Executive Functions Program Overview
Rush NeuroBehavioral Center

Executive Functions are the cognitive processes that occur in the frontal lobe area of the brain that allow us to plan, organize, make decisions, pay attention, and regulate behavior. They allow us to solve problems and evaluate the decisions we make. Following the mission at Rush Neurobehavioral Center, and in accordance with the teaching and research focus of Rush University Medical Center, Rush NeuroBehavioral Center’s Educational Services Department has developed a school-based program for teachers and students, featuring a research component, currently being implemented in several public and private schools, working with teachers from kindergarten through eighth grades, in both city and suburban settings. This program, based in neuroscience, focuses on teaching students organizational skills, time management strategies, the ability to assess individual strengths, how to set goals, and the utilization of study skills to optimize a student’s academic and behavioral successes.

Current research suggests that the development of Executive Function skills is essential for success both in school and later in life. The maturation of these skills follows a developmental progression beginning in infancy and continuing into adulthood. Common behaviors associated with Executive Functioning include the following:

- self-regulation of attentional, cognitive and affective behaviors
- ability to efficiently manage time and materials
- awareness of one’s strengths and weaknesses
- ability to engage in goal-directed behavior, including initiating behaviors
- ability to monitor and evaluate performance in relation to one’s goals
- ability to flexibly revise plans and strategically solve problems and make decisions in the event of difficulty or failure. This ability involves profiting from feedback.

The development of Executive Function skills is dynamic involving on-going refinement of higher-order thinking skills, such as the ability to analyze a task, to solve problems, and to engage in the process of decision-making. The Executive Functions Program at Rush NeuroBehavioral Center focuses on teaching step-by-step development of Executive Functions, based on a firm understanding of brain research in this arena, to enhance the acquisition of these skills in an effort to optimize educational performance.

While many Executive Function skills are thought to be acquired naturally, at Rush NeuroBehavioral Center (RNBC) we believe that these skills need to be incorporated into the educational setting, so that they can be learned through a planned, intentional approach which is integrated into the regular school curriculum. RNBC consultation is designed to help facilitate the teaching and execution of a school-wide Executive Functions Program. Based on a consistent system for teaching Executive Function skills, the objective for all students is the establishment of regular behavioral and cognitive routines that maximize organizational skills and time management strategies, increase the individual’s understanding of his/her own learning strengths, improve the student’s ability to set and monitor goals and progress, enhance his/her study skills, as well as assist the student in his/her ability to apply the higher-order processes of problem solving and decision making in every-day life situations.
Following is a brief overview of the skill sets addressed during one academic year as part of the Rush NeuroBehavioral Center Executive Functions Program in K – 12th grade.

**Classroom Structure and Learning Environment:** Each classroom should be equipped with homework easels or dry-erase boards, monthly wall calendars, student supply centers, time timers, daily agenda boards, and organizational models.

**Materials Management:** Students utilize the Executive Functions materials organization system which can be adjusted depending on grade level for application, and may include the following: a Notebook/Binder System or a book bag, double-pocket folders or double-pocket, tabbed dividers, perforated/spiral notebooks, a planner or assignment notebook, and other organizational tools to manage homework and paperwork. This system provides the structure necessary for success in school.

**Planning and Time Management:** Each classroom should be equipped with a large monthly wall calendar for recording important due dates, tests and quizzes, holidays, special events, etc. The Executive Functions classroom features a “sample planner” listing all assignments, of particular benefit for reference when a student returns to school following an absence. Students are taught prioritization for listing homework for long-term and short-term planning of academic and personal events. Task analysis, breaking down long-term projects and assignments then mapping these projects out in the planner or agenda, is another integral component of the program. A timing devise is used in the classroom for many activities. Understanding time parameters also benefits preparation efforts for standardized testing and regulating time constraints.

**Study Strategies:** Students are reminded of the importance of planning and maintaining a dedicated study time on a daily basis. Following oral and written directions, memory strategies, note-taking, and test preparation are included within this executive functions area. Knowing how to develop a study plan reduces anxiety relative to the management of assignments and the student’s school work load. Additionally, academic support references are included, organized according to the subject areas of reading, written expression, and math.

**Learning Strengths:** A learning strength inventory is included in the Executive Functions Program. Teachers and students are encouraged to highlight learning strengths, working through strengths while striving to improve areas of challenge based on individual student learning differences. Utilization of individual learning strengths is also integral to many of the study strategies topics.

**Goal Setting:** Teachers learn how to set achievable weekly classroom goals with input from the students. Students learn how to set SMART (Specific, Measurable, Achievable, Relevant, and Time-Based) goals, both academic and personal, then break these into smaller “Action Steps” according to a plan. Teachers can also guide students in completing goal maps which yield a broader perspective of a student’s interests and ambitions across a wider range of topic areas.

**Decision Making:** Students receive instruction on the problem-solving process. Activities are included to apply this process to help students be more thoughtful in their decision-making experiences, for both long-term and immediate scenarios.