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Active Learning: The New Wave of Education

CHRISTINA MARIE REALE
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Reviewed and approved by the following:

Jacqueline Edmondson
Associate Vice President and Associate Dean of Undergraduate Education
Honors Advisor and Thesis Supervisor

Jason Whitney
Instructor of Education (LLED/SECED)
Second Reader

Signatures on file with the Schreyer Honors College

ABSTRACT

Through my two semesters student teaching at two elementary schools, I have questioned the balance of passive and active learning I witness in the classroom. I have examined how I can make learning more active and engaging for the students. This goal lead to my research question: How can teachers promote more student engagement and activity within the classroom? This question has allowed me to consider a range of research and views on learning as I attempt to determine which learning styles are more conducive to an active learning environment. Based on this research, I have created an extensive list of active participation techniques that can be useful within a classroom.

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Introduction

Introduction to Topic

Choosing a topic for my thesis was no easy task; in fact, it was quite overwhelming. I mulled around several ideas, but I was unsatisfied with all of them. None seemed worth researching. It was not until I walked into a second grade classroom and realized the type of classroom atmosphere and structure for which I was looking. The teacher utilized some active participation techniques and the students were often moving about the classroom or at their desks, and they seemed to be fully engaged in the lesson. She created a classroom environment that engaged multiple learners. Classroom structures are very important and serve as a main component of engaging places of learning. Growing up, my education was nothing like this. Instead, I was required to sit in my seat for long hours and passively learn content through lectures and transference of knowledge from the teacher to the student. I personally did not find this kind of classroom environment to be engaging, and it is what I hope to avoid.

Over the past four years at The Pennsylvania State University, I have enrolled in numerous education and development courses. Through countless hours of learning, writing papers, and completing projects, I have learned two valuable pieces of information: (1) children, especially elementary-aged children, need routine in their lives, and, (2) they need activity breaks in order to be successful. These breaks allow for learning opportunities and maximum success. Children need to be invited to or given the opportunity to move around and release pent up energy in order to become better learners. In addition, they must engage in a variety of learning opportunities. According to Bjorkland and Pellegrini, “any break is a good break” (1997, p. 38), regardless of the length

of the break. This break does not necessarily need to encompass physical movement, but instead, should represent a shift from traditional lecture form education to a more progressive or alternative view that encourages more student engagement. Although some people may blame the students for disengaging, it is the responsibility of the classroom teacher to set up structures that facilitate learning and engagement (Cambourne, 2001). Engaging and welcoming structures direct students' attention toward learning activities and opportunities (Bjorkland, & Pellegrini, 1997).

The second grade classroom inspired me to learn more about positive classroom structures that encourage engagement and activity. Total participation techniques, often referred to as active participation techniques, are effective ways to promote a more positive classroom structure. Himmele & Himmele (2001) define total participation techniques as ways to “get and hold [students’] attention and activate higher-order thinking,” (p. xii) leading back to a positive and inviting classroom. Obtaining students’ attention is one challenge, but enabling them to maintain attention and activate higher-order thinking skills is a daunting challenge. Teachers need to create these positive environments and encourage engagement. (Himmele & Himmele, 2011). In my advanced methods courses, we discussed the importance of student involvement, and I was now given an opportunity to both observe and delve into an active classroom as a student teacher, and it could not have been a more refreshing and inspirational experience.

Description of Teaching Contexts

As a student teacher at Penn State, I was placed in a middle-level field experience for two days a week for nine weeks in a second grade classroom in a small rural school district in central Pennsylvania. My classroom consisted of 20 students: 11 boys and nine girls. The

majority of my students were Caucasian. Of the others, two were African-American and one was Hispanic. The class included a variety of identified students requiring learning support. Their schedule was extremely planned, with little room for flexibility and varying classroom structures. Incorporating active means of engagement was certainly difficult for my mentor teacher, but she managed to do it.

For my full-time student teaching, I am placed in a multiage classroom in a southeastern Pennsylvania school district for 16 weeks. This classroom is very alternative, also referred to as progressive by many theorists, which is explained below. It is composed of 14 third graders and 18 fourth graders, steering away from the more common single-grade classroom. Both educators teach simultaneously to individual grade levels, but they ultimately teach both grades. However, one teacher only focuses on Math and Science, whereas the other focuses on Reading, Writing, and Social Studies. This classroom is extremely diverse with several different cultures and learning styles present. Of the 32 students, eight are African-American, eight are Caucasian, and one student is Asian. Fifteen of the students are Hispanic, and of these, eleven are English Language Learners, meaning English is not their first language. Classroom structures play a tremendous role in facilitating learning and an overall positive atmosphere.

Classroom Engagement

Although two classrooms were often active, disengagement was still commonly present. In the middle of a lesson, students often begin to fidget and refrain from listening, and it is evident that students have lost interest. Clearly, the classroom structure is not favorable to them. Eventually only a few students answer questions and participate in the lesson, while the others look around the room or begin side conversations. At some point

during a lesson, I may give a direction and only a handful of students respond. In my pre-student teaching classroom, my teacher observed similar concerns and tried to create more engaging opportunities.

From the moment my students entered the classroom in the morning to the time they went to lunch, they had a very full schedule. Two hours were dedicated to Reading where they completed the Daily Five Reading Program. According to Boushey and Moser (2013), this program “is more than a management system or a curriculum framework - it is a structure that helps students develop the daily habits of reading, writing, and working independently” (n.p. This program was originally designed to have one hour of formal instruction, where the children learned spelling and grammar and in whole-class reading. Once this instruction is complete, the students either break up into their Guided Reading group for additional instruction or attend to varying stations: Read to Self, Read to Others, Spelling Work, and Writing Practice, for an hour. During Guided Reading, children read achievement-level books. The students are annually assessed to determine their reading level. The Guided Reading books are strategically planned and created in order to best meet the needs of the individual students. Each book is given a letter, A-Z, and these letters determine the reading level. This two-hour block of time seemed like it could be structured more effectively to better engage students in learning (Boushey, & Moser, 2013).

My mentor teacher altered the plan and created a more positive structure by promoting active participation and mobility. Instead of dividing the block into two one-hour sessions, she taught a lesson for 15 minutes, and then allowed the students to break out. Mini-lessons are an extremely important component of Reading and all other instruction. These lessons “focus primarily on modeling and identifying... behaviors and

teaching and learning the expectations and procedures of the workshop” (Miller, 2002, p. 29). Behaviors are any measurable and observable act, and mini-lessons are designed to observe learning habits in hopes that positive ones will be formed. My mentor teacher explicitly taught a short lesson then allowed the students to break out into the four stations and apply the newly learned concepts (Miller, 2002).

These mini-lessons and varying stations align with Fountas’ and Pinnell’s (1998) “Eight Principles of Literacy Learning,” in that children need to manipulate objects and have engaging experiences in the classroom. As educators, we try to provide a rich and balanced curriculum and structure that offers a full range of learning opportunities. In literacy specifically, “children need to have many experiences working with written symbols... and children need to explore words and learn how words work so they can use this information effectively and efficiently in Reading and Writing” (Fountas and Pinnell, 1998, p. 6-7). Teachers must provide active opportunities for their students in order for them to learn effectively. An educator simply teaching students a lesson is not as meaningful as if the students are willing and able to apply it both in and out of the classroom. These engaging experiences allow students to create their own understandings (Fountas and Pinnell, 1998).

In the southeastern Pennsylvania school district , the need for classroom structures to support students’ engagement is also important. Unless the children are engaging in something they enjoy or find fulfilling, once again, only some students seem to listen (Fountas and Pinnell, 1998). While I am teaching a lesson, I adjust my teaching styles in order to regain my students’ focus. Seeing these behaviors on a daily basis has inspired me to make instructional changes in my teaching and classroom and utilize several techniques

that are described below. I try to distribute my teaching to meet the needs of all my students and to support their engagement as much as possible.

Student engagement and mobility often go hand-in-hand, but one is not completely lost without the other. Students can be engaged even when they are not moving and students can be disengaged even with physical activity.

Given my observations and inquiries, my research question is: How can teachers create a classroom structure that promotes more student engagement and activity within the classroom? To answer this question, I turned to the research literature on teaching and student learning, and I researched classroom practices that were aligned with the literature on student engagement.

Shift from Teacher-Centered to Learner-Centered Instruction

The reform of the United States education system through the alteration of classroom structures is not a new movement, with discussions of ways to improve the system occurring as far back as the turn of the 20th century. Throughout the decades, several main theorists and philosophers have informed positions on the subject. Conventionally, terminology such as ‘traditional’ and ‘alternative’ views of teaching and learning were used. However, in more recent times language such as ‘teacher-centered’ and ‘learner-centered’ instruction have become prominent (Cornelius-White & Harbaugh, 2010).

Traditional teaching styles have always been present, but not entirely independent from alternative classrooms. Dating back to over one hundred years ago, there is evidence that active and engaging classrooms did exist, but ‘traditional’ education was still very evident. A lesson from May 1883 exemplifies active engagement

through a literacy lesson. The teacher asked over 30 questions while recording the students' responses. Shannon (1990) commented, "Although the lesson was offered long ago, I was struck with how modern it seemed" (p. xi). This lesson closely relates to contemporary classrooms, and what has become known as child-centered (Cornelius-White & Harbaugh, 2010; Shannon, 1990).

Patrick Shannon (1990) states:

Traditional schooling meant that all students were to train their minds and bodies to reproduce the ideas and customs of the past. According to Finkelstein (1979), schools were not typically a place where students learned to think and communicate, but rather a place where they learned their position in the adult world, and 'if some were able to use the ability to read and write creatively, it was not because their schooling had taught them how' (p. 133).

Traditional classrooms are often quite formal, with the teacher acting more as a director, rather than a facilitator. This teacher-centered classroom hinders students' abilities to be individuals. Theorists, Elizabeth Clayden, Charles Desforges, Colin Mills, and William Rawson (1994) coined this 'traditional education' as the 'transfer of knowledge,' by describing the goal of traditional schooling as teachers directly transferring their knowledge into the minds of young children. (Anderson & McCarthy, 2000; Clayden, Desforges, Mills, & Rawson, 1994, p. 163-172; Schwerdt & Wuppermann, 2010; Shannon, 1990).

The psychologist B.F. Skinner exemplified the science of many early 20th-century educators in a skill-and-drill pedagogy through his views on behaviorism, which is a

theoretical approach that focuses on observable behaviors and learning. Skinner believed that any behavior could be shaped by reinforcement, both positive and negative.

(Weidman, 2005).

These philosophers were all interested in learning but felt they had to adhere to Thorndike's Laws of Learning. Thorndike spent much of his time researching behaviorism, and created his groundbreaking Law of Learning: Connectionism (Kymissis and Poulson, 1990; Weidman, 2005). This theory became the starting point for learning theory and an inspiration for other psychologists. Thorndike discovered that pleasure or reward would reinforce a certain behavior due to a response-contingent reward style of learning.

Kymissis and Poulson (1990) state that "in this form of learning, sensory stimulus impressions are connected to responses by 'satisfaction' and discomfort', as described in Thorndike's (1911) law of effect" (p. 113). (Kymissis and Poulson, 1990; Weidman, 2005).

In accordance with his law of effect, Thorndike (1911) also focused on exercise and imitation. The law of exercise describes that responses that occur based upon a situation will become associated with that given situation. This can be both negative and positive. In the educational world, if a student does not enjoy learning in the classroom or finds it to be dissatisfactory, that response or emotion will continually be reinforced (Strickland, 2001, p. 378).

Linking both of these laws is repetition. Both theories are a continual cycle. In the law of effect, the created stimulus impressions become connected with the responses, therefore continuing a cycle formulating a response-contingent reward. In the latter law, the responses will recur and become more common when linked with a given situation.

Fenwick English (2006) states, "The impact of repetition or practice encompassed by his

[Thorndike's] law of exercise provides a foundation for ensuring that specific behaviors tend to appear in the desired situations" (p. 1019-1020).

Different philosophers have since critiqued this response-contingent reward style by creating a more alternative or progressive system. This system can be described as different from traditional, but not completely opposite. We know that these styles did exist hundreds of years ago based upon Shannon's (1990) findings, but they were not all that common. As noted by Clayden, Desforges, Mills, and Rawson (1994), "Traditional schooling...is based on a view of knowledge as a 'self-sufficient substance... independent of the situations in which it is learned and used" (p. 166). Supporters of changing the education system were driven by the discovery that students' educational environment was a crucial aspect of their ability to learn (Clayden, Desforges, Mills, & Rawson, 1994)

One influential philosopher who considered approaches to learning differently was John Dewey (1929) ,who stated, "the school is primarily a social institution" (p. 292). He believed education to be based upon classroom interactions with other students and as a form of community living, which was fundamental to conceptual understanding. "Much of present education fails because it neglects the fundamental principle of the school as a form of community life" (p. 293). Therefore, he saw 'traditional' education as hindering natural processes. According to Dewey (1929), educational systems made excessive demands upon students to behave with docility and obedience (Dewey, 1929). According to the International Centre for Educator's Learning Styles (n.d.), Dewey was a proponent of progressive educational systems, or what has become known as student-centered learning. He wanted to interfere as little as possible with students' natural spirit of inquiry. Engaging classroom structures offer students an avenue of individuality. Every child has his or her

own unique experiences and these can be expressed and re-experienced through this more progressive education. Thus, Dewey saw the classroom as a place to encounter experiences and to link new understandings to prior knowledge (Dewey, 1937; International Centre for Educator's Learning Styles [ICELS], n.d.).

In the book *Experience and Education* (1938), Dewey put forth his central arguments for modifying the American education system. Dewey strongly emphasized a curriculum and structure that provided worthwhile and quality experiences for students utilizing both physical and social surroundings. The practices and ideas Dewey described continue to be employed in the classroom today, through movement and active participation techniques. Dewey saw learning as socially constructed, and one has to allow students some freedom to participate in the process, referring back to the expression of individuality. Dewey (1938) stated, "Traditional education imposed a limitation on outer movement when they introduced fixed rows of desks filled with students who were permitted movement only at certain signals. This was a detriment to both intellectual and moral freedom" (p. 61). He saw 'traditional' education as strongly teacher-directed and undemocratic. Restricting children from expressing their individuality was ineffective in part because it represses their learning along with their personal freedom (Dewey, 1938).

Dewey's ideas were built in part on the work of Lev Vygotsky, a Russian psychologist. Vygotsky (1978) once declared, "Human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (Vygotsky, 1978, p. 34). Vygotsky posited that learning and development are connected, but in order to develop, children need to learn. Although they are connected, development does lag behind learning. Knowledge from certain social interactions is what

spurs cognitive, social, and emotional development (Vygotsky, 1978, p. 29-39). With this idea in mind, Vygotsky proposed a sociocultural theory of learning: “Vygotsky conceptualized development as the transformation of socially shared activities into internalized processes” (John-Steiner & Mahn, 1996, p. 192). Vygotsky (1978) believed that children’s development begins with social interaction. Children learn and develop from their caregivers. In school, their caregivers are educators (Vygotsky, 1978, p. 191-204). Active learning is constant and, according to Vygotsky, we need to learn in a variety of communities including whole groups, small groups, or partners, in order to form lasting understandings. Dewey and Vygotsky both saw the importance of engagement, social interactions, and active participation in the classroom, and worked to develop teaching methods and classroom structures that utilized these philosophies (John-Steiner, & Mahn, 1996, p. 192; Vygotsky, 1978).

Building on Vygotsky’s pedagogy and sociocultural theory, Clayden, Desforges, Mills, and Rawson (1994), suggest that “learning is a process of enculturation” (p. 166), meaning individuals learn through experiences and others. Students learn from their past experiences, but also through people offering their own experiences and knowledge of a specific subject or matter, referring back to the idea of transferring knowledge from one party to another. However, in order for an educator to teach a group of children, the teacher must be aware of the children’s culture, as well as the culture of the information he or she is teaching. For example, if an educator is teaching a unit on science, he or she must be knowledgeable about the information and its importance. The same goes for teachers’ understandings of children and learning. In other words, teachers must be aware of the students’ strengths and weaknesses, as well as children’s background knowledge. Teachers

must understand what their students are capable of and what techniques work best in order for students to become engaged. If teachers are unaware of this, neither the children nor the educators will prosper. Teaching and learning revolves around social interactions that need to coincide with one another, and that is through enculturation and engagement (Clayden, Desforges, Mills, & Rawson, 1994).

Another philosophy, Reggio Emilia, follows from approaches credited to Loris Malaguzzi in the mid-twentieth century. Similar to Dewey, “the Reggio concept emphasizes interaction and communication... between all the participants in the educational process” (Lepicnik, 2012, p. 9). Reggio Emilia sees the benefit of having students not only express themselves to their teachers, but also to their peers. Children learn through interaction with one another, and this connection is essential to the learning process. This approach strongly empowers children to take an active role in gaining and constructing understandings, creating a more student-centered classroom. Malaguzzi had his students constantly moving about the classroom and creating their own conceptual meanings. He stressed the idea of re-energizing and reconnecting within the classroom, thus increasing engagement and interest. He created a classroom environment that offered students opportunities to move around and engage. John Dewey’s and Loris Malaguzzi’s theories, taken together, provide direction as to possible means of fostering high levels of engagement in a positive classroom structure (Lepicnik, 2012).

Brian Cambourne, an Australian who conducts research on literacy and learning in the modern day, spent much of his professional life trying to understand the complexities of learning and what factors best contribute to learning. Similar to Dewey and Vygotsky’s theories, Cambourne saw the value of student movement and engagement in the classroom.

He compiled his research into what is commonly referred to as Cambourne's *Seven Conditions of Learning* (2001). Though he was writing specifically about literacy, the conditions nonetheless apply broadly to many other areas of the classroom structure (Cambourne, 2001, p. 414-417).

Immersion is the first condition. This is demonstrated when students are subjected to texts of all kinds (Cambourne, 2001, p. 415). The second condition is *demonstration* (p. 415), which is when teachers model good reading, often done through "think-alouds," or when teachers verbalize the process they utilize when solving a problem. Demonstrations may also be in the form of artifacts available to students in the classroom. The third condition is *expectations* – teachers must continually hold high expectations for their students; teachers' expectations influence their behaviors (p. 415). *Responsibility* focuses mostly on student-centered instruction and encourages students to make some decisions about what and how they learn, echoing Dewey's sentiments that students must be given freedom to express their individuality and learn through experience (ICELS, n.d.).

Cambourne's (2001) fifth condition is *approximation*, which values mistakes as a condition of learning. *Use* is similar to *immersion* in regards to providing multiple opportunities for students to apply their knowledge, skills, and understandings of the subject content in meaningful ways (p. 415-416). The last condition is *response* (p. 416). When students receive feedback for their work based on the learner's approximations and expectations, the teacher has responded. The one factor that connects all of these conditions is *engagement*. Cambourne speculated teachers to invite students to participate and engage in opportunities through his seven conditions (Cambourne, 2001, p. 415-416).

The first two conditions: immersion and demonstration facilitate engagement.

Students are actively, cognitively, and emotionally engaged when they delve into a variety of texts and when they are included in their teacher's demonstrations. The remaining conditions do not need engagement in order to be successful, but engagement does increase when these conditions are present. According to Eitelgeorge, Rushton, and Zickafoose (2003), "When the student becomes actively engaged in the demonstration itself... learning is increased" (p. 17). When students are actively engaged, they learn more, and their motivation increases as well. Often, students need to be encouraged to learn through a presentation of multiple paths for them to fully engage in learning (Cambourne, 2001, p. 414-417; Eitelgeorge, Rushton, & Zickafoose, 2003, p. 11-21).

In more recent years, this idea of modifying the classroom structure to encourage student engagement is often referred to as 'learner-centered instruction' or 'student-centered learning.' Schools need to shift their classroom structure from teacher-centered to student-centered education to better educate our students. Authors Cornelius-White and Harbaugh (2010) created a model of student-centered learning in their groundbreaking book, *Learner-Centered Instruction: Building Relationships for Student Success*, based on their belief that schools create an essential environment that encourages progress, development, and engagement. They describe this instruction as "an approach to teaching and learning that prioritizes facilitative relationships, the uniqueness of every learner, and the best evidence on learning processes to promote comprehensive student success through engaged achievement" (Cornelius-White & Harbaugh, 2010, p.xxvii.). Focusing on the students rather than the educator promotes engagement, drastically increasing student success (Cornelius-White & Harbaugh, 2010).

In accordance with Cornelius-White and Harbaugh, Anthony Bryk, detailed five

essential supports to help improve our schools and create a more engaging environment. One of his essentials in “Organizing Schools for Improvement” (2010) is a “student-centered learning environment. Building on John Dewey’s idea of students expressing themselves and displaying their individuality, Bryk believes children should be given the opportunity to think of themselves as learners and believe in themselves, which connects to Cambourne’s ideas about expectations and the important role they play in learning. These expectations will enable students to persist and ultimately succeed (Bryk, 2010; Cornelius-White & Harbaugh, 2010).

Echoing the idea of student-centered learning, David Martin and Nancy Knowlton created SMART technologies, including the SMART Boards that have become a staple in schools today. According to a study between October 2007 and February 2008 completed by the Health and Education Research Group at the University of New Brunswick in collaboration with the Department of Education and Park Street School, SMART technologies positively impact classroom engagement. The results stated that students become highly engaged when they are given the opportunity to interact with the SMART Board (“SMART Board”, 2008; “SMART's commitment”, 2014).

Although all of these theorists and researchers encompass an incredible amount of work over several decades, they all believe in one very important aspect of the classroom: engagement. Structuring a classroom to promote engagement, whether through physical movement or an active technique, is essential to learning and knowledge development. Dewey was the first theorist to delve into this new idea of teaching, and paved the way for various other educators who were all working to better the educational system in this country and enhance the minds and knowledge of children.

Learning becomes a less effective process if children are forced to sit still and understand information for long periods of time, and these researchers understood this concept. They believed in a more student-centered view of teaching, one where students are actively engaged and have the ability to move around the classroom. This structure invites students to learn socially and to express themselves to both the teacher and their peers. This structural shift has been an ongoing process. The reasons for this massive shift have been driven by two ideas: the Cognitive Immaturity Hypothesis and Distributed Practice.

Cognitive Immaturity Hypothesis

It is no surprise that children and adults differ greatly in terms of physical development. A key debate, however, is whether they differ in cognitive development as well. Some theorists, such as Piaget, believe children's development is qualitative in nature, which means their thinking differs from that of adults. A newer view sees children being more quantitative in nature, meaning children think essentially in the same manner as adolescents and adults, but have not encountered as many experiences and so are limited in the way that they interpret their worlds. Though this debate is ongoing and it is difficult to determine an answer, the Cognitive Immaturity Hypothesis attempts to shed light on the discussion by adopting the 'child's mind as naturally qualitative' point of view (Bjorkland, & Green, 1992). Bjorkland and Pellegrini, (1997) state, "young children do think differently than older children, who in turn, think differently than adults" (p. 36). Young children's minds are biologically immature, in respect to not being able to process information as quickly and effectively as older children and adults, which leads to a build-up in their working memory. When children cannot process information, yet continue to receive new

information, interference occurs, often resulting in children disengaging and thus being unable to focus in the classroom. Teachers need to understand this cause of disengagement and utilize breaks within the classroom to better assist their decisions (Bjorkland, & Green, 1992; Bjorkland, & Pellegrini, 1997).

According to the Cognitive Immaturity Hypothesis, children not only lack cognitive maturity, but also in background knowledge and experiences, which results in the inability “to perform higher level cognitive tasks with the same efficiency as older children and adults and directly influences their educability” (Bjorkland, & Pellegrini, 1997, p. 36). Although this may seem like a discouraging hindrance to classroom teachers, there is actually one quick fix: changing the classroom structure. Elementary-aged children need a change in task materials and activities in order for them to significantly release this interference and overload of working memory. As aforementioned, students need any type of break throughout the day, and by simply altering the lesson to include higher levels of engagement, children are offered a break from teacher-directed learning, and once again, ‘any break is a good break’ (p. 38). Children are not ‘programmed’ to sit for long periods of time and process new information. Instead, teachers need to invite students to engage in more learning opportunities. Distributing information to the students is how this can be accomplished, and below are numerous examples of how to accomplish this alteration of a classroom structure (Bjorkland & Green, 1992; Bjorkland, & Pellegrini, 1997).

Massed versus Distributed Practice

There are two predominant ways to structure a classroom through massed or distributed practices. These terms are really quite simple. Distributed practice offers continual breaks throughout the day, thus distributing the new information over a period

of time, or in varied ways through participation techniques. Massed, on the other hand, is concentrated information, often in a more teacher-centered style leading to the overload in the working memory. Based on the interference and overload research proves, one may deduce that distributed practice is a more effective style of teaching. A discussion of the various specific types of breaks and ways to distribute information effectively will take place in the next section, but the overarching philosophy that guides the practice was summed up by Bjorkland and Pellegrini (1997): children “learn better and more quickly when... they are given breaks during tasks rather than ... grouped into longer periods” (p. 36). Thus concluding that classrooms must be structured this way to allow for maximum participation and success (Bjorkland, & Pellegrini, 1997).

Many researchers have addressed the positive benefits of using distributed practice. These researchers state that, “the positive effects of distributed effort have specifically addressed the ways in which children learn numerous school-like tasks” (Bjorkland, & Pellegrini, 1997, p. 36). Encouraging students to be attentive and focused is one of the primary goals of educators. Children need to be invited to engage in more learning opportunities both during a lesson and after in order to re-energize and focus. Simply transitioning from one subject to the next is considered a break, but not sufficient enough to enhance cognitive development. The more significant the structural change, the better and more meaningful the academic results will be (Baughman, Costanza, Fleishman, Mumford, and Threlfall, 1994; Bjorkland, & Pellegrini, 1997).

Baughman, Costanza, Fleishman, Mumford, and Threlfall (1994) discuss numerous studies that demonstrate the effectiveness of distributed practice. Studies by Reif (1987) and Schmeck and Grove (1979) indicate that through distributed practice, students will

perform better on academic tasks. Another study by Lesgold (1988) proves that through this style of teaching, students are allotted more time to complete tasks, thus allowing more time to work through interference and process the overabundance of new information. Distributing practice can be very difficult for teachers to implement in their daily routine due to time constraints, noise levels, and space restrictions in the classroom and school day. Modifying the classroom structure has been proven to be effective. A simple change and modification of the structure allows the students to learn through movement or through the implementation of an active participation technique (Baughman, Costanza, Fleishman, Mumford, and Threlfall, 1994; Bjorkland, & Pellegrini, 1997).

Practices to encourage student engagement

Classroom structure and practices have an impact on students' achievement. As previously mentioned, "Any break is a good break" (Bjorkland, & Pellegrini, 1997, p. 38). This is an excellent way of thinking for teachers, and students can benefit from it. Cambourne outlined conditions to support student learning, and there are many practices and structures for classrooms that help to support these ideas. Along with Cambourne, Vygotsky, Dewey and others all supported the need for active learning and inquiry in the classroom. In the following section, some research-based possibilities for classroom structures and engagements are described.

Yoga in the Classroom

Yoga is an excellent means of releasing pent up energy and exhaustion, and is an effective way to increase engagement (Nelson, 2003; Williamson, 2013). Yoga is a series of exercises that focus on the physical and mental health of individuals. Much of yoga relies on breathing exercises and a cleansing of the body, mind, and soul. Inviting students to

partake in yoga exercises allows students to release some stress, increase their focusing abilities, and calm their anxiety. When students are relaxed and attentive, they learn, thus making yoga educational (Nelson, 2003; Williamson, 2013).

Grammar Hop

Grammar is an essential aspect of the English language. Grammar Hop is a practice that allows for students to actively engage in learning. The teacher can scatter different prompts throughout the room based on the week's grammar content. The students can be given a worksheet with one box per question to record their answers. The students would walk around the room and respond to each prompt in no particular order. Once all students are finished, they may sit down. Prompts are placed on desks and those students will answer. Most prompts would include writing a common abbreviation such as Dr. or Mr., identifying a certain part of speech in the sentence, or deciding if a noun is possessive thus needing an apostrophe. This strategy invites the students to stand up and move around the room instead of remaining seated and passively learning.

Around the World

Around the World is an educational game that may be used for varying subjects. All the students line up in two parallel lines facing forward. The teacher holds up a flash card, with either a math fact or a word. For math, the students are advised to say the correct answer as quickly as possible in order to continue on to the next opponent.

This game does not need to be limited to math. For the primary grades, Kindergarten up through Second Grade, this game may be used for learning the alphabet or for reading sight words, when students immediately read a word upon seeing it. Students would still have to respond the quickest, but by reading instead. Incorporating this game

into the classroom is an exceptional way to make the environment more student-centered. In both situations, the first person to compete against every player has completely made it “Around the World” and has therefore, won the game.

Line-Ups and Inside-Out Circles:

This technique allows students to get out of their seats and move about the classroom. Students will be asked to either stand up in two lines directly across from one another, or stand in two circles: an inner and an outer one, allowing students to respond to one of their peers. The teacher will ask a question or pose a problem and the students will respond to the person they are facing. Each partner will have a turn responding to the prompt. The teacher will time the conversation and once the timer chimes, the students will finish their last thought and one of the groups of students will move, thus rotating the partners and responding to a new prompt. This technique enables students to converse with a multitude of students and broaden their knowledge of the topic based on differing perspectives. One challenge with this technique is that the questions must be open-ended. The discussion will go nowhere if the questions or prompts require one or two word answers. The purpose is for students to engage in a discussion and gain new information (Himmele, & Himmele, 2011).

Active Participation Techniques

An additional suggestion for modifying the classroom structure is through active participation techniques. Teachers can promote active engagement throughout the entire day by alternating between whole group, small group, and partner instruction. Each type of instruction provides educational flexibility: According to Bresnahan, Conderman, and Hedin (2012), “Active engagement occurs when students process information through

talking, moving, writing, manipulating, interacting, reading, discussing, and exploring values and attitudes rather than just watching and listening. Learners learn better when they are actively engaged” (p. 33-34).

Large Group Methods

In teacher directed, whole group discussion, students’ full engagement is expected. These methods “concentrate on what everyone in the class needs to know” (Fountas & Pinnell, 1998, p. 19). Instead of teachers tailoring their instruction to meet the needs of individual students, these methods are designed to concentrate on everyone’s needs as a whole. Active participation is essential to the learning environment by increasing engagement and directing students to a path of success (Bresnahan, Conderman, & Hedin, 2012; Fountas & Pinnell, 1998).

Unison Responses

Unison responses, also referred to as choral responses, occur when all students respond together. Teachers can ask a question and offer students a short amount of time to think about their answer. This amount of time will depend on the students’ age and the question difficulty. The teacher can either provide an auditory or visual cue to elicit a response, including a snap or a wave. This technique works best when the response has only one, short, correct answer. For example, this technique can be used when introducing new spelling words. First, the students learn the skill of the week. Next, the teacher may hold up the new word, while giving the students time to read and process it. The teacher may then gesture for the students to read the word in unison (Bresnahan, Conderman, & Hedin, 2012).

Dry-Erase Boards

These are similar to the previous recommendations in regards to the teacher asking a question and offering a small amount of time to develop an answer and record it.

Students will write down their answer on their whiteboard and, upon a teacher's cue, the students will raise their boards and present their answer. Students who rarely participate in whole group discussions are often the first to write down their answer with this technique (Bresnahan, Conderman, & Hedin, 2012, p. 35-36).

Mouth It, Air-Write It, or Show Me Using Your Fingers

This total participation technique is very helpful when students are first learning letters. Instead of calling on one student to answer the question, a teacher can ask all the students to first mouth the answer and then write it in the air. This will allow teachers to quickly glance over the room and ensure that all students understand the concept.

Mathematics, in particular, grants an opportunity to display this technique, and it is with math that students can utilize the 'show me using your fingers' component. A teacher can display an algorithm on the board and the students can hold up the answer using their fingers, granted, however, this number must be less than ten. Using fingers to display an answer is much less time consuming than having the students take their dry erase boards out from their desks (Himmele, & Himmele, 2011).

Thumbs Up, Down, or Neutral

This is a great way to show teachers if their students agree or disagree with the current topic. The students can either put their thumb up if they agree with a teacher or student, thumbs down if they disagree or have a different answer, or use the neutral position. Having a neutral component is a great addition to benefit those students who

either do not know the answer or who are indifferent about the situation. This technique may be used throughout the day and for all subjects. One important benefit is that no materials are needed. (Bresnahan, Conderman, & Hedin, 2012).

Small Group Methods

Often times, teachers may find it difficult to invite a large group of students to engage in learning opportunities. Therefore, many teachers will break the students down into smaller, more intimate groups where students can share their knowledge with their peers and learn from one another. In these small groups, students can discuss their findings, interact with one another, and receive feedback from other students and their teacher. Partner activities are a subdivision of small groups that require careful planning when implementing. Students should be strategically paired with one another allowing for maximum discussion: students who understand the concepts well should be paired with students who are learning or struggling with a concept. These suggestions are excellent techniques for promoting an engaging classroom (Bresnahan, Conderman, & Hedin, 2012).

Numbered Heads Together

Teachers will ask a question or assign a problem and break students down into groups of four or five classmates. Each group member will be assigned a number and this will play a key role in the activity. The teacher will ask a question and say, 'Put your heads together' and give the groups a predetermined amount of time to arrive at an answer. The teacher will randomly call out a number. A student from each group with that number will state their answer to the group. Since the numbers are randomly selected, the students must stay alert throughout the entire activity (Bresnahan, Conderman, & Hedin, 2012).

Jigsaw

This method is most appropriate when a lesson can be broken down into smaller components. The students will first be divided into groups of five or six, and one student will be granted the “leader position” keeping the group focused and engaged. After the students are placed, the teacher will assign a subtopic to each member of the group and allow time to research and process the information. Next, the students will regroup based on their given subtopic and discuss their findings. Once the main points are discussed and students have developed a brief presentation, they will return to their original groups, and each member will have the chance to present his or her individual understandings of the subtopic (Bresnahan, Conderman, & Hedin, 2012).

Reciprocal Teaching

The acquisition of Reading and Writing skills are predominant. Brown and Palinscar (1984) initially researched reciprocal teaching. It features “guided practice in applying simple, concrete strategies to the task of text comprehension” (Brown and Palinscar, 1989, p. 413). The focus of reciprocal teaching is for the students to focus on comprehension-fostering strategies that they can apply to the text. The goal is for students to read an expository passage independently and practice four reading comprehension strategies: *questioning, summarizing, clarifying, and predicting* (Brown and Palinscar, 1989)

Reciprocal Teaching begins with the teacher modeling and explaining the task. The teacher reads a passage and thinks aloud. The teacher will gradually fade his/her prompts and place the emphasis on the students completing the four steps. He/she will ask the students to work with their partner to discuss the four components based on the passage

they just read. During the discussion, the teacher will move about the room and assess the student's progress (Bresnahan, Conderman, & Hedin, 2012).

Think-Pair-Share

The teacher will pose an open-ended or guiding question for the students to consider and allocate approximately one minute for students to think about the answer. This technique may be used across all subjects. Next, the students will have a short amount of time to discuss their answer with a partner. They will combine their answers, figure out what is most important, and create a new answer together. Finally, in the "share" step, students will share their answer with the entire class. For an additional component, teachers could assign different questions to each group, and the students teach their topic to the whole class (Bresnahan, Conderman, & Hedin, 2012).

Through these techniques, teachers are able to invite students to engage in more learning opportunities. A positive structure can completely alter a classroom environment. When students are provided with these engaging opportunities and allotted "break" times, student achievement and attentiveness heightens.

Future Wonderings

Through this process, I have learned about learning theories and corresponding practices I can implement to modify a classroom structure in order to promote more student engagement and a positive atmosphere. Although this is incredibly necessary and important, I want to go beyond this list of techniques, and actually implement them into my own classroom. My goal will be to utilize each one individually and conduct teacher research to understand the results. My data will be extensive and primarily qualitative in nature as I work to understand my classroom practices and the structures and

engagements to help my students learn. The amount of students engaging in each technique, as well as the percentage of students compared to the whole class, would be highly detailed. In addition, I would like to review each technique and the percentage of students to deduce which technique works the best and promotes the most engagement. Like all studies, there will be implications. Probably the most prominent is that all students are different. A technique that works for one student will not work for all students. I understand this and will attempt to understand which works to best foster student engagement.

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ACADEMIC VITA

Christina Reale

Permanent Address

1335 Horseshoe Drive

Blue Bell, PA 19422

Thesis Title: Active Learning: The New Wave of Education

Thesis Supervisor: Dr. Jacqueline Edmondson

EDUCATION

- ❖ Mount Saint Joseph Academy, Flourtown, PA..... 2006-2010
- ❖ The Pennsylvania State University, Altoona, PA..... 2010-2012
- ❖ The Pennsylvania State University, University Park, PA..... 2012-2014
 - Schreyer Honors College
 - Bachelor of Science in Early Childhood Education with a Pre-K to 4 Option with Honors in Early Childhood Education

QUALIFICATIONS

- ❖ Deans list every semester attended (7/7)

RELATED EXPERIENCE

- ❖ Various Elementary Schools (First and Second Grades)..... *Summer 2011*
 - *Observer*
 - Observed classroom management skills, student to student relationships, and teacher to student relationships
 - Taught a few lessons (Math and English) to small groups of children
 - Worked one on one with students with reading
- ❖ Penn-Mont Academy Preschool at Penn State Altoona..... *February 2012 – May 2012*
 - *Student Worker*
 - Facilitate activities with children one on one and in groups
 - Help children individually with reading work and letter sounds
 - Work with children on adding, subtracting, and number placement jobs
 - Help with organizing and performing odd jobs around the classroom (i.e. cleaning the classroom, cutting up paper for drawing work, etc.)
 - *Observer*
 - Focus on teacher and student interactions
 - Make note of how teacher breaks up arguments and solves classroom problems
 - Observe the structure of an effective classroom
- ❖ Centre Square Montessori School- Centre Square, PA..... *April 2012-August 2012*
 - Educated children in the Pre-school program and Toddler Program
 - Monitored children doing their work

- Assisted children when they had difficulty learning concepts
- Supervised children while playing outside and swimming in the pool
- ❖ Spring House Early Learning- Spring House, PA..... *May 2013-August 2013*
 - Worked as a Teacher's Assistant for the Pre-K/Kindergarten room
 - Led circle time (weather, date, review of lessons)
 - Worked with the children individually and answered questions
 - Monitored students while they worked in centers
- ❖ Lewistown Elementary School, Lewistown, PA..... *September 2013-December 2013*
 - Second Grade classroom
 - Taught multiple subjects (Math, Science, Reading, Social Studies, and Writing) twice a week on Tuesdays and Thursdays to the whole class
 - Led a small Guided Reading Group for the highest achieving students
 - Worked with students in small groups
- ❖ Cole Manor Elementary School, Norristown, PA..... *January 2014-Present*
 - Third and Fourth Grade split classroom
 - Taken over all morning classroom procedures (Lunch count, attendance, morning work)
 - Teach Reading, Writing, and Social Studies to both grade levels
 - Differentiate Instruction to meet the needs of a diverse group of students
 - Assess students performance through pre, formative, and summative assessments

Supervisors:

- ❖ Dr. Kim Connolly
- ❖ Jim Krombach

ACHIEVEMENTS

- ❖ **Alpha Lambda Delta Fraternity**
 - National Honor Society for First-Year Students
 - Awarded to scholars who earn a 3.5 or higher GPA and rank in the top 20% of their class their first term or year
- ❖ **Pi Lambda Theta Honor Society**
 - Most respected national honor society for educators
 - Awarded to exemplary educators and those who have shown development in knowledge and skills
- ❖ **Phi Kappa Phi Honor Society**
 - Pennsylvania State University Honor Society
 - Awarded to Penn State students ranked in top 7.5 percent of second semester juniors and top ten percent of seniors
- ❖ Dean's List every semester
- ❖ Schreyer Honor's College