

Running Head: Executive The Teaching of Executive Functions in the Schools

Michael F. Shaughnessy

Eastern New Mexico University, Portales, New Mexico.

***Corresponding Author**
Michael F. Shaughnessy

Eastern New Mexico
University, Portales,
New Mexico.

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Abstract: This paper will review the realm of “executive functioning” and its many variants. If teachers want to educate autonomous learners, they need to devote time, effort and energy to these realms.

Teachers may want to teach a wide variety of these skills as they teach their subject matter. This will help students to plan ahead, organize, structure their learning and studying and attend to the various tasks at hand which are involved in the educational process and learning. This paper will review many of these “executive functions” and discuss their importance in the learning process.

Keywords: Executive functioning, Meta-Cognition.

Introduction

The realm of education is constantly changing, and new terms, constructs, theories and ideas continually emanate. Most recently much attention has been paid to “executive functioning” which is a global term for several aspects of cognition.

Educators are becoming increasingly aware of the realm of executive functioning and how its components assist and aid in the educational process. Further these skills help students to function more autonomously and require less supervision, prompting and assistance.

There are a number of skills, abilities and realms that require some exploration and explanation. These will be summarily addressed:

Some of the main areas of “executive functioning” are:

- 1) Planning- Students, and of course teachers, have to plan ahead for the next day, the next week, and even the next hour. Teachers have to plan for an entire school year- and if they teach students to plan ahead for completion of their work, teacher frustration may be minimal. Planning is very important for long range projects for students such as science projects and even small research studies and projects and students need to plan ahead in order to make the most of their instructional time.
- 2) Organization- In order to succeed in academic endeavors, students need a good deal of organization. They need to have their books ready, their homework prepared and their desks neat and clean. As students enter junior high or high school- they may employ a 3 Ring Binder so as to keep the increasing amount of assignments organized. Even for college students they need to have some organization of

their Computer files- and know where documents are in order to access them quickly.

- 3) Meta Cognition- This refers to students thinking, reflecting on their own problem-solving approach, learning approach or processing of new information approach. Students need to stop and think about their preparation for tests and long-term endeavors. The research on metacognition is indeed extensive and can be found in Shaughnessy, Vennemann and Kleyn-Kennedy (2012) A more current review is found in Durwin and Reese-Weber, 2021)
- 4) Attention. From the time they enter kindergarten, students are bombarded with a lot of information and people and pictures and charts and graphs and they have to pay attention to some, and perhaps less to others. There are many issues with attention- some—students have better Visual attention – they are able to focus and attend to visual information presented say in a conference or convention. Other students are more Auditory learners and they listen and have good auditory memories and are able to pay attention to this realm for a sustained period of time. Some students have “selective attention” wherein they only pay attention when a teacher indicates that the information to be presented will be on the next test, quiz or exam.
- 5) Flexibility- Students, as they go through the rigorous process of education need to be flexible and first be able to adjust to different teachers, and their different requirements. Some students need to be flexible to teacher demands and to the requirements of certain specific

courses. This flexibility helps students not only in school but in life.

- 6) Prioritizing- A critical skill that we all employ on a daily basis- prioritizing helps us to accomplish the most important tasks and meet deadlines. Often students (and adults) are overwhelmed with a number of competing demands and must make good choices and decisions as to what task has to be done first, and which can be deferred.
- 7) Time Management- Like prioritizing, time management is a skill that requires forethought. Students sometimes overfocus on the weekend or holidays, and neglect to study or prepare for their next large assignment or test.
- 8) Response Inhibition- Students need to have emotional restraint and need to be able to socialize and perhaps not indicate when they see a teacher or peer make an error or mistake. They need to “stop and think” about what to say when wrongly accused or when disciplined.
- 9) Goal Planning- Some students want to receive an “A” grade in each and every subject and this is laudable. But in order to reach that goal- some subgoals may need to be set and a schedule set for completion of the smaller tasks which lead to completion of the larger task, or the desired for grade.
- 10) Task Initiation— For some students, getting started is often the most difficult part of accomplishing anything. “Well begun, half done” is an old phrase that used to be used to communicate the importance of the fact that the longest journey often begins with the first step.
- 11) Emotional Control- Children, adolescents and we all have feelings, emotions and some of us act impulsively or have difficulty controlling our anger. We may say things that we later regret or wish that we have never said them. This realm of emotional control is critical for children who may behave quite impulsively or “act without thinking”.
- 12) Working Memory – The ability to hold new incoming information and manipulate that information internally is a skill that takes time, sometimes instruction and attention to detail.
- 13) Self- Control - A large part of success in school and in life is self control. A peer may encourage a student in the midst of studying to come out and play or engage in some mischief. A thoughtful student will think ahead, examine the pros and cons of what is being proposed and then make a wise, prudent, decision.
- 14) Self- Monitoring- As students progress through any task or book report or major project- they need to reflect on how they are doing, how much progress they are making, and what still needs to be done to finalize the project.
- 15) Low Frustration Tolerance and its management is a secondary or tangential area that basically reflects the students patience. Students need to be patient when things are difficult, when faced with exasperation and frustration (such as attempting to solve an algebraic equation) and students need to be able to cope with computers and word processors- when they do not seem to want to comply with what the student or typist wants!
- 16) Perseverance- The Finnish people call this “grit” but the idea of sticking to it is a hallmark of the most successful student, scholar and researcher.
- 17) Social skills involves working with peers, interacting with friends and others and working cooperatively in a group situation.
- 18) Conversational Skills- Since we live in a social world, we are all at some point required to interact to some degree with others. It would be rude if another attempted to start a conversation and the listener ignored the other individual. This ties in with respect, being courteous, cordial and congenial and establishes friendships and later a support network.
- 19) Reflection – Thinking about the past, reflecting on the present and planning for the future are all important parts of being human and these are also aids to help us think about the good and our progress in whatever realm— sports, academics, or other venue of interest.
- 20) Appreciation- Students often develop “executive function” skills but not necessarily are they aware that they have these skills and abilities and some of these are of the emotive or affective nature.
- 21) Time for “Kid Fun Stuff”- Part of executive functioning is realizing that children need time for hobbies and “ kid fun stuff”- playing games, engaging in interests and hobbies and realizing that these hobbies help in the long run to keep things in perspective and they help student re-charge and re-fresh after a difficult time period.
- 22) Planning for Reading- An important part of executive functioning is to encourage the child to read. Reading is an important part of the learning process and parents need to provide trips to the library, and a host of different kinds of books- western, science fiction, biography, autobiographies, historical and humorous.
- 23) Shift- Flexible Thinking- All teachers and parents need to recognize that there are other aspects of executive functioning that may not have been mentioned here and they are encouraged to investigate the thinking of other theorists, other than myself.

Learning Executive Functions Begins at home:

- 1) Clean Your Room- Having a child learn to clean their room is a valuable habit for them to develop and helps them understand that the good things that they do early on will pay off later- when they want to go out and play or socialize with friends.
- 2) Working Puzzles/Chess/Checkers- Obviously, we would start with small puzzles, but then increase to 100 piece or 200 piece or 500 piece puzzles, which obviously is going to take some time to complete- but they will be able to see their progress as time goes by.
- 3) Estimating Time- for shopping, eating, playing. Parents can ask their children approximately how long they are going to take to do something around the house or walk the dog or clean the back yard or whatever.

- 4) Conversational Time- Parents need to specify a specific time- perhaps at meals for students to learn conversational skills and to plan ahead for what they want to talk about and what they would like to discuss and perhaps even do after the conversation.
- 5) Planning Trips, Meals. Planning a special meal for one night a week is good responsibility building for a child but also planning trips to relatives helps them approximate what to pack- what to bring and how long the trip may take.
- 6) Learning New Things at Home- Parents should take every opportunity to promote learning-whether it be via television or books or the newspaper.

Summary and Conclusions

This paper has attempted to provide an overview of some of the executive functions that are important and relevant that teachers and parents need to promote.

There is a small investment of time initially, but that small investment will reap great dividends in the future.

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BIO

- Michael F. Shaughnessy is currently Professor of Education at Eastern New Mexico University in Portales, New Mexico. He has published about 500 articles, interviews, book reviews test reviews and research studies and has been involved in authoring, co-authoring, editing or co-editing about 50 books.
- He is co-editor of the book Meta Cognition with Marcel Vennemann and Cynthia Kleyn-Kennedy.