Faith-Learning Integration and Interdisciplinary Studies

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Professor

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Assignment

**Assignment #2- Developmental reading**

**Source One:** Breazeale, A. M. (2019). *The Role of Executive Function in Supporting Reading Fluency in Students with Dyslexia: A Latent Growth Curve Analysis*. The University of Memphis.

**Comment 1:**

**Quote/Paraphrase:** Executive Function refers to a complex set of supervisory cognitive processes that are in charge of higher-order cognitive functioning such as sequencing, working memory, flexibility, initiation, inhibition, planning, coordinating, and altering attention. The best way to explain executive function is as a combination of unity and diversity. Although they are distinct, executive function skills appear to have a commonality. Inhibitory control, for example, is critical with cognitive flexibility because it is necessary to halt one's current activity in order to switch to another efficiently. Because of the notion's multidimensional nature and the variety of definitions, no universal model of the concept has been adopted. However, there is broad consensus in favor of the Executive Function model, which emphasizes working memory, inhibition, and cognitive capacity. Flexibility is recognized and assessed as a significant Executive Function by the neuropsychological community. As a result, the current study's Executive Function abilities will be these three distinct but linked talents.

**Essential Element:** Worldview Literacy, Learning to change the World

**Additive/Variant Analysis:** This adds to my prior knowledge of how executive function involves complex mental processes that enable higher-order reasoning. The Executive Function paradigm emphasizes working memory, self-control, and brainpower.

**Contextualization:**  This information is essential for the gifted and twice-exceptional students with whom I work. It will contribute to a greater comprehension of how to improve the academic performance of students. To support these students' executive function deficiencies, I feel compelled to develop a curriculum that integrates interdisciplinary methods across grade levels and focuses on executive function.

**Comment 2:**

**Quote/Paraphrase** Although the prefrontal cortex in the frontal lobes is where executive function skills are stored, various neural pathways and regions of the brain are also engaged in these abilities. The prefrontal cortex undergoes significant neuroanatomical and cognitive maturation throughout childhood and into early adulthood, according to research, which also looked at recent studies examining the types of changes the prefrontal cortex undergoes in this process of maturation. Growth of the prefrontal cortex is visible at the neuroanatomical level through increases in the amount of white and grey matter, significant dendritic growth, and a decrease in the number of neurons and synapses. Working memory and inhibition start to develop cognitively about the age of four and get much better throughout childhood and adolescence. Around the age of seven, cognitive flexibility starts to develop; by the age of twelve, it is considered mature. Thus, even though maturation occurs at separate ages, as students begin school, both Executive Function and reading skills are still in a state of development.

**Essential Element:** Interdisciplinary Research

**Additive/Variant Analysis:** This adds to my understanding of how cognitive flexibility begins to develop at the age of seven, and by the age of twelve, it is considered mature. As a result, even though maturity happens at different times, when students start school, these skills are still developing.

**Contextualization:** This Resonates with me as I see the importance of molding students at early ages. Montessori talks about the “Absorbent Mind” In her explanation of the early years of children’s brain growth and interest. Breazeale, explains how cognitive development begins at four, progresses through childhood and adolescence, culminating in cognitive flexibility maturity by age twelve. Executive Function and reading skills remain in development as students begin school. The need to support Executive functions and other skills within our students in the sensitive periods of planes of development that are developing, is a necessity in order to help students thrive academically and reach their fullest potential.

**Source Two:** Ramsden, Coleen, M., The Impact of an Executive Function Intervention on Fifth-Grade Students. (Under the direction of Dr. Lance Fusarelli)

**Comment 3:**

**Quote/Paraphrase** Students employ executive function abilities to manipulate information, adapt to evolving demands, prioritize activities, and engage in metacognitive reflection on their learning. Similar to how children require practice to enhance their reading or mathematical abilities, they also necessitate work to enhance their executive functioning Executive Function capabilities. The acquisition of these abilities can be facilitated by suitable advice provided by parents and educators. Executive function processes are frequently not systematically taught in educational institutions and are not given priority in the curriculum, which normally prioritizes proficiency and effectiveness in the conventional subjects of reading, writing, and arithmetic. Executive functioning Executive Function skills are not innate in individuals, but rather, they are acquired and enhanced via various experiences and the guidance provided by adults. Students who do not have sufficient opportunities to develop executive functioning Executive Function abilities may encounter difficulties in their academic pursuits within the classroom setting.

**Essential Element:** Faith-Learning Integration, Learning to Change the World

**Additive/Variant Analysis:** This adds to my understanding of the fact that executive function abilities are not innate but must be developed and honed by exposure to new situations and the guidance. If children are denied the chance to hone their executive functioning skills, students may find it difficult to succeed academically.

**Contextualization:** When I was the Head of School at the Montessori school, we used to have a time called "The Journey" where parents could come in on a Saturday and see how teachers intentionally set foundations for students in the classroom by experiencing an hour in the classroom as a student. This has made me think back on one of my favorite experiences from that time. As they moved through the daily activities, there were guides and directed tasks to make sure they left things properly. My memory of one of the guides placing a gentle hand on my shoulder to remind me to push my chair in—which I had forgotten to do when I moved from a station—will always be etched in my consciousness. That simple reminder stuck with me forever. I started experimenting myself. I would purposefully leave one chair out in my office as a greeting to parents when they entered, and I would wait to see if they moved it back in or left it where it was as they left. It was fascinating to see children push their parents chair in for them or to remind them to do so. It demonstrated over time how simple calm and intentional reminders became instilled in life in these students and parents.

**Comment 4:**

**Quote/Paraphrase** In contrast, academic achievement is linked to motivation, effort, and self-efficacy. If children recognize themselves as learners and develop efficient EF strategies, their school attitudes and academic performance may improve. When students concentrate their efforts on employing EF strategies within the context of their academic work, they foster a cycle of success.

When schools teach students their strengths and limitations and provide them with a toolbox of strategies, students are empowered and motivated to take ownership of their learning.

**Essential Element:** Faith Learning Integration

**Additive/Variant Analysis:** This is an additive support of how empowering students with a toolbox fosters ownership of their learning. Academic achievement is influenced by motivation, effort, and self-efficacy. Students who recognize themselves as learners and develop effective strategies to improve their school attitudes and performance.

**Contextualization:** I was a student who, in my early years, had things come easily to me; as a result, I never learned how to study, take notes, or struggle for that matter, which would have made me need these essential tools. When I entered college, I was met with difficulties because I was expected to perform tasks that I had never been required to learn in earlier years, and I lacked the organizational abilities and working memory necessary to do so because it had never been employed. I rapidly lost motivation and stopped trying. Later, when I started at a new institution, I was urged to enroll in a study skills course, which gave me some of the fundamental skills I required to pass my courses. If I had received this opportunity earlier in my academic career, it might have improved my performance in college and given me a better start.

**Source Three:** Finch, J. E. (2018). *Executive Functions in Elementary School: Contextual Influences and Links to Adaptive Functioning*. Stanford University.

**Comment 5:**

**Quote/Paraphrase** Both EFs and challenge choice separately predicted students' task orientation, confidence, peer social skills, and frustration tolerance, but only EFs were linked to students' behavior problems. Also, the students' desire for challenges was found to have a big effect on the link between EFs and how aggressive they were. In particular, EFs were more strongly linked to confidence among students who didn't like challenges as much. As a result, classrooms could be set up in a way that encourages challenging choices by putting the focus on work and learning.

**Essential Element:** Interdisciplinary Research

**Additive/Variant Analysis:** This adds to my understanding of the importance of preparing the environment and how it supports student success outcomes. Students who aren't risk takers benefit more from Executive Function in terms of self-assurance. With the emphasis placed on working and learning, classrooms might be arranged in a way that motivates students to make difficult decisions.

**Contextualization:** This reminds me of a student who came to my office frequently last year at the request of the teacher. Even though he was extremely brilliant, he battled with effective self-regulation abilities and appeared to be detached. As he sat with me one day, I asked him what would make him like school more and what he would change if he were the principal. He simply stated that he would create lessons on topics that he was interested in learning about and would not quit and move on just because the teacher indicated it was time to learn something else. As I listened to him, my heart ached. He understood exactly what he needed, but no one was willing to help him. Schools are not designed in this manner. Over the summer, I started including a discovery area and had the child and his mother come in to help. We began discussing his hobbies, as well as the interests of other students, and developed interest areas to help each of them. As we worked together, I told him that I was genuinely trying to hear him and support him. He responded to me, "I can tell, and I appreciate it." My heart ached once more as I was thrilled but saddened because no one had ever supported him in this way before. He and I continued working on the room and discussing what we thought the rules of the room would be and how often it could be utilized. We talked about how regular classroom lessons still needed completed and what to do if we had to leave the room even if he wasn’t ready, incorporating boundaries and rights and responsibilities. This school year has started off much smoother for him, I am hopeful that he feels supported.

**Comment 6:**

**Quote/Paraphrase:** Adaptive classroom initiatives help students maximize class time. They include focusing on learning objectives and completing work, engaging enthusiastically with peers, and participating in classroom activities. Most studies measure student engagement and adaptation to school using surveys like the Teacher-Child Rating Scale. These surveys ask teachers about student behavior in class.

After accounting for socio-demographic characteristics and the home learning environment, adaptive classroom behaviors have been connected to longitudinal math and reading progress in elementary and middle school. The predictors of youngsters' adaptive classroom behavior at home and school have been studied since the 1990s. This is because these practices affect academic achievement.

**Essential Element:** Learning to change the world

**Additive/Variant Analysis:** This supports my position of how the implementation of adaptive classroom initiatives facilitates the optimization of students' utilization of instructional time. The key components encompassed in this context are centered around the pursuit of educational goals, the fulfillment of assigned tasks, active involvement and collaboration with other students, as well as active participation in various classroom-based endeavors.

**Contextualization:**  I had the opportunity to observe a teacher doing a meticulously designed activity in her preschool classroom, which left a lasting impression on me. She had established a central facility dedicated to the practice of hand hygiene. Within this facility. The individual possessed a pitcher, a basin, soap, and a towel; however, the absence of water hindered their ability to utilize these items effectively. The water source was located at a distance of approximately 25 feet from the designated station, situated on the opposite side of the room. The task assigned to the students involved the transportation of a pitcher from one end of the room to the other, followed by the act of filling it with water, and thereafter returning to the central location in a deliberate and cautious manner. Subsequently, the child was required to transfer the liquid into the basin in order to wash their hands. In the event of a spill, it is seen that students, including the individual in child, demonstrate proactive behavior by promptly deploying caution cones and engaging in floor mopping activities. Additionally, they effectively communicate the potential hazard to others in the class, urging them to use caution and walk gently on the wet floor. The children were required to maintain balance, maneuver through their peers, and successfully accomplish the assigned objective. The observation of the peaceful environment that ensued in the classroom, resulting from the promotion of autonomy and the enhancement of physical abilities, left me astounded. It was expected that students would demonstrate mutual respect, engage in collaborative efforts, and provide support to one another. The implementation of distinct adaptive processes provided comprehensive support to the entire class.

**Comment Seven:**

**Quote/Paraphrase:** Children are able to exercise control over their behavior, attention, and emotions because to EFs, which are higher-order cognitive processes that are included within the broader category of self-regulation skills. There are two different processes that have been shown to have a connection between children's EFs and the amount of academic development they make.

 First, EFs have a bearing on the direct learning of skills in reading, mathematics, and problem-solving, all of which are essential for academic success. Second, EFs support adaptive classroom behaviors such as keeping on target, following rules, organizing materials, regulating emotions, and participating in group activities. These behaviors are all important for students' future success.

**Essential Element:** Interdisciplinary Research

**Additive/Variant Analysis:** This supports my understanding of how executive Function Skills have an impact on the direct learning of reading, and mathematics, the ability to think critically and solve problems.

**Contextualization:**  This thought resonates with me because it supports the concept that the gaining of abilities related to executive function is necessary for academic development and behaviors that are conducive to academic success. Because of this, I have a strong conviction that a curriculum should incorporate approaches from many academic disciplines to assist academics, critical thinking,

executive function skills, and social interacting supports.

**Source Four:**

Herren, O. M., Burris, S. E., Levy, S. A., Kirk, K., Banks, K. S., Jones, V. L., Beard, B., Mwendwa, D. T., Callender, C. O., & Campbell, A. L. (2019). Influence of Spirituality on Depression-Induced Inflammation and Executive Functioning in a Community Sample of African Americans. *Ethnicity & disease*, *29*(2), 267–276. <https://doi.org/10.18865/ed.29.2.267>

**Comment 8:**

**Quote/Paraphrase** Executive functions, essential for daily living and functional independence, decline with age and can be further compromised by depressive symptoms. These cognitive processes involve inhibition, planning, attention, concentration, and decision-making. Exploring the pathophysiological mechanisms underlying the association between depressive symptoms and executive impairment can help identify biomarkers that increase the risk for dementia-related disorders and potential interventions. It is crucial to elucidate potential protective factors for behavioral interventions that maintain optimal executive functioning in the presence of depressive symptoms and reduce the risk for cognitive impairment. Spiritual beliefs and practices are perceived as sources of healing and strength for some African Americans, attributed to a sense of personal transcendence, identified purpose, and interconnectedness with a Higher Power. This includes connecting to the transcendent within and outside oneself, and traveling along the path towards this transcendent, from non-belief to devotion and surrender.

**Essential Element:** Faith-learning Integration, Worldview Literacy in Research,

**Additive/Variant Analysis:** This information regarding the decline of executive functions with age and how it can be compounded by depressive symptoms is new information to me. Understanding the relationship between depressive symptoms and executive dysfunction can aid in the identification of indicators for dementia-related disorders and the development of interventions.

**Contextualization:** In my personal life, I am confronted with the presence of depression as I witness my husband struggling with this condition. My husband deals with a diagnosis of Tourette's Syndrome, anxiety disorder, and attention-deficit/hyperactivity disorder (ADHD).He is consistently facing challenges due to a lack of adequate support for executive functioning. The sole factor that aids me in assisting him in navigating through this situation is maintaining a consistent emphasis on purpose and spirituality.

**Source Five:**

McCatharn, J. (2021). *Interventions Targeting the Executive Function Skills of Young Children* (Doctoral dissertation, University of Maryland, College Park).

**Comment 9:**

**Quote/Paraphrase** Executive Function Skills enable goal-directed conduct by managing impulsivity and making decisions that benefit pupils in obtaining desired outcomes. The three areas of Executive Function skills—cognitive adaptability, working memory, and inhibitory control—are distinct yet closely related. Understanding the correlation between age, the development of executive function, and its subsequent association with executive function components is of utmost significance.

**Essential Element:** Interdisciplinary research

**Additive/Variant Analysis:** This adds to my understanding of how it is very important to know how age, the growth of executive function, and its relationship with executive function components change over time.

**Contextualization:** At our school, we have an Intervention Specialist who is the most level-headed and direct person I could have hoped to find for interacting with our students. She has developed several different strategies for students that take into account their ages and the stages they have reached in their development. The student’s excellent academic success can be attributed to her awareness of the individual differences among children and their needs.

**Source Six:** Barker, K. L., Strauss, M. L., Brown, J. K., Blomberg, C. L., & Williams, M. (Eds.). (2020). *NIV study bible*. Zondervan.

**Comment 10:**

# Quote/Paraphrase Proverbs 22:6 Start children off on the way they should go,     and even when they are old they will not turn from it.

1 Corinthians 14:40 But everything should be done in a fitting and orderly way.

**Essential Element:** Faith-Learning Integration, Learning to change the world

**Additive/Variant Analysis:** This supports my existing knowledge of how training children to be orderly and by supporting executive function skills to help accomplish this, will help children remember these supports throughout their life.

**Contextualization:** I was reared in a Christian home. My father is a pastor, I attended a Christian School and Christian Colleges. It was poured into me my whole life how God is a God of order and how all of creation has order. If we start children off in this foundation it will stay with them as it has with me. For example, children will recognize the worth and significance of something when their parents appreciate it and demonstrate its relevance to them. My father has always read avidly, learned, and imparted his knowledge to others. He is a lifetime learner. He has a number of additional degrees, including two doctorates. He never offered me the option of going to college; it was simply something he expected of me. He had expectations not only for me but also for others. He constantly imparted knowledge to others and pushed his "preacher boys" to pursue further education. He appreciated inquiry and education, and we learned to value them as well. Additionally, he imparted it to all of his grandchildren. Children whose parents place little emphasis on education may grow up to place that value.

**Source Seven:** Lima, M. C. (2021). *Inclusive Education: Promoting Executive Functions Skills Awareness through Storytelling* (Doctoral dissertation, Saint Mary's College of California).

**Comment 11:**

**Quote/Paraphrase** Self-determination theory (SDT) is a scientific-based theory that emphasizes human behavior and personality development. It emphasizes the importance of motivation for behavior independence, focusing on how social factors affect individuals' thriving through satisfying their psychological needs for competence, relatedness, and autonomy. Autonomy is the first basic need, while competence requires effective task mastery and relatedness involves helping others. Students with ADHD may struggle to satisfy their psychological needs in class, resulting in feelings of incompetence and negative relationships. In the school setting, intrinsic motivation, belonging, and skillful task completion are crucial for students to thrive.

**Essential Element:** Learning to change the world

**Additive/Variant Analysis:** This adds to my existing understanding of how ADHD students may fail to meet their psychological needs in class, leading to feelings of ineptitude and poor relationships. Students thrive in school with intrinsic drive, belonging, and skillful task accomplishment.

**Contextualization:** After the COVID-19 shutdown, when our students returned to school, many of them had difficulty with math and reading since they had not received as much academic support during the time the schools were closed. This was a challenge for our school. The students were having difficulty intellectually, relationally, and they were not demonstrating any signs of task accomplishment. It was challenging to bring all of the students up to speed, but those who were struggling with various additional diagnoses did so for a significantly longer period of time.

**Comment 12:**

**Quote/Paraphrase**

EF is a common neurocognitive deficit for students with ASD and ADHD, affecting cognitive abilities like working memory, response inhibition, set-shifting, planning, and monitoring. Commonalities between ADHD and ASD include deficits related to behavior regulations and executive dysfunctions. Social interactions promote the development of executive function, but teachers have limited knowledge and access to educational resources. Efforts to improve EF include school curricula, non-computerized games, and mindfulness. Executive function training should be introduced early in children with EF deficits to widen achievement gaps. Providing students with a sense of belonging and social acceptance can also improve EF at school. Educators can implement alternative curriculum and solutions to mitigate the problem.

**Essential Element:** Interdisciplinary Research, Worldview Literacy in Research

**Additive/Variant Analysis:** This adds to my understanding of how Executive Function at school can also be improved through helping students feel like they fit and are accepted by their peers. Educators can use different lessons and methods to help solve the problem.

**Contextualization:** It is difficult for gifted students, students with Executive function deficiencies, or other significant diagnoses to locate academically compatible peers. They seek normalcy and a sense of belonging. As a result, they become susceptible to Identity confusion and individualism. In an effort to fit in and make friends, a few of our students were dragged into inappropriate situations this year, causing us trouble. To connect with students, one must help them recognize their identity in Christ.

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