrate to check for understanding. The teacher should encourage the student to ask questions to increase understanding.
   - Offer a variety of ways to learn information including visual, auditory, verbal, and hands-on opportunities.
     - Build new skills from old, familiar, learned skills.
     - Written materials may need to be modified to account for perceptual or scanning problems, e.g. larger print, double-spaced, reduced quantity.
     - Homework assignments may need to be modified and strategies provided for organization and completion, e.g., have a system of sending notes home to the family.
     - Provide students with materials appropriate to both age and performance levels.

2. **Provide classroom support strategies**
   - Provide frequent, ongoing reevaluation, (e.g., every 6 weeks) due to rapid, variable recovery in the first two years following a Traumatic Brain Injury.
     - If appropriate, refer the student for special education evaluation to determine if assistance is necessary to compensate for any physical, social, communication and/or learning limitations.
     - Provide technical devices, (e.g., computers, spell checkers, alarm watches, beepers, planners, tape recorders, etc.) to compensate for organization and memory deficits.
     - Use a buddy system to provide help as needed for peer tutoring, note taking, finding one's way around, social skills, physical assistance, class routines and safety.
     - Give peers, building and community personnel information about Traumatic Brain Injury and how it affects the student. Offer the opportunity for the student to speak about his/her disability.
     - Provide daily home/school/employer contact through use of a notebook to ensure organization, communication, daily situations and changes that may affect the student.
3. **Include environmental management strategies**
   - Provide scheduling that allows for appetite/nutritional needs, accommodates fatigue, and maximizes alert periods with provisions for necessary rest periods.
   - Provide an environment that reduces distractions (noise, light, movement) as much as possible, e.g., consider seating arrangements, or use items such as headsets and study carrels.
   - Allow the student to move from the situation to rest and regroup when noticeably stressed, overwhelmed or tired.
   - Work with those who are providing support for the student with Traumatic Brain Injury to arrange appropriate schedules and places to meet.

4. **Develop behavioral management strategies**
   - Teach students how to ask for help and where to go to get their needs met.
   - Teach non-verbal or verbal cues for use in getting help and assistance from other students and teachers.
   - Establish a system to assist students to begin work (e.g., buddy, teacher proximity, non-verbal cue, work partner), since students with traumatic brain injury may have difficulty initiating tasks.
   - Monitor students to assist with time on task, to decrease distractibility, and to ensure safety. Teach students to do this on their own as they are able.
   - Use alternative strategies for behavior management if needed (e.g., physical or verbal cues, discussion before or after behaviors occurs.) Traditional behavior management techniques which reward or provide consequences may not take into account problems with cause and effect, memory or impulsivity of the student with Traumatic Brain Injury.
   - Develop and teach a system to the student and his/her peers for how to deal with a crisis, such as when things go wrong, are not in the right place or when the student with Traumatic Brain Injury becomes confused.
   - Develop a new sense of success, since the students may not be able to perform tasks, which they previously could. They should be encouraged to do their best and to look at failure as not trying, rather than not succeeding.
In assessing the learning of students with traumatic brain injury, educators need to:

1. Consider time factors
   - Adjust time limits as determined by student’s needs.
   - Determine the best time to assess, when the student is not fatigued.
   - Provide intermittent breaks (e.g., allow for rest breaks or assess over the course of several days).
   - Allow flexibility in set time (e.g., change day, time or length of assessment).
   - Eliminate or modify time limits.
   - Allow intermittent nutrition breaks to compensate for fatigue.

2. Develop appropriate procedures
   - Assessments should be ongoing and varied.
   - Evaluate how to best assess (e.g., oral, written, hands-on, observations, with assistive technology, or a combination, etc.).
   - Utilize strongest learning styles (e.g., hands-on, oral, written, visual, etc.).
   - Repeat opportunities to demonstrate skills since healing is ongoing.
   - Provide necessary assistance as determined by the task (e.g., reader, writer, large print, computer, etc.).
   - Provide opportunities for student and teacher to discuss instructions to ensure understanding.
   - Provide frequent encouragement.
   - Check to see how medication might affect testing.
   - Check to see if physical and/or emotional condition(s) (e.g., cold/allergies, tolerance, stress level, busy schedule, conflicting deadlines) are factors when assessing.
   - Speak slowly when giving directions or asking questions.
   - Break down complex tasks.

3. Consider the environment
   The assessment setting should be adapted to the student’s individual needs so the student can display his/her best effort, and a variety of environments should be utilized, including school, community and work settings.
   - Be sure the testing environment is:
     - Quiet.
     - Private.
     - Calm.
• Be sure the testing environment has:
  • decreased auditory or visual distractions
  • appropriate lighting
  • comfortable seating
  • proper seating or positioning available

4. Provide a variety of types
Alternative forms of assessment need to be considered, in order to demonstrate what the student has learned. Student and family input is essential in determining the format of assessments. Below are a few examples of assessments that could be used for various purposes, to be used alone or in varied combinations.
• Peer and family feedback - checklist
• Videotape
• Oral reports
• Assess skills used in context vs. skills tested in isolation
• Self-evaluation (How does the student feel about his/her performance?)
• Portfolio (i.e., a collection of the student's work)
• Cooperative group assessment
• Individualized assessment
• Gather information from various school personnel and family members
• Interdisciplinary (e.g., assessing students about maps can cover two disciplines -- math and social studies)
• Classroom observations
• Observations during unstructured times
SERVICE OPTIONS FOR STUDENTS WITH: TRAUMATIC BRAIN INJURY (TBI)

For students with traumatic brain injury to have adequate opportunities to learn, schools need to:

1. Establish a Traumatic Brain Injury Team in every school district, which may include experts from each of the involved professions, such as occupational therapist, speech and language specialist, physical therapist, psychologist, social worker, curriculum specialist, nurse, etc. The team will be responsible to act as a referral source to the medical community and an informational resource for teachers and students with traumatic brain injury and their families.

2. Maintain frequent communication between educational and medical providers and family.
   - Have more frequent IEP updates due to changes in abilities and needs.
   - Designate specific time frames for on-going contact. Schedule team meetings as necessary depending on the student's needs.

3. Provide teacher and staff training.
   - Provide information on general characteristics and possible behaviors of children with Traumatic Brain Injury.
   - Identify areas to monitor, such as stress, medication, illness, and family changes or any accidents which occur during recreation or sports activities.
   - Identify techniques or modifications to use.
   - Identify resources and experts in Traumatic Brain Injury.
   - Explain how to talk to medical professionals.
   - Provide a Traumatic Brain Injury Resource Handbook with general characteristics, possible behaviors and needs, behavior management techniques, recommended classroom practices, essential learnings, and assessment procedures.
   - Involve Traumatic Brain Injury survivors and family members as trainers.

4. Provide a consistent, coordinated system of case management which includes all responsible agencies. Ideally, this would be a person who is available all year long for multiple years.
   - Case management responsibilities would include: Advocating for the person with traumatic brain injury, assisting the student with making connections to appropriate agencies, which can support healing and transition, interagency coordination (education, medical, therapies, and adult services for independent living and employment), coordination of daily contacts with the student, community resources, and management of transitions in learning, family, and life environments.
1. Provide technological devices as necessary for reminders, references, repetition, retrieval of information, to block out distractions and to increase mobility and independence. Examples: Communication devices, books on tape, computers, headphones, carousels, recorders, timers, word boards, etc.

2. Increase classroom support for students with Traumatic Brain Injury through the use of trained peers, paraprofessionals, volunteers, and adults with Traumatic Brain Injury.

3. Provide services as determined by the staffing team, for occupational therapy, physical therapy, therapeutic recreation, speech and language, social work, etc., to assist the student in the classroom as appropriate. These services need to be on-going and long term due to changes in the student's abilities.

4. Provide counseling support as needed for the student and family (including siblings) around issues of grief, depression, denial behavior, delusions, finances and effects of disability.

5. Access local support groups for families, and form peer support groups for students with Traumatic Brain Injury with emphasis on coping skills and social development.

6. Conduct regular and ongoing screenings.

   - Screen for students with Traumatic Brain Injury through questions listing possible ways children may have acquired brain injuries. Include questions on forms during Fall registration, Child Find, and ongoing screenings. If Traumatic Brain Injury is suspected, contact the special educator and/or Traumatic Brain Injury team in the school district.
   - Sample questions may include: "Traumatic brain injury is not of congenital origin or of a degenerative nature. Have any of these occurred?

     - child abuse
     - automobile or motorcycle accidents
     - gunshot or other wounds to the head
     - falls
     - trauma to the head from hard objects such as bats or balls — other accidents, which involve the head, that cause brain trauma
     - whiplash
     - sports injuries (concussion or dazed) If any are checked, please explain." (from: Guidelines Paper: Traumatic Brain Injury, CDE, March 1991)

1. Reduce overall student teacher ratio.
2. Provide space for flexible accommodations, so that areas are available for quiet, individual work or rest, as well as for group work.
3. Educate community members through one-on-one contact, round-table meetings, and group presentations, so that students with Traumatic Brain Injury can participate and learn in the community.
4. Educate policy makers and public to increase funding to provide case management and technology for persons with Traumatic Brain Injury to meet recommendations for support systems.