

Elementary Gifted Students' Perceptions of Using Multi-Sensory
Strategies for Focusing in the Gifted Support and General Education Classrooms

A Dissertation

Presented to the Faculty of
The College of Health & Human Services
Widener University

In Partial Fulfillment
of the Requirement for the Degree
Doctor of Education

by

Michele E. Peters

Center for Education

April 2024



Widener University
College of Health and Human Services
Center for Education

Dissertation Approval

Title of Dissertation: Elementary Gifted Students' Perceptions of Using Multi-Sensory Strategies in the Gifted Support Classroom

Author: Michele E. Peters

Date of Approval: 3/9/2024

Approved By:



DocuSigned by:

Zora M. Wolfe

1917.DCCF51C4FE

Zora M. Wolfe, Ed.D.
Chair of the Committee

DocuSigned by:

Susan Persia

17FEEC0EEF7DAE

Susan Persia, OTD
Committee Member

DocuSigned by:

Joseph A. Petrosino

1D50A9E880A0F3

Joseph A. Petrosino, Ed.D.
Committee Member

DocuSigned by:

Zora M. Wolfe

1917.DCCF51C4FE

Zora M. Wolfe, Ed.D.

Associate Dean, College of Health & Human Services

Submitted in partial fulfillment of the requirements for the degree of
Doctor of Education

Widener University, One University Place, Chester, PA 19013
www.widener.edu

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Dedication

This study is dedicated to my mother, Mary Ellen Hotovcin, who was not allowed to pursue her own college dreams and has encouraged me to never stop learning, even at the toughest of moments.

PREVIEW

Acknowledgements

I would like to acknowledge my husband, Duane Peters, and my children, Talia Lindeman and Adley Peters, for graciously allowing me every minute needed to write this document. Thank you to my daughter Adley for all of your notes of encouragement.

I would like to thank my dissertation chair, Dr. Zora Wolfe, for her support and kindness throughout this dissertation journey. I would also like to thank my committee members, Dr. Susan Persia and Dr. Joseph Petrosino, for their feedback throughout this process.

A heartfelt note of appreciation to my students for taking this dissertation journey with me. Not only did their participation in my study enable me to complete this research, but their interest in the dissertation process gave me the motivation to keep writing even when I did not think I could write another word.

Abstract

This study explores how elementary gifted learners, through the use of fidget strategies, self-regulate levels of attention to increase focus and decrease inattentiveness in the gifted support and general education classrooms. Gifted learners may often be overlooked in areas such as self-regulation and explicitly taught strategies because they typically have higher than average grades and are not often disruptive with their behavior in the classroom. The significance of this research was to provide gifted learners at the elementary school level an understanding of self-regulation skills using fidget strategies they could easily incorporate on their own to increase their focus in the academic setting.

The student sample of participants for this study consisted of elementary gifted learners. The researcher conducted a qualitative case study to explore gifted learners' perceptions about the use of fidget strategies. The gifted learners participated in a pre-intervention interview and demographic survey, a month-long intervention period with a weekly journal reflection, and a post-intervention interview. The participants' perceptions were that fidget strategies helped them focus in the gifted support and general education classrooms. Unintended outcomes included that some participants felt calmer and less stressed when using fidget strategies.

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Chapter 1

Introduction

The education system in America has remained significantly unchanged in the format and presentation of information for many years. Students are required to sit at their desks and listen to instruction just as they have for centuries. Although today's classroom may be more colorful and dynamic than the past and technology may play a greater role, there are still basic tenants that are required of students. Whether the content is presented in the physical classroom or through an online format, students still must be focused and attentive.

Students may be at different levels concerning their attention and focus in the classroom. For these students, the concerns are often addressed in documents for special education, such as an Individualized Education Program (IEP) or a 504 service document. Behavioral plans provide accommodations that help minimize classroom distractions (Graziano et al., 2020). The documents make accommodations for special education students to address weaknesses and how educators will help students self-regulate their thought processes to overcome learning difficulties.

To provide support for learning difficulties, documents such as an Individualized Education Program (IEP) or 504 Plan exist. An IEP provides for specially designed instruction that helps a student in an area of disability. Some examples of a disability may be intellectual disability, a hearing or speech impairment, or autism. A 504 Plan is developed for students that have a disability but do not require special education services. Some examples may include ADHD or accommodations surrounding medical treatment. Instead of having documents to address learning difficulties, gifted learners have documents that address a student's strengths. For example, a Gifted Individualized Education Plan (GIEP) may focus on acceleration,

pre-testing, learning contracts, or enrichment to address a learner's strengths in a particular area, such as mathematics or English language arts. It is important to note, GIEP documents do not inherently have room to address focus or attentional concerns.

However, gifted learners can also struggle in the classroom with focusing issues and inattention in the same way as students that are identified with disabilities, such as ADHD or Autism. Although schools may not concentrate on focus and attentional issues with gifted learners, it is an area that is easily addressed through the theory of sensory modulation by teaching self-regulation strategies. To help the gifted learner self-regulate, educators need to provide a scaffold to the learner to help achieve their goals (Gillebaart, 2018). Therefore, giving such support mechanisms will provide gifted students a means to easily, and without disruption, change the way they are processing their own behavior in the classroom.

Support tools, such as fidget strategies, allow the gifted learner to follow the cyclical process of self-regulation in the classroom to identify behaviors through sensory modulation to implement behavioral changes. Behavioral change in this case will incorporate small physical movements to address needed sensory input. Self-regulation provides students the strategies to achieve the needed level of sensory input that is right for their learning needs and goals (Nacaroglu et al., 2021).

Background

Students in a typical classroom lecture model are required to employ self-regulation skills to sit still and pay attention to the speaker for successful learning to occur. Concentrating on the speaker during the lecture is a primary task and sitting with minimal movement is a secondary task (Seli et al., 2014). Students may notice that as the length of a lecture increases, it may be hard to sustain their attention (Risko et al., 2012). Learners may lose focus on the primary task

and this inattentive state may be labeled boredom by students. This inattentive state may lead to times of decreased focus and diminished learning time.

A student's attention span, which can be clarified as "sustained attention" (Gerschler, 2012), lasts for approximately twenty minutes and can be impacted by positive or negative factors. Furthermore, individuals that are experiencing inattentiveness may be attending to a task that is either too easy or too difficult and will switch to task-unrelated thoughts (Raffaelli et al., 2018). Subsequently, this discomfort may break through and be acknowledged by their consciousness (Carriere et al., 2013). Individuals reach a state of decreased attention in the classroom and at this point may employ movement through fidgeting behaviors, for example small physical movements, which can be as simple as moving back and forth, to correct for this decreased state of attention (Farley et al., 2013).

Thus, students may use their fidgeting as a clue that they need to refocus in the classroom and self-regulate their behavior. In fact, Farley et al. (2013) stated, "Fidgeting may provide a physical marker of the transition into a state of inattention rather than an attempt to transition from a current state of inattention" (p. 3). Consequently, attention can shift outward towards an external stimulus, inward to mind wandering, or even back to the task at hand (Tam et al., 2021).

Refocusing attention back to the task at hand for students with sensory processing deficits and diagnosis such as ADHD and Autism is something special educators teach through self-regulation (Graziano et al., 2020). Many studies have associated sensory sensitivities to students that are identified with autism and ADHD; however, little research has been done in this area concerning gifted students (Gere et al., 2009; Rinn et al., 2018).

There are gaps in the existing literature concerning self-regulation skills among gifted learners because it may not appear to be a priority in the classroom. Educators may not address

self-regulation strategies for gifted learners in the traditional classroom, but gifted students have been found to be no more motivated or regulated in completing coursework than the typical student (Ben-Eliyau, 2019). Gifted learners could also benefit from employing metacognition to address inattentiveness and identify strategies they might employ to reduce periods of mind wandering (Smallwood et al., 2007).

To optimize the performance and minimize instances of mind wandering in gifted students, it is essential to align sensory input strategies with the demands of the environment (Gere et al., 2009). Learning sensory modulation involves the degree, intensity, and quality of an individual's responses to the environment. Additionally, studies have shown that students are able to learn the skill of self-regulation just as they are able to learn any other skill (Eker & Ince, 2018).

Sensory modulation cues the learner to self-regulate. "Dunn's Four Quadrant Model of Sensory Processing" is a continuum, ranging from low to high, and each person has unique thresholds for responding to sensory information (Metz et al., 2019). All individuals use self-regulation, moving on this continuum from passively allowing something to happen around them to taking steps to actively control what is happening around them (Dunn, 2007).

Essentially, students may be aware when their attention is waning and can self-regulate this behavior using a strategy to refocus their attention. Therefore, students can actively use self-regulation in a successful manner when they identify their end goal and monitor any progress they are making (Gillebaart, 2018). Self-regulation involves strategies and feedback that motivates students to play an active role in their academic success (Ilhan Betaztas & Metin, 2019). Mammadov et al. (2018) stated, "Self-regulation, therefore, is a metacognitive process that requires students to explore their own thought processes, evaluate the outcomes, and plan

alternative pathways to success” (p. 114). The gifted learner can use the cyclical process of self-regulation to incorporate fidget strategies into their academic environment.

Fidget strategies are mechanisms that involve movement to break the cycle of inattention and could be an alternative pathway to success for the gifted learner. Using fidget strategies also has the added benefit that the gifted learner could incorporate themselves with minimal disruption to the classroom environment and could be a simple motivational tool as well that helps them control their own behavioral outcomes in the classroom setting. Strategies that involve fidgeting can be built-in, for example rocking back and forth, or require some type of physical item to provide sensory input. The term fidgeting will be defined as small movements that an individual makes with their body to relieve restlessness or discomfort. In the study conducted by this researcher, students identified when they had reached a point of discomfort in the classroom and were given the opportunity to use a fidget strategy to address this need for refocusing attention.

To refocus attention with built-in fidgeting strategies could be simply moving back and forth in a chair or twisting one’s hair around one’s finger. Examples of fidgeting strategies that require physical items would be chewing gum, stress balls, twirling a pen, or doodling. Each fidgeting strategy would be a small movement that would ease the discomfort from inattention and refocus the mind.

Each gifted learner needs to have an awareness of specific strategies that would refocus their mind and would help them to regulate their behavior for learning in the classroom. In the classroom setting, gifted learners may often be overlooked in areas such as self-regulation because they have higher than average grades and are not disruptive with their behavior in the classroom. However, as coursework becomes increasingly difficult, gifted learners need to be

taught self-regulation to implement strategies to remain focused and attentive to deal with motivational struggles they may face in the classroom.

Problem Statement

Gifted learners are not taught self-regulation strategies in the same direct instructional format as their peers with disabilities. Therefore, the strategies that involve identifying a goal with a cyclical process of self-regulation that are taught to special education students needs to be addressed with the gifted learner through direct instruction. However, the problem involving gifted students and self-regulation is that we do not explicitly instruct the gifted learner about the process of goal setting, using strategies and reflection to address times of inattention and focus.

Simply put, teaching self-regulation to gifted learners through a tool such as fidget strategies gives the gifted learner an awareness of their own inputs and reactions to their environments. Over time, using a tool is reinforced with each identified period of distraction. Thus, the implementation of a fidget strategy reinforces using a learning tool in conjunction with the awareness of distraction to help the gifted learner regain focus during times when periods of inattention happen in the classroom setting.

If the gifted learner is taught self-regulation through a cyclical ongoing process, then the gifted learner can address their own levels of inattention to maintain and correct the same sensory inputs to stay focused in the classroom setting as their peers with disabilities. The neurological system processes sensory inputs from an individual's senses to support daily functioning, manage behavioral challenges, and regulate emotions. The brain receives, interprets, and organizes information from sensory input sensations to prepare individuals to be in a state of mind to learn and interact. The existing information that is stored in our brain through memories, in conjunction with the sensory input, makes adaptive responses to the environment.

A human being's ability to respond and be adaptive to environmental context requires self-regulation to monitor thoughts and emotions. Self-regulation is the process of understanding behaviors and reactions to the environment and managing them to be successful as a learner. The simple three-step process of self-regulation involves clarifying goals, setting a plan, and reflecting on progress. Students with disabilities are directly taught the three-step cyclical process of self-regulation through goals in their IEP to address perceived weaknesses. IEP documents focus on correction of behaviors deemed necessary for successful academic achievement.

However, gifted learners are not explicitly taught self-regulation strategies. GIEP documents are focused on identified strengths instead of relative weaknesses. Unlike their peers that have identified academic or behavioral concerns, which can be addressed through self-regulation strategies, the gifted learner is not taught self-regulation strategies because they do not have any identified academic or behavioral concerns. This is a problem for the gifted learner because educators do not associate high levels of intelligence with losing focus in the classroom; therefore, gifted learners are not taught self-regulation to address times when they lose focus in the classroom. Gifted learners lose focus for a plethora of reasons, such as lack of interest in the subject matter, curriculum that is too easy or too hard, or personal issues interfering with academics. Therefore, the strategies of self-regulation that are successful with students with identified disabilities may help the gifted learner during times when they lose focus in the academic setting.

Purpose

The purpose of this study is to explore how gifted learners self-regulate levels of attention in the elementary classroom to increase levels of focus and decrease inattentiveness. Gifted

students may struggle to stay focused in the traditional classroom setting when complexity levels increase. Teachers can provide direct instruction on the cyclical process of self-regulation using fidget strategies to support metacognitive awareness and combat inattention. For students to use self-regulation strategies effectively, they need to have an awareness and motivation to meet their end goals to change their behavior (Siegle et al., 2017). Thus, the gifted learner can benefit from the strategies often used with their peers in special education.

In this research study, students will be introduced to the idea of self-regulation to control inattention in the academic setting by using fidget strategies to refocus learning. This is important because with high levels of achievement and low issues of behavioral incidences with the gifted population, gifted learners are overlooked in explicit teaching interventions that help them control their own level of self-regulation in the classroom.

The significance of this research is to have strategies in place the gifted learner could implement and benefit from on their own to refocus during times of inattention or struggle in the classroom. Teaching self-regulation strategies to the gifted learner could contribute to a change in the way that educators look at the gifted learner as a student and realize that the gifted learner could benefit from strategies that we commonly teach to other groups of students. It is critical for educators to examine the gifted learner in this manner because the gifted learner is often overlooked in the area of self-regulation.

Research Question

Self-regulation is used in the classroom by students to focus and avoid inattention. Students all process sensory inputs at different levels and have different thresholds to integrate that information. Gifted learners are a unique population that may not have been given opportunities to learn about self-regulation the way students with disabilities may have been

instructed. This research will examine the following research question: What are the elementary gifted learners' perceptions of the benefits of using multi-sensory strategies in the gifted support and general education classrooms?

Research Design

The research model will utilize a qualitative case study approach. An intervention will be introduced by the gifted support teacher to help students implement self-regulation through the use of movement in the form of fidgeting strategies when inattentiveness is realized. The gifted student will be given the opportunity to self-select a fidget strategy/strategies they can use for the duration of the study that would best fit their sensory modulation needs. They will complete a plan to implement the use of fidget strategies at the beginning of the intervention period and will document their reflections weekly in a journal.

Pre and post-intervention interviews will be conducted with the gifted elementary students to document the students' perceptions surrounding their academic classroom performance in regard to inattentiveness before and after the intervention.

Qualitative data will be coded to look for emerging trends, focusing on what markers and physical movements students make to self-regulate levels of attention in the classroom setting.

Rationale and Significance

The use of fidget strategies and self-regulation to focus in various forms that incorporate small physical movements, such as stress balls, wiggle cushions, and doodling, can refocus attention for students with disabilities, such as ADHD or Autism, and can decrease behavioral episodes (Reed, 2018). However, research concerning the gifted population and self-regulated learning interventions is limited (Desmet & Pereira, 2021). In fact, gifted learners can reach levels of academic success much earlier than their peers (Moran, 2009). Because of the gifted

learners' academic success, the gifted population is not often associated with waning levels of focus but can struggle to self-regulate in the classroom, especially as complexity levels increase in their coursework. Gifted learners could use the same fidgeting strategies to refocus their attention in the traditional classroom settings as students that have ADHD and other learning disabilities.

The significance of this research is to provide gifted learners at the elementary level an understanding of self-regulation strategies that can be easily incorporated into the classroom setting using fidgeting strategies. This is significant to the field of education especially concerning the gifted learner because we have not provided this to them explicitly in the form of teaching about self-regulation in the academic setting. Fidgeting strategies can combat inattentiveness in the classroom and help gifted learners remain focused in the classroom as complexity of coursework increases. Gifted learners may not be aware that through focused pre and post reflection on their metacognition, they can implement strategies to help their attentiveness levels increase and help further their academic progression and goals.

The gifted learner must become self-aware and reflective of the learning processes that work best for them in order to achieve their goals through evaluation of their own performance (Gillebaart et al., 2021). This is particularly important in the present-day classroom because there are many reasons why inattentiveness occurs, but there are few solutions that can be easily incorporated into the curriculum to combat inattentiveness. The implementation of fidget strategies can be a low-cost way of building greater levels of attention in the classroom that educators could put into place easily.

Not only could educators implement fidget strategies into their classroom easily, but gifted students could use these strategies in any classroom unobtrusively to increase their levels

of attention and focus. Because educators often use an authoritarian approach to conveying information in the classroom, they often overlook how the students themselves know best how they learn, including, for example, the ability to learn how to regulate their own affective state in the classroom.

Students have no control over the teaching methodologies of a given educator, but students can make changes to how they interact as a learner in the classroom. Educators should teach fidget strategies through the cyclical process of self-regulation explicitly to gifted students to employ in the current classroom setting. Consequently, the strategies could be incorporated into future academic settings by the students for their academic success as life-long learners.

Definition of Terms

Boredom

Eastwood et al. (2012) defined this as, “the aversive state of wanting but Being unable to engage in satisfying activity” (p. 482).

Fidget

Small movements that are made with the body to relieve restlessness and/or discomfort (Cohen et al., 2018).

Fidget Strategy

A strategy that provides an opportunity for small physical movement. A small item that can be manipulated easily with one hand or an item that provides an opportunity for small physical movement. It provides a means for sensory (tactile) input for the individual learner without the need for visual attention (Jones et al., 2019).

Fidget Strategy Examples

built-in (no physical item needed): leaning forward and back (Farley et al., 2013); hair twisting (Karlesky & Isbister, 2016).

Not built-in (physical item needed): chewing gum (Van Nest, 2019); doodling (Tadayon & Afami, 2017); stress ball (Jones et al, 2019); therapy ball (vertical movement); therapy putty (Jones et al, 2019); weighted lap pad (Van Nest 2019); playing with keyboard keys or twirling a pen (Karlesky & Isbister, 2016).

Fidget Strategy Non-examples

Fidget Spinners, clicking a pen, action figures, Legos. Any item that distracts from classroom activities or is noisy (Jones et al., 2019).

Gifted Students

For the purpose of this study, students that have been identified as gifted using the Pennsylvania state criteria for identification. Individuals that are gifted possess outstanding levels of aptitude (Feuchter & Preckel, 2021). Gifted students typically score at or above two standard deviations from the norm on academic achievement testing (Ben-Eliyau, 2019).

Self-regulation

An individual's ability to think about the learning process through cognition, motivational, and behavioral terms (Ilhan Beyaztas & Metin, 2019).

Summary

The gifted learner can have the same struggles in paying attention that their peers identified as part of the special education system have in the classroom. Because the gifted learner can struggle with attentional concerns in the classroom the same ways as their special educational peers, they can benefit from the same type of direct instruction to help with concerns in the classroom. The cycle of self-regulation using fidget strategies can be explicitly taught to help them achieve goals through planning and reflective practices through altering their sensory input. Fidget strategies require some type of movement to refocus the learner on the task at hand. This gives the gifted learner an awareness of what type of inputs are needed to best suit their learning styles and tools to help them support daily functioning to manage and regulate their emotions through behavioral change.

The purpose of this research will be to explicitly teach gifted learners the process of self-regulation through the use of fidget strategies to manage distractions in the classroom and refocus on academic pursuits. This is important for the gifted learner because educators do not often take time to teach necessary strategies because of their high achievement in the classroom setting and will give the gifted learner time to process their perceptions of using fidget strategies to see if they can benefit from their use in the academic setting. The following chapter will examine the literature through the development of the theoretical and conceptual frameworks through examining movement, inattention, and student metacognition.

Chapter 2: Literature Review

Gifted learners may not explicitly be taught self-regulation skills in the classroom. Self regulation can be used to help the gifted learner deal with inattention in the classroom setting. This research will focus on using the cyclical process of self-regulation through using fidget strategies to help the participants refocus their attention in the classroom. This process involves clarifying goals, setting a plan, and reflecting on progress.

Gifted learners are not often thought about as having periods of inattentiveness in the classroom because they often have high achievement levels and low behavioral issues. However, the gifted learner can be distracted in the classroom for a plethora of issues, such as boredom, low interest in the academic content, or personal issues. Teaching the cyclical process of self-regulation using fidget strategies could provide the gifted learner a tool that they could use to refocus in the classroom setting that they could incorporate themselves.

This chapter takes a more extensive look at the literature concerning how students self-regulate levels of attention and focus in the classroom setting. It will review the literature concerning sensory modulation through self-regulation strategies that incorporate movement into the classroom setting. The purpose of this study is to explore how gifted learners can use self-regulation in a classroom setting and will examine the following research question: What are the elementary gifted learners' perceptions of the benefits of using multi-sensory strategies in the gifted support and general education classrooms?

Background

Students' academic success is a function of their ability to focus on classroom tasks without disturbances (Müller et al., 2021). Attentive students tend to outperform their peers both in retention of content during lectures and tests and quizzes (Forrin et al., 2021). Inattentive