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The Influence Of Concept-Based Instruction On Student Academic Engagement

Amanda Romey
University of New England

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THE INFLUENCE OF CONCEPT-BASED INSTRUCTION ON STUDENT ACADEMIC
ENGAGEMENT

by

Amanda Romey

BA (California Polytechnic State University) 1997

MS (Whitworth University) 1999

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ABSTRACT

Student engagement, including behavior, academic, cognitive, and social/emotional engagement is a complex multidimensional element of students' overall well-being and success in school. As dropout rates continue to increase along with students feeling disenfranchised from the current educational system, there is a deep need to improve students' experience in school by having them engaged in their learning. The purpose of this qualitative study is to identify the influence, if any, of concept-based curriculum and instruction on student academic engagement. This study examined the multiple elements of student academic engagement by addressing the concept-based learning construct, and student ownership of their learning and inquiry while simultaneously unpacking the connection between these elements of learning and brain-based learning.

The research was conducted through one-on-one semi-structured interviews with a global network of international teachers who provided feedback from a variety of school settings and geographical locations on student engagement and concept-based instructional practices. The findings of the study uncovered the following six emerging themes, student-ownership of their learning, student choice, inquiry, positive relationships and rapport, monitoring student learning, and assessment practices. The recommendations for action in the study include providing training for teachers and administrators on how the brain learns new information and instructional strategies to support how the brain learns, balancing content and standards coverage with meaningful learning experiences, and allowing teachers the needed time to build strong relationships and rapport with their students.

University of New England

Doctor of Education
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This dissertation was presented
by

Amanda Romey

It was presented on
April 9, 2021
and approved by:

Ella Benson, Ed.D., Lead Advisor
University of New England

Michelle Collay, Ph.D., Secondary Advisor
University of New England

Pete Hall, Ed.M, Affiliated Committee Member
Boston University

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CHAPTER 1

INTRODUCTION

Students who are actively engaged with their school—behaviorally, socially, emotionally, cognitively, and academically—show a greater sense of belonging, ownership of their learning, and commitment to continued education than those students who are identified as disengaged (Balfanz, Herzog, and MacIver, 2007). Christenson, Reschley, and Wylie (2012) identified that the priority of research over the last 20 years has been on student engagement because of its multifaceted impact on students' social-emotional well-being and academic success while building their capacity and desire to be life-long learners. In alignment with the available literature including; Reschly and Christenson, 2012 “Jingle Jangle, and Conceptual Haziness: Evolution of the Engagement Construct”, Appleton, Furlong and Christenson, 2008 “Student Engagement with School: Critical Conceptual and Methodological Issues of the Construct”, Appleton, Christenson, Kim and Reschley, 2006 Measuring Cognitive and Psychological Engagement: Validation of the Student Engagement Instrument”, and Christenson, Reschley, Appleton, Berman, and Spanjers, 2008 “Best Practices in Fostering Student Engagement” students who are actively engaged in school are more likely to report positive experiences at school, be involved in activities, be present, and have passing grades (Christenson et al. 2012). In contrast, students who are observed as being disengaged from school are more likely to have discipline referrals, be off-task during class time, be suspended from school, have attendance issues, and feel disconnected from school and the people involved with school (Balfanz, Byrnes, & Fox, 2014). This identified discrepancy between learning experiences for students who are engaged in school versus students who are not has led teachers and scholars to research which

factors have the greatest influence on student engagement. The long-term consequences of disengagement are too dangerous to ignore.

To combat the negative consequences of disengagement, schools and school districts have found creative ways to work with disengaged students in constructive ways. Schools have intentionally implemented programs focused on positive reinforcement and rethinking discipline systems to include restitution and interventions. These programs looked at alternatives to suspension and expulsion with the hope of keeping students at school and connected to the community (Balfanz et al., 2014). However, these plans are focused on working with the disengaged students' behaviors rather than looking at the root of the problem, engagement. These programs continue to react to the symptoms of the problem rather than looking at ways to prevent them (Balfanz et al., 2014)

It is evident that to be academically successful in school, students must be present and fully engaged in their work and with the community of learners. Students are more likely to attend school when they feel safe in the learning community and have meaningful relationships with the people involved (Sousa, 2016). To make this a reality schools must look at ways to connect with students academically, behaviorally, and affectively, rather than trying to use discipline systems based on behaviorism to encourage, bribe, and manipulate students into behaving better without looking at why the students are misbehaving, disconnected, and disenfranchised (Kohn, 2018).

The focus of the schools' interventions should be on the variety of preventative measures that can be put in place to connect students to their learning and the community. There are ways to intentionally engage students with school and with their peers through meaningful learning experiences focused on educating the whole child instead of behavior interventions and punitive

punishments and focus on the consequences that push already disenfranchised students further away (Balfanz et al., 2014). School systems and educators need to unpack the multiple components of all types of student engagement to fully understand their influence on student learning and academic success (Appleton, Christenson, & Furlong, 2008).

Appleton et. al (2008), provided their definitions of the three components beginning with behavioral engagement which refers to students' efforts in their work, positive attitudes in school, and participation in school activities; academic engagement includes students' attitudes about their work, assignment completion rates, and class participation; and affective engagement refers to student interests in school, their attitudes about learning, and their sense of belonging in the school community. Connecting all three components to engagement is essential as Yang, Sharkey, Reed, Chen, and Dowdy (2018) noted in their research that students who are actively engaged in elementary, middle, and high school report they are happy with their school experience, have positive relationships with teachers, earn good grades, and are less likely to report being bullied and bully others. The blending together of each of the elements of engagement is how schools can successfully educate their students and be mindful of the interconnectedness of the learning experience (Yang et al., 2018).

Although all components of engagement are important in educating the whole-child, focusing on academic engagement is one way to ensure that students feel competent, capable, and successful in school, providing experiences to create life-long learners who are willing to engage with the world around them. Erickson et al. (2017) identified a compelling need to engage our students in meaningful work by deeply connecting students to their learning, so they not only see the value but are also able to transfer their learning to new settings. Erickson et al. (2017) further explain that these types of learning experiences encourage students to take

ownership of their learning and build their capacity to be productive members of society and contributing members of the dynamic workforce.

In the quest to break the trend of disengagement and find an appropriate learning environment for students, researchers and educators have looked at ways to adapt curriculum standards and instructional practices to better align with how the brain learns. Erickson (2002) addressed the need for the current educational system to shift away from knowledge-based instructional practices to concept-based learning to intentionally engage students in meaningful work that is aligned with how the brain naturally takes in and processes new information. Erickson and Lanning (2014) further explained that unlike the traditional two-dimensional curriculum which is focused on factual content knowledge along with process and skills, the three-dimensional conceptual approach includes broad concepts; principles to increase the capacity for students to make connections in their learning and provide the opportunity to target higher-order thinking. Concept-based curriculum and instruction is an important link in making learning more meaningful and engaging for students (Erickson & Lanning, 2014).

Providing students with more opportunities to make connections and build meaning within their learning experiences increases student engagement with the content they are learning (Erickson & Lanning, 2014). Teachers need to make the shift to shaping the conceptual mind by guiding the students with inductive practices through the concepts, generalizations, and principles while using the topics, facts, and skills to support the conceptual learning not as the end but as the means to a deeper understanding. Concept-based curriculum and instruction provide the needed framework of learning as it creates opportunities for student academic engagement and growth because it is aligned with the learning process and how the brain receives, processes, and stores new information (Erickson et al., 2017).

Focusing intentionally on the impact of student engagement is necessary for educators as Jenson (2008) has noted a distinct connection between student engagement and their academic success in school. More and more research that tracks and monitors how the brain takes in new information and processes it to be stored in the working memory for later use has become available and cannot be ignored by educators. Sousa (2016), in alignment with student engagement and concept-based instruction, noted that for reasons unknown, the quantity of items the brain can hold at a time is decreasing; for this reason, teachers must present fewer topics at a time and discuss them more intentionally if they want students to remember the content and have the capacity to access the information for later use or transfer it to another setting. Sousa (2016) also acknowledged the importance of organizing information around relevant concepts and transferable understandings to help students construct meaning and simplify the process of identifying the needed facts and skills built on the understanding and conceptual framework.

Statement of the Problem

The problem studied was the lack of research on the influence of concept-based curriculum and instruction on student academic engagement as measured by teachers' perception. Student academic engagement is a combination of a student's attitude about the work, assignment completion rates, class participation, their investment in the class, and effort put forth in the learning (Appleton, et al., 2008; Finn & Zimmer, 2012). The short-term benefits of student engagement may include students who are academically engaged in their work, motivated to learn, willing to invest the needed time in the learning experiences, and increased academic performance in school (Gettinger & Walter, 2012). The long-term benefits of student engagement may include increased student attendance rates, a sense of belonging and

connectedness to the school community, and class productivity (Janosz, 2012; Rumberger & Lim, 2008).

Student engagement is pivotal in keeping students in school and learning; therefore, education systems must do all that they can to engage students in their learning experiences. Concept-based curriculum and instruction is a three-dimensional curriculum and instructional design that, instead of focusing on lower-level skills, facts, and topics like the traditional curriculum, looks at framing the discipline's facts, knowledge, and skills within generalizations and concepts (Erickson et al., 2017). Students are asked to traverse deep conceptual understandings rather than memorize facts (Erickson et al., 2017). Concept-based curriculum and instruction lead to increased engagement by intentionally planning for learning experiences that are aligned with how the brain learns and processes new information. This is accomplished by grouping new information into smaller chunks and organizing these chunks of information around essential topics, connecting concepts and inquiry around student interests with an interplay between deductive and inductive learning, and creating an environment where students can see the connections between content areas; establishing a place where students can transfer learning from one experience to the next (Erickson et al., 2017; Jenson, 2008; Sousa, 2016).

Martin and Bollinger (2018) noted that when students are actively engaged in their learning, they have a lower sense of isolation and an increased sense of motivation to perform in school, coupled with an increased sense of satisfaction and connection. Researchers have overtly made the connection between student engagement and beliefs about learning and a decrease in negative behaviors at school, including drop-out, aggression, and violent acts. Academics from a variety of fields have been drawn to investigate all opportunities to authentically engage students in their learning as a growing swath of research suggests that increased engagement in school

builds students' capacity to learn (Appleton et al., 2008; Martin & Bollinger, 2018). Academic engagement has a positive impact on learning and students' positive experience with school.

Purpose of the Study

Students who are actively engaged in their learning experiences show greater success in school and have a greater capacity to learn more in-depth information (Appleton et al., 2008), while students who are disengaged are more likely to have lower grades, more discipline referrals, attendance concerns, and drop out at a higher rate than their engaged classmates (Balfanz, 2014). Understanding the role of the teacher and their chosen instructional strategies is essential in combating the harmful effects of disengagement. Instructional practices and teachers' expectations of learning have a positive correlation with students reporting high interest in learning and engagement (Lovelace, Reschly, & Appleton, 2017).

The purpose of this qualitative study is to determine the impact of concept-based curriculum and instructional practices on student academic engagement as measured by teachers' perception of engagement. Academic engagement in this study is defined as a combination of a student's attitude about the work, assignment completion rates, participation in class, their investment in the class, and effort in the learning (Appleton, et al., 2008; Finn & Zimmer, 2012). To identify the influence of concept-based curriculum and instruction on engagement in this study, a purposeful sample of domestic and international teachers volunteered to participate in a semi-structured one-on-one interview. In the interview the participants described their use of concept-based instructional strategies and identified the perceived impact on student academic engagement. The semi-structured interview questions uncovered teachers' understanding of the connections between concept-based teaching and student academic engagement. The researcher

analyzed and coded the interviews to label and organize emerging themes and draw conclusions about student engagement and concept-based instructional strategies.

Research Questions

The research questions were intentionally crafted to document teachers' perceptions of how concept-based curriculum and instruction influenced student academic engagement. It is evident that students who are engaged in their learning and feel a sense of ownership have a more positive experience in school than students who do not have the same sense of ownership nor engagement with their learning (Lovelace, et al., 2017). Student engagement in learning contributes to a successful experience in school in all grades from preschool through grade twelve. Teachers have a great deal of autonomy in how they structure their classrooms and their chosen instructional practices, which greatly influence their students' engagement in the class and overall experiences (Gettinger & Walter, 2012). Therefore, research must delve into determining the most effective instructional practices on student engagement.

The research questions for this study are:

1. What are teachers' perceptions of student engagement and what it looks like in the classroom?
2. What learning experiences are the most engaging for the students as perceived by teachers?
3. How do teachers characterize the connections between greater engagement and quality of student learning?

Conceptual Framework

After researching the impact of student engagement on students' overall well-being and success in school, a semi-structured one-on-one interview protocol was created as a tool to

collect data from teachers, administrators, and support teachers on the influence of concept-based curriculum and instruction on student academic engagement. Teachers' instructional choice is a factor that influences student engagement in the classroom and therefore, it is important to identify the instructional strategies that have a positive impact on student engagement and learning (Lovelace et al., 2017). The more intentionally teachers focus on engaging their students in meaningful work, the more time students will spend on task. The more time students spend actively engaged in their learning, the more successful their school experience is.

The review of the literature revealed the significant role that engagement has on student success in school, including increased attendance, assignment completion rate, and involvement in extracurricular activities, while simultaneously showing decreased dropout rates, boredom in classes, and feelings of apathy toward school (Finn & Zimmer, 2012; Gettinger & Walter, 2012). The conceptual framework for this study is grounded in Gettinger and Walter's (2012) Process-Product Paradigm focusing on the multiple factors contributing to the amount of academic engaged time each student has. Getting and Ball (2007) support this finding, stating that learning requires engagement and focus. In fact, there is a link between students' academic engaged time and their overall success in school. Several factors contribute to the amount of actual time students can spend fully engaged in their work. These factors include school policy, the school's master schedule, length of each class period, instructional time, instructional strategies, and student motivation to learn. The combination of these elements equates to the total academic engaged time a student has throughout the day.

The literature showed a relationship between the quality of instruction in the classroom and student learning outcomes which are both connected to the amount of time the student spends intentionally engaged in meaningful work. Although it was clear that instructional

practices influence engagement, the research did not reveal a specific instructional approach to reach this outcome. Therefore, an important area of influence on engagement is identifying instructional strategies that thoughtfully engage students in learning they find relevant, significant, and connected to their lives outside of school.

Assumptions, Limitations, and Scope

The scope of the research study included a global cross-section of educators in a variety of school settings, including but not limited to public, private, and international institutions. The research addressed teachers' perceptions of intentionally incorporating instructional practices that focus on increasing student academic engagement in the classroom. A purposeful sampling of preschool through grade 6 educators teaching domestically and in the network of international teachers participated in semi-structured one-on-one interviews related to concept-based curriculum and instruction's perceived influence on student academic engagement. The interview questions addressed the research questions in this study, involving teachers' perception of student engagement and instructional strategies that influence student engagement. The interview outcomes were analyzed, coded for emerging themes, and conclusions were drawn based on the findings.

There are several important assumptions addressed regarding the research. The first assumption in the research was that the participants have a common practical understanding of the use and implementation of concept-based curriculum and instruction strategies and the three-dimensional conceptual framework. In connection with this, it was also assumed that the participants were honest in their reflections about their teaching and forthcoming in regards to answering the questions thoroughly and thoughtfully. Another critical assumption in the research was that the participants had made the explicit link between their instructional practices in the

classroom and students' academic engagement while also being aware of the skills needed in identifying the elements of engagement versus disengagement in class. Finally, for validity, it was also assumed that teachers are licensed and are currently or have worked in accredited schools and participated in the study of their own free will with no promise or expectation of benefit or payment.

The study was limited by the time in which it was conducted and the current fallout of the Covid19 pandemic. The number of teachers who chose to participate in the study and their thoroughness of the answers was also a limitation. Finally, teachers' experiences, perceptions, and recollections were all limiting factors in the study.

Significance

The significance of this study was to build on what researchers like Jean Piaget, Lev Vygotsky, and John Dewey have spent decades addressing: the need to fully engage students in their school life and learning experiences to graduate students who are not only life-long learners but who feel positive about their capacity to give back to the world (Christenson et al., 2012). Students who are engaged in their learning report more positive experiences at school, are present in school and have better grades; while disengaged students report feeling increasingly more disconnected to school, their learning, and the community; these effects are reflected in the increased number of school suspensions, school violence, and dropout rates of disengaged students (Yang et al., 2018). The long-term effects of student engagement in schools are creating strong learning communities where all students feel like they belong and can contribute to the greater good, decreased dropout rates, and lower rates of school violence (Lovelace et al., 2017). The long-term social and economic effects for the community outside of school are also worth noting. Students who are disengaged in school are more likely to be involved in risky behaviors,

including drugs, violence, and crime; also, students who drop out of school are more likely to be low-income earners and need some form of government social services to live (Balfanz et al., 2007; Balfanz et al., 2014).

It is essential for the future of students and the global community that educators intentionally focus on engaging students in their learning to increase student motivation to learn, their success in and connection to school while decreasing disruptive behaviors and suspension rates (Balfanz et al., 2014). Students who are engaged in their schools and community are more likely to report a connection to school and positive feelings about learning—decreasing their involvement in undesirable behaviors at school (Appleton, Christenson, & Furlong, 2008). Looking for ways to engage students, it is necessary to look at concept-based curriculum and instruction as an intentional approach to learning that connects students to their learning and provides the relevance needed and is aligned with current research on brain science and the connection to learning (Erickson et al., 2017).

Definitions of Terms

Academic Engagement: refers to students' attitudes toward their work, assignment completion rates, and general participation in classroom activities (Appleton et al. 2008, Christenson et al. 2012, Yang et al., 2018).

Affective Engagement: refers to students' interests, attitudes about learning, and sense of belonging in the school community (Gettinger & Walter, 2012; Christenson et al. 2012, Yang et al., 2018).

Behavioral Engagement: refers to students' effort in their work, attitude about school, and participation in school activities like sports and clubs (Appleton et al., 2008, Christenson et al., 2012).

Concept-Based Curriculum and Instruction: a three-dimensional curriculum and instructional design that, instead of focusing on lower-level skills, facts, and topics like the traditional curriculum, looks at framing the discipline's facts, knowledge, and skills with generalizations and concepts. Students are asked to consider deep conceptual understandings rather than facts (Erickson et al., 2017).

Deductive teaching: moves students through the learning process from abstract to concrete (Erickson et al., 2017; Sousa, 2016).

Inductive Teaching: moves students through the learning from concrete to abstract (Erickson et al. 2017; Sousa, 2016).

Inquiry-Based Learning: a process by which students are encouraged to explore their authentic questions and curiosities connected to the class discussion topics. There are different levels of inquiry including guided and structured inquiry (Murdoch, 2015; Erickson et al., 2017).

Transfer of knowledge: when students are able to take their learning in one area and apply it to a new situation or context (Sousa, 2016; Erickson et al., 2017).

Conclusion

Students who are engaged in their learning are more successful in school than those who are not. Engaged students receive higher marks in school and report a better, more inclusive learning experience (Yang et al., 2018). Student engagement is a critical element in the learning process and needs to be intentionally planned in meaningful ways. An important way to fully understand how to engage students in their learning is to understand how the brain learns and processes new information. Understanding the intricacies of how the brain takes in new information and moves it from the immediate memory to the long-term memory where it can be stored and filed for future retrieval will help educators choose the most effective teaching

strategies specific to the learning settings (Jensen, 2008). Understanding how the brain is constantly taking in information from the environment and determining what information to keep and what to let go of by creating patterns in the information is critical for teachers. This understanding allows teachers to develop skills for concept-based curriculum and instruction which, incorporates the necessary elements found in brain research to develop meaning and connection in the learning process. Building concept-based classrooms will increase student engagement and lead to deeper levels of learning and students who are actively connected and constructing their own learning while building the capacity to transfer the information to new settings- ultimately creating a generation of students who are better prepared for the dynamic world that awaits them.

Chapter two includes an in-depth review of the literature on concept-based curriculum and instruction, the brain science behind the learning process, and the multiple components of student engagement (behavioral, academic, and affective). Also included is a thorough explanation of the distinction between engagement and motivation. These elements combined with the conceptual and theoretical frameworks build the foundation for the study.

CHAPTER 2

LITERATURE REVIEW

Student engagement and the impact of student disengagement have been the focus of seminal researchers like Jean Piaget, Lev Vygotsky, and John Dewey for the last century. The interest in student engagement has transcended boundaries of academia, bringing together educational psychology, developmental psychology, public health organizations, and teacher education because of its far-reaching impact on multiple aspects of learning including, students' overall well-being, life choices, and productivity after school (Christenson, Reschly, & Wylie, 2012). The negative effects of student disengagement, including lower academic performance, feelings of isolation, and increased dropout rates, along with the devastating long-term effects, have pushed the need for research to the forefront (Christenson et al., 2012). The long term social and emotional, as well as societal impact on the student dropout rate, makes it a concern of multiple realms of academia (Balfanz et al., 2007)

Balfanz, Herzog, and Mac Iver (2007) identified four indicators that can predict a student's likelihood of graduating from high school on time, including academic success, misbehavior, attendance, and underlying conditions. Increasing a student's success in school increases the probability that they will graduate from high school. Student engagement is a theme that runs throughout these dropout indicators. Christenson, Reschly, and Wylie (2012) reported that engaged students reported better attendance, decreased behavior referrals, and increased academic performance. The significance of student engagement is evident in this research and creates a need to discover instructional strategies that will increase students' academic engagement.

The purpose of the study is to examine the influence of concept-based curriculum and instruction practices on student academic engagement in the PreK-12 education system as measured by teacher perception. Student engagement is a complex issue that has multiple components, including behavioral, academic, and affective engagement (Christenson et al., 2012). Behavioral engagement refers to students' effort in their work, positive attitude in school, and participation in activities; while academic engagement includes students' attitudes about their work, assignment completion rates, and class participation; affective engagement includes student interests, attitude about learning, and sense of belonging in school (Appleton et al., 2008).

Students who are engaged in school and their learning are more likely to report positive feelings about school, experience positive relationships with peers and teachers, and have academic success (Balfanz et al., 2014). However, students who are identified as being disengaged in their learning are more likely to receive behavioral referrals, special education resource referrals, and/or drop out of school physically or emotionally (Appleton, Christenson, & Furlong, 2008; Christenson, Reschly, & Wylie, 2012). The discrepancy in the school experiences between students who are engaged versus those who are identified as disengaged is what guided the research and the need to discover strategies to influence student engagement positively.

Process for Reviewing the Literature

The review of the literature was an extensive process that began with the following keyword searches: *engagement, student engagement, engagement strategies, academic engagement, cognitive engagement, concept-based learning, concept-based curriculum and instruction, student learning, teaching and the brain, cognitive development, brain-based teaching strategies, and how the brain learns* in a variety of online search engines including

ProQuest, EBSCO host Research Databases, Education Research Information Center (ERIC), and Google Scholar. The information gathered in these platforms was combined with a collection of books from influential authors in the fields of concept-based curriculum and instruction, powerful instruction, and how the brain processes and learns new information including, but not limited to: H. Lynn Erickson, Lois A. Lanning, and Rachel French, Ron Ritchhart, Carol Ann Tomlinson, Michael Gurian, Wiggins and McTighe, Mike Schmoker, Eric Jenson, and David A. Sousa. These researchers presented a wealth of information to process and determine the significance and place within the framework of the study. The peer-reviewed articles and educational texts selected met the following criterion: published in the last ten years, any research over ten years old was seminal theory and needed to be included in the study for relevance and history, connected to student engagement, concept-based curriculum and instruction, and how the brain learns. The research included takes place in North America, Australia, and Europe to ensure there is a range of perspectives in a variety of educational settings.

Finding relevant and connected research was challenging at times because some of the topics are in their early stages of development (Christenson et. al, 2012). Brain research is changing and developing rapidly as technological advances such as neuroimaging and neuroelectric monitoring of neurons firing allow doctors to observe how the brain reacts during learning (Sousa, 2016). These advances are quickly improving how researchers can view the brain and how it responds and reacts during a variety of learning situations. Researchers can identify which areas of the brain light up during learning showing how the brain responds to the classroom environment, teacher presence, and specific engagement activities (McTighe & Willis, 2019).

Student engagement is also developing rapidly as various professionals from different fields see the connection between engagement and learning (McTighe & Willis, 2019). The diverse range of research within the field of student engagement creates a lack of consistency within the literature. Some models have two or three components of engagement, while others have four. These variances create a range of definitions and explanations for the same phenomenon. The inconsistencies and lack of agreed-upon vocabulary result in different words and definitions for the same terms, which causes elements of confusion and frustration within the research. There is, however, a consensus that engagement is comprised, at a minimum, of participatory behavior and some element of affect (Reschly & Christenson, 2012).

Concept-based curriculum and instruction are adapting and developing as the research on brain science exposes new ways to engage students in learning experiences. Researchers must stay abreast of advancements in learning to support student growth. Jenson (2008) noted that there is a clear connection between student engagement and academic success.

Concept-based Curriculum and Instruction

Concept-based curriculum and instruction is an approach to teaching and learning that uses the current brain research behind how learning happens, encourages higher-order thinking strategies and executive function skills (Erickson et al., 2017). This instructional approach provides opportunities for students to transfer their learning in different settings and gain the skills to apply their learning to new and varying situations in their lives inside and outside of school. Erickson (2002) discussed the need to improve student engagement through a systemic shift in the current educational system away from the knowledge-based instructional practices to concept-based practices that intentionally engage students in their learning and allow them to inquire into their activities while taking ownership of what they are doing.

One element of concept-based curriculum and instruction is inquiry. An emphasis on inquiry allows the student to be engaged in seeking meaning and asking questions relevant to their interests. The inquiry process is naturally connected to concept-based teaching and learning as it is a platform of questioning that moves away from skills and short-term memorization to true student-led investigations around a conceptual understanding. Erickson et al. (2017) focused on the need to deeply connect students with their learning, increase their capacity to make meaning, and transfer their learning to new settings so they are better prepared to be productive members of society and the dynamic workforce. This shift will prepare the students to be life-long learners and to be contributing members of the ever-changing job market.

The distinction in concept-based curriculum and instruction is the three-dimensional approach. Compared to the traditional two-dimensional approach to teaching and learning that focuses only on what students know and are able to do, concept-based curriculum and instruction include the third element of what students should understand conceptually (Erickson et al., 2017). This third element allows teachers to help students make conceptual connections and generalizations across content and curriculum, tying together important skills and information (see figure 1). Concept-based curriculum and instruction support students' creation of specific neuro-pathways to develop the skills needed to transfer their learning to new settings.

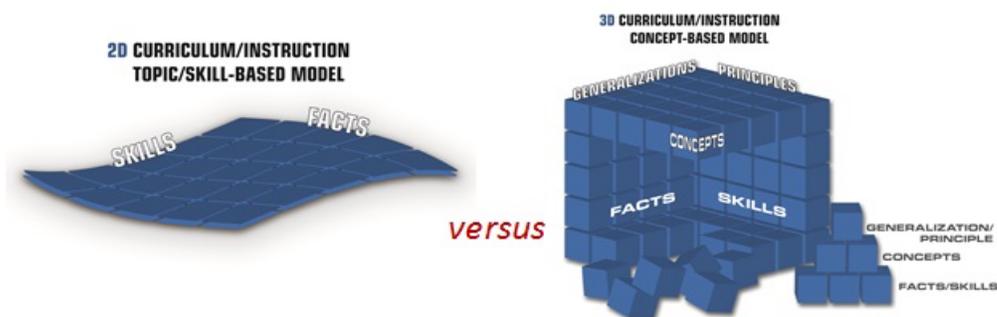


Figure 1 2D vs. 3D Curriculum and instruction Models

©2014 Erickson, H. L. (in Erickson, Lanning, and French) p. 23

The concept-based framework is found in multiple educational researched best practices studies: For example, in *Understanding by Design*, Wiggins and McTighe (2011) present an approach to teaching and planning that begins with the end in mind and coined the terms *enduring understanding* and *essential understandings* to support teachers in identifying the key takeaways in their learning. An *enduring understanding* is a synthesis of what students should understand and be able to transfer to new settings through authentic performance assessments not just what they should know and do, combined with the *essential questions* which are the topics students should take an in-depth look creates an environment where students are empowered and fully engaged in their learning (Wiggins & McTighe 2011). Teachers write enduring understanding as statements that have long-lasting value in the students' lives outside of the classroom and synthesize what it is students should not just know and be able to do but also what they should understand (Wiggins & McTighe 2011; Erickson, 2002). Another framework for learning that builds on conceptual learning is the International Baccalaureate's Primary Years Programme (PYP). Davidson and Carber (2009) explain the PYP framework, which includes six transdisciplinary units of inquiry that should each include a *central idea*. The central idea is an intriguing statement that invites students to connect with the learning and create their own learning journey; the central idea should be connected to the transdisciplinary unit of inquiry topic in the unit and have three concepts and key concepts (Davidson & Carber, 2009). There are 7 concepts in the PYP framework which include causation--why is it the way it is?, form--what is it like?, change--how is it transforming?, function--how does it work?, connection--how is it connected to other things?, perspective--what are the points of view?, and responsibility--what is our responsibility? (A Transdisciplinary Programme of Inquiry, 2020).

There are concerns in the current standards-based educational system that there is not enough time in the K-12 years to cover all the content requirements. Based on research from Wiggin and McTighe (2011), a student would need to be in school for over 20 years to simply cover the learning expectations listed in standards such as the Common Core Curriculum Standards or the international Aero standards; this twenty-year timeframe does not delineate the distinct difference between covering the information and the students acquiring the knowledge of the information covered for future use and application.

Tomlinson (2014) argued that for students to learn new information, have the capacity to access this information later, and transfer the information to a new situation, the content must be connected to their prior knowledge and have relevance in the student's life. Creating these types of learning experiences is nearly impossible without looking at overarching concepts to bring in a transdisciplinary approach to teaching and learning. Concepts are the broad ideas that can connect different content areas to a common theme.

There is not enough time in the school day for students to have meaningful self-directed learning journeys where they inquire into the world around them and build a conceptual understanding. Instead, teachers are feeling the pressure to cram in all the required content. To reach this goal, they are resorting to rote memorization with little relevance to the students' lives. Students have information overload without feeling the importance of the learning experiences. Davidson and Carber (2009) argued that there is no possible way to teach every child every bit of information there is to know in the world; therefore, it is necessary to teach students important skills about where to find information, how to learn, and how to collaborate rather than trying to cram in all the facts and details. It is essential that within the learning context students learn how to think, problem-solve, collaborate, and have meaningful relationships. Students need to be less

bogged down with specific content standards and more connected to big ideas and concepts if they are going to have ownership of their learning and find meaning (Erickson et al., 2017). The shift from covering content to building students' conceptual understanding is necessary if students are going to take more than grades away from their time in the K-12 educational system (Tomlinson, 2014).

Concept-based learning is an opportunity for students to create meaning with what they are learning and to see the connection between subject areas. For this to occur, the focus of the learning should be on a big idea or concept rather than looking at specific details (see figure 2). For example, in a history class, rather than focusing on the dates, facts, or timeline of a particular war as one would see in a traditional classroom, in a concept-based classroom, students would investigate and inquire about the concept of conflict in general, then use the details from the inquiry to draw a conclusion about conflicts in their life and then expand to conflicts in the world (Erickson & Lanning, 2014).

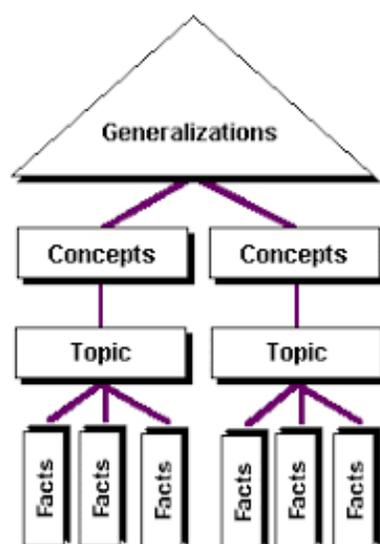


Figure 2 Structure of Knowledge showing the interconnection between generalizations, concepts, and the facts of the content that needs to be covered. Adopted from (Lynn Erickson, 2014)

To establish this type of learning environment, the teacher follows the circular steps in the inquiry cycle: to start; the teacher uses a tuning in protocol or provocation to inspire students to wonder about the topic and to ask meaningful questions; then they investigate their wonderings; after investigating the students sort out the answers they found to their questions; finally, they draw conclusions and synthesize what they have learned about conflict and prepare to take an action based on their discoveries during the learning process (Erickson, 2002; Erickson et al., 2017; Murdoch, 2015). Teaching students information in isolation without creating authentic opportunities for transdisciplinary connections is not a powerful instructional practice (Murdoch, 2015). In a traditional learning environment, students are not able to make transdisciplinary connections and are not encouraged to transfer their learning to a new and challenging context; therefore, the information becomes inaccessible for future use (Davidson & Carber, 2009). Transitioning to a conceptual based constructivist approach to teaching and learning where students are provided an authentic opportunity to inquire about their learning, create their own meaning, and make connections around broad concepts rather than regurgitating trivial bits of information will support students will build relevance and engage in their learning (Schmoker, 2011).

Understanding the Learning Process

It is impossible to talk about learning in a new way without discussing how the brain receives, processes, and moves new learning from working memory to long-term memory for later access and use. Knowing how the brain learns is an essential element of teaching; however, a minimal number of K-12 educators understand how the brain works or fully comprehend how learning occurs (Davidson & Carber, 2009). Educators need to understand how the brain takes in new information and strategically moves it from the working or short-term memory to long-term

memory to properly plan lessons that support learning, engagement, and retention of information. Every component of the classroom, from the emotional safety to the lessons, assignments, and assessments, changes students' brains (McTighe & Willis, 2019).

The brain is constantly changing and reacting to different experiences, interactions, lessons, assessments, and assignments and because of the technological advancements in neuroscience, researchers can see how these experiences impact learning and the brain. Understanding how the brain transforms information into learning will provide the roadmap to identifying the best instructional strategies for creating the optimal learning opportunities for students. The human brain is constantly taking in new stimuli from its surroundings through the body's sensory receptors; the five senses include sight, hearing, touch, smell, and taste (Jensen, 2008). These receptors do not evaluate any of the incoming stimuli as it receives millions of bits of sensory data each second, of which about one percent is admitted to the necessary region of the brain. As the millions of bits of new stimuli come in, the brain has a sensory filtration called the reticular activating system (RAS) in the lower part of the posterior brain. The reticular activating system decides what stimuli the brain attends to either the information is viewed as unnecessary and dropped, or the RAS allows it in for processing. It gives priority to the information that is perceived as vital to survival, is novel, unexpected, or different. If the stimuli have value, the brain moves it to the immediate memory part of the short-term memory system, where it is again evaluated, this time by the amygdala and thalamus, which make up part of the limbic system. The amygdala communicates between the lower primitive brain responsible for automatic systems like breathing and involuntary responses like fight, flight, freeze; the upper brain, prefrontal cortex where memory is constructed and executive functions such as voluntary reflective behaviors occur. The information that is seen as unnecessary is dropped from the

immediate memory, and information that is seen as important is moved to the working memory (Sousa, 2016). The working memory is the final stage; if the information meets the following two criteria that it both makes sense and has meaning, then it is moved to long-term memory where it can be filed, stored, and retrieved as needed for future use in different situations (see figure 3) (McTighe & Willis, 2019; Sousa, 2016).

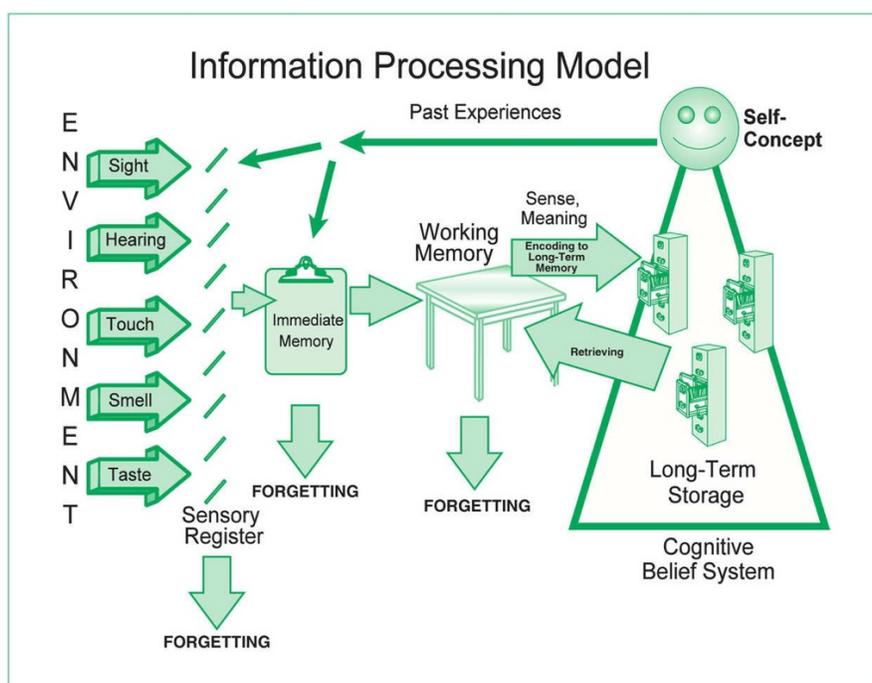


Figure 3 Information Processing Model depicting how the brain receives and processes incoming information (Sousa, 2016).

This information processing model is the critical part for teachers to know and understand when creating learning experiences for students; teachers need to know that information being taught must make sense and have meaning for the students to learn. The brain intuitively tries to make sense of incoming sensory stimuli barrage by creating patterns (Davidson & Carber, 2009). The brain automatically sorts and ranks incoming stimuli making instant decisions first about both physical and emotional safety, then the perceived value of the

information, and the meaningfulness of the stimuli (Sousa & Tomlinson, 2011). Educators can support students in this part of the learning process by overtly making connections to the patterns and relevance in their learning through broad concepts that provide categories for the stimuli (Erickson & Lanning, 2014). These processes support the brain's natural yearning for meaning and connections using emotions and senses to place the learning in long-term memory for later access (Erickson, 2002). When information is properly stored in the long-term memory, it is accessible for students to use as schema and background in which to connect new learnings (Ritchhard, 2015). When students can link this information to broader conceptual understandings, they will retain the information longer and connect it to real-life situations (Erickson et al., 2017).

Several hormones, including dopamine and cortisol, play a vital role in learning and engagement. When the stimuli or message reach the amygdala in the limbic system, if the body is in a state of real or perceived threat, cortisol is released into the body, and the information cannot freely pass to the prefrontal cortex. Cortisol activates the defense behaviors and reduces the activity of the prefrontal cortex to focus attention on the stressor. Therefore, the information cannot be processed by the thinking brain, only the primitive lower brain. Students are not able to focus nor recall information when they are in a stressed state and flooded with cortisol. Classroom situations that may trigger the release of cortisol are students' fear of being wrong, test anxiety, language barriers, feeling overwhelmed, bored, or frustrated (McTighe & Willis, 2019; Sousa, 2016).

When students have a positive belief in their abilities to complete the work and feel safe in the classroom environment, dopamine is released, which promotes feelings of pleasure and satisfaction and creates a drive to repeat the behaviors that triggered the release of the hormone.

Dopamine is released when correct predictions in patterns are made, creating a system of intrinsic motivation to continue the learning journey. In the classroom, teachers can overtly show the connections of concepts to build confidence, show how the students can grow from each learning experience by providing feedback, and reduce stress by building relationships (McTighe & Willis, 2019; Sousa, 2016).

When the learning experience has meaning and makes sense to the learner, the student will be engaged in the learning. Students who are engaged in their learning are happier which releases dopamine in their system so they are more relaxed and can handle more complex issues and grapple with their learning (Sousa, 2011). Dopamine is an important chemical in the learning environment as students are only able to process new information and maintain engagement with content when they feel safe and do not have a threat response (Jensen, 2008).

Student Engagement

Research connected to student engagement became more prevalent in the last 25 years as concerns regarding school dropout rates became a more general concern. Although dropout rates continue to be a focus, researchers have also broadened their perspectives on dropout to include student overall well-being, interests, and connection to school in the realm of student engagement (Reschly & Christenson, 2012). It is noted that students who are authentically engaged in their learning show greater success in school and develop more applicable workforce skills (Appleton et al. 2008). Studies also show that a lack of engagement has been tied to student boredom in schools, an unmotivated student body, and an increasing number of dropouts (Fredrickson, 2004). Student engagement is an essential element of the learning process and is needed for the success of all students. Based on the research by Reschley and Christenson (2012), there have been links to students' success, happiness, and completion of school that can

be connected to elements of student engagement beginning as early as grade 3, including assignment completion, attendance, and participation in school-related activities.

The relative newness of the vocabulary in the current research has some drawbacks as there is not a clear agreed-upon definition of engagement. However, it is clear that engagement is a multidimensional phenomenon that includes both the behavioral and psychological make-up of the students which requires delving into each of the elements including behavioral engagement, social engagement, and academic/cognitive engagement to fully comprehend how school policies, procedures, and instructional strategies can influence the process of engagement and disengagement overtime (Finn & Zimmer, 2012; Reschley & Christenson, 2012).

Behavioral engagement

Behavioral engagement has been defined in the simplest terms as the identified behaviors that show students have an overall interest in being at school and doing their work. Examples of student behavioral engagement include participation in-class activities and discussions, attendance, positive behaviors in class and school, and involvement in extracurricular activities (Lovelace, et al., 2017). The behavioral engagement indicators are essential to a student's success because it has been shown that it is challenging, if not impossible, to teach students who do not attend school. Also, students who participate in the tasks of school including completing work, following instructions, and interacting positively with teachers have better grades and self-report, on student engagement inventories, positive feelings about the people and learning community and feelings of success in school (Finn & Zimmer, 2012). Students who attend school and their classes but are not engaged in completing the tasks, focused on the learning, nor spending significant amounts of time on task are shown to have less success in school and report

higher rates of dissatisfaction and a higher tendency to drop out physically or emotionally from school (Finn & Zimmer, 2012).

Social, Emotional, and Affective Engagement

Depending on the researcher and the context of the research, the three terms of social, emotional, and cognitive engagement are used to represent the students' feelings, both negative and positive, about the school community, including relationships with peers and teachers, and their feelings about their capacity to complete the assigned learning experiences (Reschley & Christenson, 2012). These affective elements are the ones that students identify as feeling a sense of community with the peers and teachers, feeling as though they belong in this place, and that they have a sense of emotional and personal safety (Finn & Zimmer, 2012). In connection with the learning environment, Jenson (2008) states that students cannot be engaged with the content and curriculum while they are engaged in maintaining their personal safety. Sousa and Tomlinson (2011) further support this concept by addressing the need for affective engagement, stating that a physically and emotionally safe learning environment is essential for the brain to learn. In safe, positive spaces for learning, the brain releases endorphins into the bloodstream, creating feelings of joy and inviting the frontal lobe to remember what is going on. In contrast, when the environment feels unsafe, the brain releases cortisol which triggers the frontal lobe to stop processing and sends the person to flight, fight, or freeze mode, where no learning can take place.

Academic and Cognitive Engagement

Cognitive and academic engagement is defined as a student's willingness and desire to complete assigned work, perceived relevance of the work, and capacity to make meaning of the learning activities (Appleton et al., 2008). Student academic engagement can be monitored and

assessed with simple strategies; if the teacher is directing the learning, he/she can monitor for eye contact to note if students are paying attention, check to see that students are following directions and not off-task or talking with friends. If students are participating in independent or collaborative work, teachers can monitor that they are on task, attentive, and actively doing the provided tasks (Reschly et al. 2012). An important distinction to make about engagement in the learning process is that, at school, the teacher's goal is for students to be engaged in the curriculum and standards while the students find the most relevant stimuli to be connected to making friends, finding food and water, and avoiding embarrassment and failure (Jensen, 2008). Engagement in content and curriculum requires that the teacher and student are both goal-oriented and focused on the task at hand. Engagement requires paying attention to multiple areas of the brain including auditory, posterior parietal lobes, and prefrontal cortex and chemical levels (Jensen, 2008). When the learning experience has meaning and makes sense to the learner, the student will be engaged in the learning. Students who are engaged in their learning are happier, which releases dopamine into their system so they are more relaxed and can handle more complex issues and grapple with their learning more deeply (Sousa & Tomlinson, 2011). Dopamine is an important chemical in the learning environment as students are only able to process new information and maintain engagement with content when they feel safe and do not have a threat response (Jensen, 2008).

Theoretical Framework

The literature review is grounded in work that revealed the significant role that engagement has on student success including increased attendance rates, assignment completion, and involvement in extracurricular activities, while simultaneously showing decreased dropout rates, signs of boredom in class, and feelings of apathy toward school (Gettinger & Walter, 2012;

Finn & Zimmerman, 2012). Teachers' instructional choices and classroom management are factors that influence student engagement in the classroom and therefore, it is important to identify the instructional strategies that have a positive impact on student engagement and learning (Lovelace et al., 2017). It is necessary to look at all the elements that make up the amount of academic engaged time (AET), which represents the total time students are actively engaged in meaningful learning opportunities along with elements of the Process-Product Paradigm. The greater the amount of time a student spends on task and engaged in their learning the higher the student's motivation to learn. This, in turn, increases the probability of the student being successful in school (Gettinger & Walter, 2012). The theoretical foundation for the Process-Product Paradigm and other theories grounded in the belief that time on task and the relationship between time and learning is essential is John Carroll's model of school learning (1963).

The Process-Product Paradigm combines academic engaged time and elements of Carroll's model. The focus of the paradigm is to determine effective classroom and teaching practices or the process and the product of that work being the learning and student achievement (Gettinger & Stoiber, 2009). The Process-Product Paradigm looks specifically at instructional tasks and teaching strategies that increase AET which can be a predictor of student success (Gettinger & Walter, 2012). It is important to find a way to measure and identify specific indicators of student engagement so that the data can be collected and analyzed for future use. There are several engagement surveys including the *Code for Instructional Structure and Student Academic Response* (CISSAR) (1981) and the Student Engagement Inventory (SEI) which identify observable characteristics of engagement like: time on task, focus on the teacher, working, following teacher instructions, and positive interactions with teachers and peers

(Gettinger & Water, 2012). With these specific indicators, students can be observed during instructional time and with varying instructional strategies to determine which instructional strategies elicit the highest AET to inform future instruction and classroom practices.

There is a natural connection between looking at powerful instructional practices and multiple seminal research theories including the constructivist approach to teaching where the concepts of student ownership, constructing knowledge through personal experiences, and focusing on areas of interest are intentionally embedded in all aspects of learning (Kaplana, 2014). The constructivist approach is student-centered rather than teacher-centered, building on broad concepts, generalizations, and student-directed ideas. Constructivist teachers allow students to navigate areas of interest and delve deep into personally created questions. The constructivist framework aligns with Process-Product Paradigm and AET with the focus on student engagement and concept-based learning. Combining the three elements allows for a broad perspective on student engagement and allows a more in-depth look at the process aspect of the paradigm. It is essential to understand what aspects of teaching influence the projected outcome of student learning and an increase in the amount of time a student spends on task and engaged in meaningful work throughout their day at school. It is clear the amount of time spent at school doesn't influence the success of the child unless it is measured by the amount of time engaged in the work of learning (Finn & Zimmer, 2012).

Limitations

There are several important limitations in the Process-Product Paradigm and academic engaged time as used in this research study. Although the connection between the instructional process and the learning outcomes is clear, it is challenging to look at an engagement inventory and determine which of the factors led to an increase or a decrease in the AET. If a researcher is

analyzing the AET in a specific class during a specific lesson, it is impossible to determine the variables in each situation. For example, if an observed lesson results in students with high rates of AET is it possible to speculate it was a specific instructional strategy. On the other hand, there are many other factors influencing student engagement, including the teacher-student relationship, the subject matter, specific content or context of the topic, time of day, students' intrinsic motivation to do well no matter what, or an unknown extrinsic reward? With the possibility to account for such factors it is almost impossible to qualify and reproduce any testable situation of learning and to measure accurately students' true academic engagement in the lesson with regards to the teacher's input.

In addition, there are limitations of the Constructivist framework in this study. A weakness of the constructivist theory is specifically the approach to learning providing students with too many options for choice, social interactions, and constructing knowledge without specific learning outcomes in mind. This open approach can be an ideal learning situation for student ownership, but in the modern-day classroom, there must be a balance of student choice and alignment of the standards that are required to be covered and assessed. There is also a discrepancy in the idea that all academic standards should be covered, yet that does not consider actual student learning. The challenge will consistently be balancing these two conflicting demands. Yet, another concern will also be balancing the idea of the teacher as the facilitator and teacher as the center and holder of the knowledge to be shared (Kaplana, 2014). There is a challenge in constructing knowledge in a meaningful way when there are instructional timeframes within the reporting structures (quarters, trimesters, or semester) and the school year timeline.

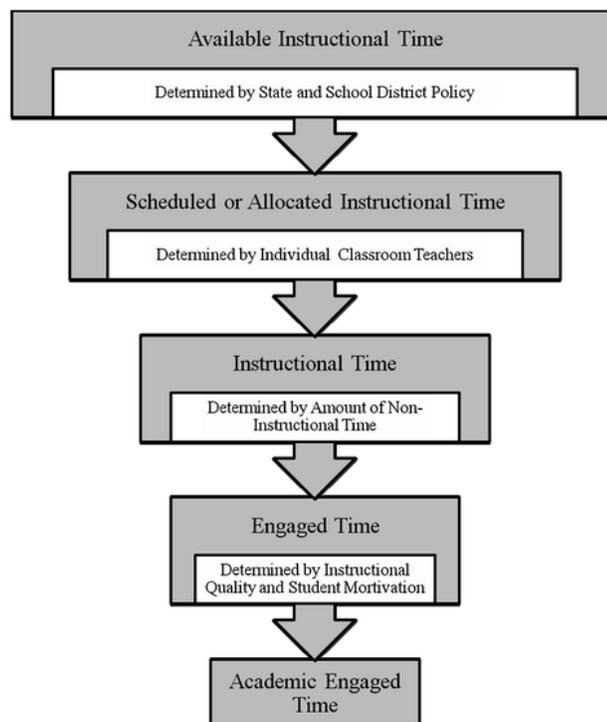


Figure 4 Continuum of Components and determinants of academic engaged time from the Process-Product paradigm (Gettinger & Walter, 2012).

Conclusion

This qualitative study builds on the previous 25 years of research connected to student engagement and success in school through intentional work on curriculum and instructional strategies that may influence student academic engagement. The reviewed literature looked at the direct link between student academic/cognitive engagement, social/emotional/ affective engagement, behavioral engagement, and student overall success and satisfaction in school. The literature encompassed the triangulation of student engagement, concept-based curriculum and instruction, with the details of how the brain takes in and processes new information to be stored in the long-term memory for later access and use (Reschley & Christenson, 2012). The research addresses the original concerns of dropout rates and their impact on society and broaden the scope to include the overall well-being of all students in school, not just those at-risk.

Showing educators the need to focus intentionally on all aspects of student engagement will enhance the learning experience for students and keep them in school. Clearly understanding each element of engagement can drive future studies and research. Reschly and Christenson (2012) identified a lack of agreement and consistency with the definitions and use of the terms in engagement research as a concern as well as the convoluted discrepancies between student engagement and motivation. Having clear descriptions will support teachers in creating meaningful, engaging experiences for students in schools around the world.

Chapter three discusses the methodology of the research including the setting, participants, and the scope and limitations of the study.

CHAPTER 3

METHODOLOGY

The purpose of this qualitative study was to determine the influence if any, concept-based curriculum instruction had on student academic engagement in the primary (PreK-6) school system setting. Concept-based curriculum and instruction were defined as a three-dimensional curriculum and instructional design that, instead of focusing on lower-level skills, facts, and topics like the traditional curriculum, looks at framing the disciplines' facts, knowledge, and skills with generalizations and concepts. Students are asked to investigate deep conceptual understandings rather than memorize basic facts (Erickson et al., 2017). Student academic engagement was defined as the student's personal investment in school, their on-task behaviors of class participation, completing assigned tasks, and learning outside of the classroom, including extracurricular activities (Finn & Zimmer, 2012; Reschley & Christenson, 2012).

The research was guided by the desire to increase student engagement in schools focused on the following research questions:

1. What are teachers' perceptions of student engagement and what it looks like in the classroom?
2. What learning experiences are the most engaging for the students as perceived by teachers?
3. How do teachers characterize the connections between greater engagement and quality of student learning?

A semi-structured interview protocol was created to collect data from teachers and educators in a variety of geographical settings around the world on their experiences with concept-based curriculum and instruction and student academic engagement.

Setting

The setting in the study was not bound by a specific geographic location or setting. Each participant engaged in a virtual video conference wherever they were in the world. The one-on-one virtual video interview allowed the researcher to address the need for a far-reaching collection of evidence on student academic engagement in a broad setting. The participants included a range of PreK-6 teachers in various school settings in multiple geographic locations. The researcher sent an announcement on the PYP Educators, a private vetted Facebook group, to reach a global network of teachers working abroad and domestically, inviting them to participate in a semi-structured one-on-one online interview session.

Participants

The participants of the research study included preschool through grade 6 teachers from around the world who volunteered to take part in a semi-structured one-on-one virtual interview. The participants were contacted via personal email and a direct message via Facebook. The locations of the participants were dependent upon those who agreed to participate in the semi-structured interview.

Participants worked as teachers at a variety of grade levels in the PK-6 structure. They came from a variety of backgrounds with experience in public, private, parochial and charter schools. The participants included a sampling of people of different races, ethnic origins, religious affiliations, and gender identity. While there were no limits associated with the age of the educators in the survey, they all were at least 22 years old and younger than 65 years old.

There was no intent to select teachers who fit into any specific group, such as pregnant women, veterans, or people with disabilities. Participants were all college-educated professionals who were working in a school of some type.

Data Collection and Analysis

The research design is a qualitative methods study to collect evidence on how the participants feel the experience of teaching through a concept-based approach has influenced student academic engagement. The study included a random selection of teachers, support teachers, and administrators who agreed to participate in the interview (see Appendix A). The participants voluntarily participated in the semi-structured interview process. The answers were all analyzed, coded for themes, and conclusions were drawn.

Analysis

The interviews were recorded through Google Meet and transcribed using Sonix software. The researcher listened to each interview while reading the transcript to ensure accuracy. The semi-structured interview format allowed the participants to answer the questions but created an authentic environment which provided the participants freedom and flexibility to move the conversation in the direction that best told their story.

Using an inductive coding process and looking at the data without preconceived ideas of what should be found in the interviews allowed the researcher to listen wholeheartedly to the participants' stories. The researcher read through the transcripts once to understand the big idea and broad concepts addressed in the interview the second and third the researcher systematically categorized the information into themes and patterns to analyze and draw conclusions. Once all interviews were analyzed and themes emerged the researcher combined analyzed the data that and combined similar ideas and concepts.

Interviews

The researcher sent out an email and a social media post to educators in different roles and capacities in a variety of regions of the world through the global network created in the international and domestic school communities to participate in a semi-structured online interview. Having a broad base of participants added to the validity and credibility of the research. The data gathered were related to student learning, implementation of concept-based curriculum and instructional strategies, student academic engagement, and academic background. It was important to address the teaching experience to remove the knowledge gap for teachers that may skew the data.

Participant Rights

People who were interested in participating in the research sent a direct message to the researcher and were then informed via email of participant's rights and the researcher's confidentiality standards. The participant was informed the interview was voluntary and choosing not to participate would have no impact on the person's current nor future relations with the University nor the researcher. Also, the participant had the right to end the interview at any point, refuse to answer any question, or skip any portion of the questions he/she did not feel comfortable answering without penalty. Furthermore, the participant had the right to withdraw from the research at any time without penalty. If the participant was satisfied with the information in the e-mail, he/she was then sent the complete detailed consent form (see Appendix B) and acknowledged their consent by signing the consent form before participating in the voluntary online interview. Once the consent form was signed and returned, an interview time was established. Before beginning the interview, the participant was again reminded that if he/she does not want to participate in the interview, he/she can choose not to respond to the

invitation, respectfully decline the invitation, or end the interview at any point. The participants' personal information was safeguarded in a locked file cabinet, a password-protected computer, and the researcher used assigned numbers to ensure privacy in the research.

Potential Limitations

The potential limitations included the number of teachers who were willing to participate in the interview. A second potential limitation was the accuracy and responses to the questions. Asking teachers to reflect on student engagement may lead them to exaggerate the number of students academically engaged in their work and the process of planning for student engagement. Asking teachers to reflect on student engagement without a clear and accurate measurement tool, rubric and/or standard for engagement may lead to teacher bias, misinformation, and/or skewed data. The third potential limitation was coding and analyzing the interview transcriptions without a bias to the questions and desired outcomes.

CHAPTER 4

RESULTS

This chapter details the results of interviews documenting teachers' use of concept-based curriculum and instruction. The purpose of this qualitative study was to identify teachers' perceptions of the impact concept-based curriculum and instructional practices have on student academic engagement. Ten participants engaged in semi-structured one-on-one virtual interviews. This format was chosen to provide a global sampling of teachers with a variety of experiences and to respect the current restrictions from the COVID-19 pandemic. Each participant was given a number based on the chronology of the interviews to respect their privacy and identity. The names of institutions for which they have worked were kept out of the document. However, curriculum frameworks and countries were identified later in this chapter along with the research findings and data collected. Each interview was set up and recorded through a Google Meet. The interviews were then transcribed using Sonix.ai, a transcription software service. The transcriptions were downloaded and reviewed for errors by reading the transcription while listening to the recorded interview. The transcriptions were reliable, with very few errors. The researcher read the transcriptions and listened to the video recordings multiple times for emerging themes which were then categorized and coded. Chapter 4 details the participants' profiles, the interview process, data collection and analysis that were outlined in chapter 3.

Participant Consent Process

Participants in this study volunteered to be a part of a semi-structured virtual interview. Interviews were conducted virtually due to geographic location, the coronavirus restrictions, and the need for responsible research during a global pandemic. Once the Instructional Review Board

approved the study, the researcher began the process of connecting with possible participants through social media. The first step for the researcher was to receive approval from the International Baccalaureate Primary Years Programme (PYP) Educators' Facebook group administrator to post a request in the group. This particular Facebook group was chosen intentionally by the researcher to increase the probability of all volunteers being certified teachers with experience teaching with a PYP framework. Having experience in the PYP framework was important because it is a conceptual instructional model, includes common instructional practices and common language. After receiving approval, the researcher posted a request for primary school educators who would like to participate in a semi-structured one-on-one interview to share their experiences around student academic engagement and concept-based instructional strategies. The third step involved volunteers sending a Facebook direct message to the researcher, establishing their interest in the research. Finally, the volunteer and the researcher exchanged email addresses to establish communication. As participants volunteered to be a part of the study, the researcher sent the approved consent form via email, and once the form was signed and returned, a virtual interview date and time were scheduled.

Data Collection Process

The data collection process began after the consent forms were signed either electronically or scanned and returned. Each interview began with a clear explanation of the participant's privacy rights, informing them that the participant had the option of ending the interview at any time or not answering a question or questions, and the participant granting permission for the sessions to be recorded. It was explained that recording was used as a tool for later transcription and coding of the data and would be deleted after the research process and writing was completed. Then the interviewer and interviewee agreed on the definition of some

key terms and began the interview process as outlined in Appendix A. The semi-structured format allowed for flexibility and deeper investigation into specific areas as needed throughout each individual interview.

Participant Description

The participants included ten primary school teachers from around the world who have taught in a variety of settings, and all have some International Baccalaureate Primary Years Programme teaching experience and training. All participants are K-6 certified teachers, three of them are male and seven of them are female, and they range in experience from 3-30 years as educators.

Each participant had a one-on-one semi-structured recorded virtual interview that ranged in length from 16:22 to 39:18 minutes. Each participant was assigned a number based on the order in which they were interviewed. Participant 1 was the first interview, participant 2 was the second interview, and participant 3 was the third interview, and so on.

Participant 1

Participant 1 is an American male who is in his 7th year of teaching at the primary level. He has experience teaching grades 4, 5, and 6, and he is in his 3rd year of teaching grade 5 in an IBPYP school. He taught for two years at a public school in his home state of Wyoming before choosing to teach abroad. He moved to Cairo, Egypt, five years ago and has taught at two different international schools there. The current school was his introduction to the PYP instructional framework in grade 5.

Participant 2

Participant 2 is a Kenyan female who began teaching in 1989 and is in her 30th year teaching. She was proud of this accomplishment and relished in the joy these years have brought

her. She taught for 20 years in Kenya in a variety of settings, including a Catholic school and Kenyan National Schools, where she taught lower primary and was also a subject teacher teaching math, science, English, and social studies. She is starting her 10th year at an international school in Cairo, Egypt where she is a second-grade homeroom teacher. She has three years of teaching experience with the PYP framework.

Participant 3

Participant 3 is an American male with six years of teaching experience, including teaching grades 4 and 5 in a remote village in Alaska, grades 6 and 7 at a charter school in his home state of Washington, grade 4 at a public school in Washington State, grade 5 in Cairo, Egypt, and grade 5 in Guangzhou, China. He has taught traditional state curriculum frameworks in the public schools in Washington and Alaska, concept-based and inquiry-based approaches at a charter school and has had three years of teaching experience in the PYP curriculum framework in two different countries.

Participant 4

Participant 4 is an American female with five years of teaching experience. She taught grade 1 for a year in a public school in Washington State, kindergarten at a charter school in Washington state, grade 2 for two years at an international school in Cairo, Egypt and is currently teaching grade 1 at an international school in Guangzhou, China. She has experience with the mandated district curriculum in a Washington public school, concept and inquiry-based curriculum framework at a charter school, and three years of teaching experience with the PYP framework at two different international schools in different countries.

Participant 5

Participant 5 is a Canadian female with 18 years of teaching experience. She has taught English as an Additional Language and all grades in primary throughout her career but prefers grades 4 or 5. She has taught in Taiwan, China, Singapore, Vietnam, the United Arab Emirates, and Latvia. She has used a variety of curriculum frameworks, including a structured EAL framework, the International Primary Curriculum, the PYP framework, and she has experience aligning the Common Core Curriculum Standards with different instructional frameworks.

Participant 6

Participant 6 is a Canadian male with 18 years of teaching experience. He has predominately taught in the upper primary grades but prefers lower primary and is currently happily teaching kindergarten. He has taught in Taiwan, China, Singapore, Vietnam, the United Arab Emirates, and Latvia. He has used a variety of curriculum frameworks, including a structured EAL framework, the International Primary Curriculum, the PYP framework, and he has experience aligning the Common Core Curriculum Standards with different frameworks.

Participant 7

Participant 7 is an American female who has four years of teaching experience. She taught for two years in Oregon and is in her 2nd year at an international school in Warsaw, Poland. In Oregon, she taught the district-mandated curriculum in grade 3, and while in Poland, she was introduced to the PYP curriculum framework. In both academic settings, she was responsible for teaching the CCCS. Last year was her first year using the PYP framework and it was a bit challenging to grasp once the school went online. She is happy that so far this year they are still able to teach face to face with weekly COVID-19 tests required for the staff.

Participant 8

Participant 8 is a Canadian and Finnish female who has been teaching for 12 years. She was educated in Canada and taught at a provincial school prior to moving overseas to combine her love of teaching with her love of traveling and desire to see the world. She has taught both upper and lower primary and doesn't have a favorite as she enjoys the rewards and challenges of each grade. Her international teaching has taken her to Korea, Vietnam, Latvia, and she is currently in Bulgaria. She has worked in a variety of academic settings with different curricular frameworks including, seven years in PYP schools, although she is currently not in a PYP school. However, she said she still incorporates many of the strategies and concepts she learned.

Participant 9

Participant 9 is an American female with three years of teaching experience. She had the opportunity with cooperation between her university in Michigan and an international school in South Korea to complete her student teaching at the school in South Korea. She completed a one-year student teaching/internship and then was hired and is starting her 3rd year. All three years, she has been using the PYP framework and working closely with a mentor teacher.

Participant 10

Participant 10 is an American female with 24 years of teaching experience. She has taught all grades in elementary in her experiences in Washington State, Guinea, China, the Dominican Republic, Azerbaijan, Morocco, and has currently moved out of the classroom and is an English as an Addition Language coordinator in Latvia. She taught the mandated district curriculum and expectations in Washington, worked in some international schools with no set curriculum structure, and some with the PYP framework. In her current international school, she is using the PYP framework and aligning with the CCCS.

Summary of Participant Descriptions

All of the participants have taught in an IBPYP school and have completed the training required by the International Baccalaureate Organization to be a PYP teacher. In addition, a majority of the teachers have taken additional training to deepen their understanding of the instructional practices along with training outside of the IBO. The average years of teaching experience were 12.7 years. Three of the participants were male, and seven were female. The participants have a range of experiences within a variety of school settings with different curriculum structures and frameworks. The ten participants represent teaching experiences from seventeen different countries.

Table 1
Summary of the Participant Background and Training

Participant Number	Years in Education	Training	Curriculum framework
1	7	PYP	IBPYP and IBDP with Common Core Curriculum Standards
2	30	PYP	IBPYP and IBDP with Common Core Curriculum Standards
3	6	PYP	IBPYP, IBMYP, IBDP
4	5	PYP	IBPYP, IBMYP, IBDP
5	18	PYP	IBPYP, IMYC, IGCSE, IBDP
6	18	PYP	IBPYP, IMYC, IGCSE, IBDP
7	4	PYP	IBPYP, IBMYP, IBDP
8	12	PYP	IBPYP, IBMYP, IBDP
9	3	PYP	IBPYP, IBMYP, IBDP
10	24	PYP	IBPYP, IMYC, IGCSE, IBDP

Analysis Method

The collected data included ten one-on-one semi-structured virtual interviews ranging in length from 16:22-39:18 minutes. Each interview began with the researcher confirming the participant's understanding of the consent form, instructional terms, and semi-structured interview process as compared to other interview structures. The interviews were used as a way

for the researcher to collect data on the teachers' experiences in teaching and the various types of curriculum frameworks, their background, use of conceptual-based curriculum and instruction, strategies for tracking and monitoring student academic engagement, and their perception of when students were more engaged in their learning. Each interview was recorded with permission and transcribed for coding purposes. When the interview process was complete, the researcher transcribed the interview using Sonix software combined with the recording to ensure accuracy. The researcher then read through each interview multiple times to identify patterns, similarities, and relationships between what each participant said in the interview, how they described their experiences and explained learning in their classroom. This information was then labeled and organized to uncover and code the emerging themes and draw conclusions.

Presentation of Results

The results were broken down by interview questions. Each participant was involved in a semi-structured one-on-one interview, including some set questions to start the interview but follow-up questions depended on the participant responses and feedback. This section will conclude with a breakdown of the emerging themes and a summary. The first four questions were gathering background information on the teachers' years of experience, different curriculum frameworks, and specific training they have attended. Questions 5, 6, 8, and 10 were focused on receiving feedback on teachers' perceptions of what student engagement looks like in the classroom. Questions 5, 6, 7, 8, and 9 were focused on the learning experiences that teachers perceive as the most engaging. Questions 5, 7, 8, and 9 were focused on the teachers' beliefs about the connections between greater student engagement and the quality of student learning.

Table 2
 Research Questions Aligned with Interview Questions and Identified Themes

Research questions	Interview questions	Themes
Research Questions 1	5, 6, 8, 10	3, 5
Research Questions 2	5, 6, 7, 8, 9	1, 2, 3, 6
Research Questions 3	5, 7, 8, 9	4, 5, 6

Interview Question 1

How many years have you been in education, and what roles have you been in?

The ten participants have a wealth of teaching experiences that add depth to the interview experience. The newest teacher has been in education for three years and the most veteran teacher has been teaching for 30 years. Of the ten participants, they have taught all grades in primary school, grades 6 and 7 in the middle school and participant 10 is starting her first year as an English as an additional language specialist.

“I started teaching the year my son was born that was 1989, so this is my thirtieth year. I taught in Kenya for twenty years. Most of these years were in the Catholic School system and I have been in Cairo for ten years now and I have always been a classroom teacher in lower elementary mostly grades 2 and 3”. (Participant 2)

“I have completed six years of teaching, I’ve taught in a remote village in Alaska for 4th and 5th grade, I have taught in a charter school in 6th and 7th grade, and I am currently in Guangzhou, China teaching 5th grade”. (Participant 3)

“I am starting my third year of teaching, and I was lucky to start my teaching career as an intern at an international school in South Korea, and when I completed my internship, they hired me as a full-time grade 3 teacher” (Participant 9)

Interview Question 2

Describe your current teaching environment, including the school structure and make-up of the student body, curriculum standards, and instructional programs. (For example, International Baccalaureate, IGCSE, A-Levels, Common Core Curriculum standards)

The participants have a diverse background working with multiple curriculum frameworks and structures. Currently, all but one of the participants are working at PYP authorized international schools with a diverse student body. Most of the participants described using the Common Core Curriculum Standards in alignment with the PYP framework.

“This is only my second year in Guangzhou, but the transition was easy because they are a well-established PYP school, so all of the planners were complete, and it is a great way to start at a new school. We have a lot of student transition as military and embassy families move in and out. The Chinese population stays pretty consistent, though.”

(Participant 4)

“I am back at a PYP school. This school is small with over 40 nationalities represented, and I think that is fantastic.” (Participant 6)

“I am happy to be at a PYP school that aligns with the Common Core Standards; this way, we have clear expectations, but the students can make conceptual connections. We are a diverse international school with the movement of military and embassy families but a solid portion of the host country students who stay longer”. (Participant 7)

Interview Question 3

Please tell me about specific training on concept-based instruction and its impact on your teaching pedagogy.

“I remember the training was structured like how a PYP conceptual classroom should run...in the training; I was learning how to structure learning experiences in class in ways where students construct knowledge and not be a sage on the stage situation”.

(Participant 1)

“Having the PYP concept-based training was very important. For me, the transition was very difficult. Before the training, let me say it was impossible to just see how to connect these things called concepts into the curriculum”. (Participant 2)

"The training was structured with an inquiry approach to conceptual understanding...With this conceptual-based training, I was an active learner and felt empowered to offer this type of experience to my students in a meaningful way. I thought my students deserve to feel this excitement for learning too. I was completely engaged in the four-day training. Making the switch to conceptual learning is challenging but worth it for the students”.

(Participant 4)

“The workshop was hands-on and had a constructivist approach. It allowed me the opportunity to see how to help students construct meaning and use the concepts to integrate the curriculum”. (Participant 8)

Interview Question 4

Have you received specific training on student engagement practices? Describe its impact on your teaching pedagogy.

None of the participants said they received training that was specifically dedicated to student engagement or that student engagement was part of the title of the workshop. However, all of the participants modeled student engagement strategies by using hands-on materials,

planning for collaboration, constructing meaning, and building conceptual knowledge. The positive feedback from the training provided the participant skills, knowledge, and understanding to transfer into the classroom.

“I don’t think I have taken a training titled student engagement strategies but in both of the PYP trainings I had, we discussed ways to engage students in their learning”.

(Participant 1)

“Generally, student engagement is weaved through the workshop and training as there is no point to discuss instruction without thinking critically about student engagement. In the PYP training, we discussed the importance of provocations and allowing students to ask their own questions and inquire about things that are important to them to keep them focused and engaged through the unit” (Participant 7)

“Student engagement is a topic in all trainings. I am not sure we can talk about teaching and learning without looking at student engagement and ways to engage students in their task at hand. In my PYP training, I remember specifically talking in our groups about using inquiry to support student engagement and ownership of their learning. We also talked about the importance of a provocation to hook the students from the very beginning of the unit”. (Participant 10)

Interview Question 5

How do you know when students are engaged in the learning, and how do you monitor for student engagement?

All participants identified student engagement as an essential element to student learning. All participants said they know when students are engaged by their behavior and involvement in the lesson and content. Each participant identified teaching strategies that they use to monitor

and track student engagement, but none of the participants followed a precise checklist or formula for monitoring engagement.

“I can tell when students are engaged by the questions they are asking and by the work they are producing. I mean, if Ahmad is stabbing Omar in the arm with his pencil, he’s probably not super engaged in the lesson, or a more subtle sign might be daydreaming or staring out the window. Sometimes students show they are engaged in different ways. I may look at a student and think, ‘wow, he’s spacing out and not with me,’ and then I read his reflection at the end and know that I was wrong. You just have to be aware of how your students learn; you have to be tuned in to them”. (Participant 1)

“Monitoring for student engagement happens by being present with your students and noticing when they’re excited about something and when they’re wandering off either physically or just in their minds. I can see when someone starts bothering someone else or doodling instead of working that they are not engaged in the learning, and I need to check in with the student and see what is happening, is the work too hard or too easy, or do they just need help getting restarted? When they’re fired up about the learning, you need to feed that and keep it going, and when they’ve lost the fire, you have to help rekindle it”. (Participant 2)

“Student engagement is something I am always looking for and intentionally planning for. You can tell students are engaged by their body language, the types of questions they are asking, the comments they are making to other students, and their willingness to push themselves into an academic struggle. If students are not engaged, they will not be willing to come up with a meaningful action or make thoughtful connections. If a student

is staring out the window, writing notes, or bothering another student, they are not engaged in the learning”. (Participant 3)

“When a student is engaged in the work they are asking important questions, busy doing the work, struggling with concepts, coming up with new ideas, asking their peers for help, and researching. It is easy to tell when students are engaged; no matter their age, their faces light up with interest and intrigue. You can tell they want to be there and care about what is happening. You can also tell when they’re not engaged, and you need to step in and help. When you look at students and they are drifting off, their eyes aren’t focused on the work, they may be chatting about things not related to the learning, start wandering around the room, you know simple things like asking to go to the bathroom or to sharpen their pencil multiple times. There are clues all of the time; you just have to be watching for them and then quickly go to the student and re-engage them with a question or a new task”. (Participant 6)

“I know when students are engaged in my class because they are working together, challenging each other, asking questions, and driving the leaning forward. I can monitor for this because I know when they are working together, and I know when they are distracting each other. When students start getting off task or wandering, I know I need to check back in with them and see what is happening. This is a constant process of walking around the room asking provoking questions, providing scaffolding as needed, and pushing students further when they’re ready”. (Participant 8)

Interview Question 6

Describe what student engagement looks like in your classroom.

All participants were able to describe what student engagement looks like in their classrooms. The participants were able to identify specific examples of when students are engaged in their work and how different types of work require different types of engagement from the students and different engagement strategies from the teachers. The biggest challenge to student engagement in the classroom was time constraints. The time constraints were identified as time within the day and the school year. In PYP, there are six units of inquiry that need to be taught at each grade level, and based on the school year, that only allows for about six weeks per unit. When the students are very engaged in a topic and leading a self-inquiry, the participants were concerned that they still had to move on even though the students may not be ready to do so.

“Student engagement is challenging for me because it is not just that they are engaged in the work, but they are engaged in the right work. Engagement can look like students busily completing a worksheet, but it can also look like a meaningful discussion, debates, conversations, math problems, and reading tasks. Engagement looks like students doing the work that is needed to meet the learning goals”. (Participant 2)

“Student engagement looks different in different classrooms. In my classroom, depending on what we are studying, it might look like students working independently or in small groups; they are asking questions, doing research, reading, struggling with concepts, writing a story, doing a lab, or making connections to things they have learned in the past or that spark an interest. Student engagement can look like many different things. It depends on what they’re learning”. (Participant 9)

“Student engagement looks like students excited about working on something they care about. Students are actively seeking answers to questions they want to know the answers to. In a class that looks like small group discussions, table partners working through a problem, a whole class discussion about a class community decision, individual investigations, and/or quietly reading to discover what the main character in a book will do next. The explanation of what engagement looks like can be so many different things”.

(Participant 10)

Interview Question 7

How do you intentionally plan learning experiences that focus on students’ conceptual understandings?

The participants all identified the specific PYP planner and the intentional planning process, which is part of the PYP structure and ethos as a start to where they plan to address the unit’s conceptual understandings. The expectation in PYP is that each unit of inquiry addresses three conceptual understanding which links the content areas, including specialist classes like physical education, music, art, library, and/or technology. All participants mentioned the elements of the PYP planner as adding intentionality to their lesson and unit plans.

“The PYP requires that you plan intentionally and collaboratively by having the PYP planner as part of the evaluation process and having the PYP coordinator there to help you in the planning process. At my school, we have a lot of Lynn Erickson’s resources available to us to make sure we know how to create meaningful conceptual learning experiences for our students. This is very helpful”. (Participant 4)

“With the PYP there is a specific PYP planner used for planning and part of the template includes an area for identifying three concepts that tie the unit of inquiry together. Once

there are concepts, then the teacher writes the central idea and lines of inquiry. This is a very intentional process. You have to think about each element from the provocation to hook the students into the learning experience and create opportunities for students to build ownership through their questions which will guide their inquiries. In this process, you think about each child's needs and interests to ensure they have a meaningful learning experience". (Participant 5)

"The simple answer to this question is using the planning template. I think because concept-based learning is such a key component to the PYP framework that you have to intentionally plan for conceptual experiences if students are going to get to the expected depth of learning in the PYP framework". (Participant 6)

"I am lucky that I get to plan collaboratively with a very strong grade-level team and my PYP coordinator. Together we plan out the unit of inquiry using the planner, which requires you to think intentionally about which concepts tie the learning together best and then how to create learning experiences that provoke the students to want to inquire about them. We think a lot about the entire learning experience for the students". (Participant 8)

Interview Question 8

What impact has the implementation of concept-based instructional practices had on student ownership of their learning and engagement?

All but one of the participants has teaching experiences in multiple countries with different instructional frameworks; this experience allowed them the opportunity to compare the different practices and the impact on student engagement and student ownership of their learning. All but one of the participants identified an increased sense of ownership and engagement when using the concept-based curriculum and instruction.

“When I was teaching in Alaska, everything was mandated someone would fly into our village to make sure we were all on the same page of the Treasures reading program. We were totally micromanaged, and the kids did not buy into it. Then I went to a charter school where I had 100% freedom which was awesome. I could construct conceptual learning experiences based on my students’ interests so they were engaged in their learning. They had complete ownership of their learning journey. These were completely different learning experiences for the students. The students know when it’s crap. Students by grades 4 and 5 figure it out. They know they are just going through a system that is not about them versus having something completely crafted for them and connected to their community. It matters to them”. (Participant 3)

“I have taught in PYP schools that focus on concept-based instruction and in non-PYP schools, so I have seen the difference in student buy-in and ownership of their learning. For example, when I taught in the UAE, the curriculum structure didn’t encourage students’ independence and ownership of their learning. Therefore, it was challenging to get students to think deeply about concepts because that is not how they were taught to think in the school system. The students and the parents were more concerned about the right answer instead of the process of thinking”. (Participant 5)

“I have had different experiences in the classroom which I think helps me reflect on the students’ learning and compare them. With conceptual learning and planning for concept-driven experiences, I see that my students are engaged because they have ownership of their learning and choice in the outcome. They know they have a voice in making their learning more personal. I think that is a huge difference I have seen in my experience moving to concept-based curriculum and instruction”. (Participant 7)

“The students are more engaged because they genuinely care about the topic. They have a choice in what they are investigating and will come up with an authentic action to solve the issue at hand. They have ownership because they inquire about things that matter to them and having broad concepts versus small details helps them wrap their heads around the change they seek. My students are more authentically engaged in work they find meaningful”. (Participant 10)

Interview Question 9

How has the implementation of concept-based instructional practices influenced student engagement levels in your classroom?

The participants discussed the importance of concept-based curriculum and instruction and student engagement. All but one of the participants was able to compare student engagement while using concept-based instruction versus times they worked in environments that did not support concept-based curriculum and instruction. Of these participants, all identified increased engagement while during times of concept-based instruction. A significant difference was identified when participant 2 discussed different times in her day when she uses concept-based versus other teaching methods; she can see that the students appear happier and more enthusiastic about their work when they are working on their unit of inquiry versus individual subject work like English or math. Other participants were able to identify increased on-task time, questioning skills, and action when students had the opportunity to learn in a concept-based structured unit.

“I do some lessons in the unit of inquiry, and it is concept-based, and inquiry-driven and students are engaged in the learning. They’re happy. Then I have some lessons, and I say

now, this is the English lesson and you have to read and write. They're not as engaged or happy, but they have to learn these skills". (Participant 2)

"I know in a traditional class that people might not think that kindergarten and grade 1 students can think critically about concepts but they can and they make incredible leaps in their learning outcomes because they see that it matters and they're so engaged in the content that they almost forget that they are learning...it is so good to see my students working on things they care about and making conceptual connections in the PYP framework versus working through content they may not see value in". (Participant 4)

"When I used to plan, I thought more about the curriculum and standards to cover and what the learning outcomes were without thinking critically about what it means to the learners or how the experiences impacted their learning. I knew students could do more, and once I learned about concept-based teaching and learning with inquiry, it changed how I planned, which changed how the students learn and increased their levels of engagement in the process". (Participant 5)

"Now I see students in my class engaged in asking meaningful questions, collaborating to find answers and solve problems authentically using 21st-century skills we want kids to have, students are willing to do more rigorous work because the learning outcomes matter to them and it is their learning". (Participant 7)

Interview Question 10

How do you track student engagement in the classroom?

The participants clarified the difference between tracking and monitoring for student engagement. Monitoring engagement was identified as in-class teacher moves that require the teacher to see that students are becoming distracted or disengaged and then finding ways to re-

engage them. Tracking student engagement was more about the student learning and less about being on-task. This type of engagement was identified through formative and summative assessment practices. Participant 1 discussed that he plans lessons intentionally and this process includes different formative assessments like exit tasks that show if the students were engaged in the lesson and learned the intended outcome.

“I am thinking an important element in tracking student engagement is looking at formative and summative assessments. It’s not just if they complete assignments that show they are engaged, but it also matters if they’re learning. It’s important to honor their thinking; one student said, ‘due to the new things I learned today, my understanding about what gravity is has changed’ she said this in an exit slip, so I think this quick formative assessment also shows her engagement”. (Participant 1)

“I track student engagement in class through monitoring the students’ work and looking over-assessments you can see who was engaged in the learning. But this is hard with the hybrid learning model. It is almost impossible to track and monitor student engagement and learning or to teach conceptually”. (Participant 2)

“There are signs and clues all of the time that show student engagement. You just have to be watching for them and then quickly step in to help re-engage when needed.”

(Participant 6)

Thematic Findings

The following six themes emerged from the data analysis student ownership of their learning, student choice, inquiry, positive relationship, monitoring student learning, and meaningful formative and summative assessments.

Thematic Finding 1: Student Ownership

The first theme that emerged in the coding process was student ownership of their learning. This refers to the idea that students have a personal interest in investigating the topic or coming up with meaningful action. When students have ownership of their learning, they might be driven to continue learning about it after the unit ends or be inspired to create real-life solutions. All of the participants reported that student ownership of learning has a positive impact on student academic engagement.

It became evident in the teachers' responses that a critical element to student engagement is for the students to be empowered to investigate things that matter to them personally so they are driven to learn more. Ownership is an intrinsic desire from the student to do more. This is not something that can be contrived or pushed onto the student from an outside force. For example, Participant 3 described,

Ownership is a huge part of getting student buy-in. Ownership matters; I think that I'm not just up there telling students what they have to learn, but I let kids find something they're interested in and just guide them to the learning outcomes through what matters to them.

Participant 4's response was similar, as they reported,

Young students need to have ownership of what they're doing. This is about them taking responsibility for their learning and seeing the value it has for them personally. When students see that they have ownership and it is not about what the teacher wants, they are willing to take the learning further.

Thematic Finding 2: Student Choice

Throughout the interviews, the participants repeatedly identified student choice as having a positive impact on student learning. Closely connected to student ownership is student choice. The two concepts, though intricately connected, have some distinguishing principles. Student choice refers to the idea that the teacher has provided opportunities for the student to self-select the direction or topic that will be discussed. These are situations set up by the teacher where students will have the opportunity to control the direction of the learning. The excerpts below describe the importance of student choice. Participant 1 suggested,

I think having a product that has some choice in it is also helpful because maybe they're choosing to demonstrate their understanding in a different way. Rather than ensuring that each child goes from step A to step B, I think it is important to say here is the essence of what we want you to understand, and there is going to be all of these things feeding into that, we're going to come at it from this way and that way and see how things connect with each other for you to show a greater understanding.

Participant 2 reflected more specifically on the role of the teacher in guiding student choice, stating,

There are times when choices are good for students to make and times when the teacher needs to set out the path for the learning and make the choices for the students. My classroom is student-centered in that students and their choices matter. Like a conductor, I am in the center, but it is about the students. I create all opportunities for students to have choices in their learning, and these moments they are engaged in their learning.”

A third participant connected student choice-making to the development of life skills . . .

choice is an important element in learning. If we want students to grow into adults who can make big decisions about life, we have to start building them up with small choices in determining how they want to learn something, or what they want to research, or how they will show what they learned. Every decision we make for the students takes away an opportunity for them to learn from their choices. (Participant 3)

Thematic Finding 3: Inquiry

The third theme that emerged which is connected to student ownership and choice is the intentional decisions teachers make around instruction. The participants consistently spoke about the impact of the combination of concept-based instruction and inquiry. These processes provide opportunities for students to ask authentic questions about their learning and focus on a specific area of personal interest while also looking at the conceptual connections that bind topics together. The participants stated in the interviews that providing opportunities for student inquiry had a positive impact on student learning and engagement. For example, Participant 1 described,

Concept-based curriculum and instruction is an important part of student engagement as it helps students build understanding. I am learning how to structure learning experiences where students inquire and construct knowledge. Where they are active participants in the learning, my students care more about their learning, and they're engaged with what they're doing.

Participant 3 explained why inquiry was important for learning,

I intentionally plan for inquiry. The students know when they're just going through a system or program versus something crafted for them...kids are way more engaged. They know it, and it matters and they're more engaged.

Participant 6 was in alignment when stating,

Giving students the opportunity to inquire into the subject matter and construct their own learning experience creates a deeper level of engagement.

Thematic Finding 4: Positive Relationships

The fourth theme that emerged in each interview is the importance of having strong relationships with one's students and knowing them as a whole person, including their interests outside of school, not just academically. Each of the participants identified having positive relationships and rapport with students had an impact on student learning and the classroom environment. The participants identified that connecting with students on a personal level not only decreases behavior management issues but increases students' engagement and on-task time.

Participant 2 stated that,

Knowing what interests my students have outside of school and supporting them in these endeavors helps me plan learning experiences that will accentuate their strengths and build on their challenges.

Participant 3's response was similar, stating

You have to build relationships with your kids. You have to know them as people, know their strengths and challenges academically and personally. This helps with behavior management in the classroom, but it helps you build learning experiences for the students that matter, so they're engaged in the learning.

Participant 4 discussed the importance of relationships

When I was in school to become a teacher one of my professors told us a quote, and it was like no learning can happen without a relationship, and that stuck with me because it was true for me growing up, so I believe it is still true for my students. They will work

harder for me once they know I care about them and that their learning and lives matter to me, as a person, not just as their teacher.

To further express the significance of relationships, Participant 8 stated, Building relationships in the classroom is the first thing I focus on. Knowing my students' individual personalities and how they work together is essential in building the best learning experiences for them. I need to know who they are as people and their academics strengths and weaknesses to make sure I can stretch their thinking while supporting them in other areas.

Thematic Finding 5: Monitoring Student Learning

The fifth theme that emerged throughout the interviews was the importance of monitoring student engagement during the learning process. The participants consistently mentioned monitoring student learning behaviors such as time on task, work completion rates, asking relevant questions, and participating in class discussions as an integral component of student learning and engagement. None of the teachers interviewed identified a specific list of procedures for the process but all the participants were able to explain what student engagement looks like and the importance of monitoring it.

Participant 1 stated

The process of tracking and monitoring student engagement is important because there are different ways to be engaged in the learning. I think teachers need to be vigilant in watching the students and listening because they say really great things that help you know where to go next or a guiding question to ask to prompt further investigation. I think having students share their learning journey creates engagement opportunities because they know the learning is about them and where they are.

Participant 3 explained,

Part of engagement is also knowing what disengagement looks like when students are dozing off, distracted, wandering around the room, or bothering their friends; you know they are not engaged in the learning. I look for students who are discussing the work, building their background knowledge, and leaning into the work, then I know they are engaged.

Participant 4 elaborated this idea by saying,

I think monitoring for engagement leads to deeper understanding and helps me guide the students to make the conceptual connections. I am constantly monitoring the class for engagement because this is how I can track the students' learning but it is also how I can ensure that I am planning appropriate learning experiences for them. I am constantly listening to their questions, tracking their thinking, and having them share to see that they are really engaged in the learning that matters.

Participant 10 went on to explain how she intentionally monitors her class,

I am constantly walking around the room listening to students, listening for the questions they ask each other because I want to know the big ideas and concepts they are pondering and how they are making meaning. I can only really do this if I am listening to them and writing down their questions and thinking. I just think that listening to the students is a great way to see where they are in their learning journey and to know if they are grasping the concepts. It is important for the students to know where they are and to receive constant feedback for them to stay engaged.

Thematic Finding 6: Assessment Practices

The sixth and final theme that emerged from the participant interviews was the importance of assessments in tracking and monitoring student learning and engagement. The participants frequently identified both formative and summative assessment practices as an important element in student learning and overall student engagement. However, the effective use of formative assessments as part of the learning journey and continuous feedback loop to strengthen students' knowledge and guide the teachers' instruction was more frequently noted as having a significant role in engagement than summative assessments. The participants addressed the need to continuously know where the students are in their learning through the intentional use of both formative and summative assessments.

Participant 1 described the use of assessment,

I need to authentically assess students' conceptual understanding to give students the opportunity to show their understanding in a way that works for the students. One simple question to put at the end of every assessment is, what other understanding do you have that I didn't ask? What a great open-ended way for me to give a student another opportunity because I can design an assessment with the truest of intentions to try to grasp a child's understanding but still miss something.

In addition, participant 2 included,

It is important to have different types of assessments and learning experiences. I also think it is important that there are different types of assessments for different subjects...

When I am doing a unit of inquiry, we have a different type of assessment that gets at the conceptual understanding, but it takes both.

Participant 5 discussed the importance of multiple types of assessments,

Working within a conceptual framework, it is very important to assess the students in a meaningful way...The facts they need to know to help them construct meaning and ultimately I want to measure the big ideas, not the little details that led the students there. These things become evident in their reflections, but an authentic assessment allows the students to grow as learners, not just show that they know something.

Participant 7 addressed the need to balance formative and summative assessments throughout the learning journey,

Measuring student understanding through frequent formative assessments helps me know that I am on the right track in helping them get to the end goal. This is especially important when students are taking different paths to the same endpoint. The only way to ensure that they're all going to get there is to check for understanding and then make sure the final assessment drives at the conceptual understanding, not at the facts that built the understanding.

Summary of Results

This chapter presented the results from the qualitative interviews. Each participant was asked a series of questions about concept-based curriculum and instruction and engagement practices in a semi-structured interview. In this process, the participants discussed their experience with concept-based curriculum and instruction and its influence on student academic engagement through the analysis of these interviews, six themes emerged. The first theme that emerged from the interviews was student ownership of their learning. Throughout the interviews participants revealed there was a positive impact on student engagement when students have a personal vested interest in their learning and see value in the work they are doing. The second theme was student choice in their learning. Although there is some crossover between student

ownership and student choice, there are some distinct differences. Student ownership is an intrinsic desire on the student's part to complete the work, while student choice is an option the teacher provides in the work. Students have a choice in how they demonstrate their learning. The third theme aligned with teachers' instructional decisions was inquiry. A teaching approach that allows students to ask meaningful questions and construct meaning. The fourth theme that emerged from the data was the impact of positive relationships and rapport when engaging students in their work. Relationships are built on mutual respect when the students can feel that their teachers care about them as a whole-child not just their academics. The interviews showed that when teachers took the time to build relationships with their students, they saw an increase in academic engagement. The fifth theme was the importance of monitoring for student learning in the classroom. The participants discussed the need to constantly monitor what the students are doing and tracking their conversations to drive instruction and to re-engage the students when they seem to be drifting away from the task at hand. The sixth and final theme that emerged from the data was the need to intentionally include both formative and summative assessments to track student learning. The participants identified that timely and effective feedback on formative assessments created opportunities for students to engage meaningfully in their work and guided them to know their strengths and what to focus on next.

Chapter 5 shows a complete analysis of the six themes identified in this chapter along with how the themes addressed the initial research questions, implications of the research, limitations of the study, and possible next steps in recommendations for future research.

CHAPTER 5

FINDINGS

Determining if concept-based curriculum and instruction had an influence on student academic engagement was the premise behind the research study. There is a growing body of research stating the need for student engagement to keep students in school and reduce dropout risk factors. Students engaged in school have increased attendance rates, assignment completion rates, overall grades, and involvement in school activities as compared to students identified as disengaged in school (Finn & Zimmer, 2012; Gettinger & Walter, 2012). However, there is no clear evidence that a specific instructional practice may influence engagement.

Elementary teachers who have had taught in the International Baccalaureate Primary Years Programme framework were the target population for this research study. Ten certified teachers with global teaching experience participated in one-on-one virtual semi-structured interviews to discuss their experiences with student learning, engagement, and the training they have participated in. The interview questions were chosen to specifically answer the research questions and determine if concept-based curriculum and instruction influences students' academic engagement.

The researcher chose a qualitative research design with semi-structured one-on-one interviews focused on the following research questions:

1. What are teachers' perceptions of student engagement and what it looks like in the classroom?
2. What learning experiences are the most engaging for the students as perceived by the teacher?

3. How do teachers characterize the connections between greater engagement and quality of student learning?

Theme 1: The participants consistently spoke about how student ownership of their learning has a positive impact on student academic engagement.

Theme 2: The participants identified examples of how student choice in the classroom has a positive impact on student learning.

Theme 3: Each participant provided examples of how providing opportunities for student inquiry had a positive impact on student learning and engagement.

Theme 4: The participants identified having positive relationships and rapport with students as influencing student learning and the classroom environment.

Theme 5: Each of the participants mentioned having strategies for monitoring student learning behaviors as an integral component of student learning and engagement.

Theme 6: The participants identified intentional formative and summative assessment practices as an important element in student learning and engagement.

Interpretation of the Findings

The ten participants in this study provided a wealth of qualitative data that can guide not only educators and school policymakers but also psychologists, psychiatrists, and all professionals concerned with the crushing side effects of student disengagement. The participants shared from a global perspective how concept-based instructional strategies have a positive influence on student academic engagement and overall success in school. They shared how intentionally planning for students' learning can build their capacity and desire to own their learning. Each interview provided the researcher an opportunity to listen deeply to their words

and experiences and uncover common themes. The results of the interviews showed that teachers from around the world with different experiences in a variety of countries agreed that student ownership, student choice, instruction and curriculum, strong relationships, authentic assessment practices, and monitoring for student engagement are essential elements of student academic engagement.

Research Question 1

The first research question addressed the participants' perception of student engagement and what it looks like in the classroom. Jenson (2008) stated that engagement requires that the students are paying attention to the work they are doing and making sense of the task. All ten participants said that they intentionally track and monitor student engagement in their classes although none of the participants had a formalized checklist or tracking system. The participants identified behaviors as time on task, meaningful dialogue with classmates, class participation, and focus as characteristics of students who were meaningfully engaged in their work. These engagement behaviors aligned with current research stating that teachers can monitor for eye contact to see if they're paying attention, ensure that they can answer the questions asked in class, seeing their conversations are focused on learning and that they are on task (Reschly et al. 2012).

Research Questions 2

The second research question addressed the most engaging learning experiences for students as perceived by the teacher. All participants were able to clearly identify experiences within their classrooms when students were more authentically engaged in meaningful work. Although the experiences varied, participants identified providing students with choice in their learning, differentiating activities, student ownership of learning, and providing meaningful

feedback as learning experiences that increased student engagement. The participants' experiences aligned with current research as Erickson et al., (2017) identified how aligning classroom instruction with a concept-based approach allowing students to engage meaningfully in the work, use higher-order thinking strategies and executive functioning skills increases student ownership in their learning and academic engagement. Allowing students to have learning experiences that encourage the transfer of learning builds independence and engagement with the learning (Erickson, 2002).

Research Question 3

The third research question was looking at how teachers characterize the connections between greater engagement and the quality of student learning. Tomlinson (2014) argued that for students to learn new information and have the capacity to transfer this learning to new situations, the learning had to make sense to the students, have relevance to the students' lives and connect to their prior knowledge. Each participant identified times when students were engaged in thought-provoking as times of quality of the learning. For example, when students' self-systems were activated and they cared about the work because it was relevant to the students' lives, they were engaged and produced quality work. The shift from covering content and separate facts to learning broad concepts has to occur for learning to align with how the brain processes new information (Erickson & Lanning, 2014). The participants identified the importance of students caring about their work and having buy-in to the learning as key to increasing the quality of the students' work. The participants identified a link between more intentional provocations, the level of student engagement in the lesson, rigor, and the quality of the work.

Recommendation for Action

The findings of this research show that there is a strong correlation between concept-based curriculum and instruction and student academic engagement but there are too many variables to draw a straight causal link between the two. The participants expressed clear connections between concept-based lessons and engagement. Ensuring that students are engaged in their learning and find purpose in their work is an essential element to the learning process. To meet this end, the researcher finds the following actions as necessary to move education and learning forward.

The first recommended action from this study is providing training for teachers and administrators on the process of how the brain takes in and learns new information and how teaching strategies can support this process. The more information educators have on teaching and learning, the better prepared they will be to help students learn and engage in powerful work. Teaching is the only profession that intentionally changes the brain on a daily basis, every element of the classroom from social and emotional safety, work time, and planned assessments change the students' brains (McTighe & Willis, 2019). Teachers need to be aware of how the brain takes in new information and moves it from working to long-term memory if they want students to be able to access their learning at a later time (McTighe & Willis, 2019).

The second recommendation that arose from the research study is the need for balance in content coverage and meaningful learning. The educational leaders in the communities, including schools, districts, and states, need to support teachers in finding a balance between covering the standards, teaching a mandated curriculum and allowing students free choice in their learning engagements. There needs to be structure to ensure that all students are receiving the same or similar content, but it cannot be so rigid that we lose the learner. Based on the

research from Wiggins and McTighe there is not enough time in the K-12 system to cover all of the standards. This is placing too high a demand on the students to cover material without spending the time to learn the concepts and dig deeper into the learning.

The final recommendation from this research study is to allow teachers the time needed to build strong relationships and rapport with their students. This can include time in the day dedicated to team building, mindfulness, and choice activities. These times would allow teachers the time to connect with the students and see their interests beyond learning and school. This time should be seen as valuable learning time because this is how the teachers glean information to use in provocations and to support students in new ways. These unstructured moments allow relationships to grow and trust to flourish.

Recommendations for Further Study

Student drop-out rates, poor attendance, and apathy toward school is a growing problem in the United States. It is becoming more important to connect students with school and their learning because students who are disengaged from school are more likely to have discipline problems, be off-task during class time, get suspended, and dropout (Balfanz, Byrnes, and Fox, 2014). As the stakes become higher it is clear we have to continue researching ways to engage and connect all students in their learning.

The first recommendation for further study is to research how to support teachers in balancing the number of standards that are expected to be covered in some of the most popular like AERO or Common Core Curriculum Standards and the quality of instruction. As teachers feel pressured to cover the standards, they are more likely to cram more information in a shorter amount of time, focusing on direct instruction practices rather than allowing students the needed time to digest and process the new information. Taking time to intentionally research the

ramifications of this action and how to properly fix it would be helpful for the education system and the learners currently drowning in the system.

The second recommendation for further study is to study the connection between inquiry, concept-based curriculum and instruction, and student learning. Inquiry is an essential element in the PYP framework, and thus all participants in the study addressed the significance of it in their students' learning; however, the focus of this research was on the elements of concept-based curriculum and instruction so looking more intentionally at the connection and impact on student learning would be powerful for the education community and students.

The third and final recommendation for this study is to look at how assessment practices impact student learning and student engagement. The participants in this study spoke eloquently about the need to have meaningful assessments that drive student learning. The participants discussed how formative assessments are a catalyst for identifying where to go next in the learning and how to properly support the students. Formative assessments are guiding the teachers in making instructional decisions and identifying when to support the students and when to push them further in their learning. The participants spoke about student-generated action as a form of summative assessment. Looking more deeply at how assessment supports students, and their learning would be impactful to support student learning, increase buy-in and engagement in the classroom.

Limitations

This section will reiterate the potential limitations addressed in chapter 3 and identify how these potential limitations were exposed in the final research study.

The first identified limitation in the study was the sample size. It was identified as a potential limitation, however; with ten final participants the sample size was smaller than had

been hoped for during the initial planning of the research study. The sample size reduces the number of people with whom to seek feedback and draw conclusions. If further research were to be done on student engagement and concept-based curriculum and instruction a larger sample size would be beneficial.

The second limitation was the sample population. The researcher used a targeted group of PYP teachers to ensure there would be a clear understanding of the language and instructional practices connected to concept-based curriculum and instruction. This intentional choice may have led to a biased sample population that was could be overly supportive of the learning structures in the PYP framework. All participants shared positively about the learning and impact on student engagement. If the research were to be expanded, the researcher would recommend seeking participants from other groups and curriculum structures.

The final limitations of Covid-19 and the time frame were deeply connected. There were a number of delays and issues connected to getting approval and beginning the interviews that limited the time frame for the interviews that were connected to the onset and spread of the global pandemic. The delay required that the interviews take place in the Fall when all the participants were trying to navigate a new school year with new guidelines and restrictions. Some were starting the year on-line, some face to face, and some were in new countries trying to navigate several unknowns. This led to shortened interview times and a shorter window of time have the interviews.

Conclusion

Academic engagement is an essential element of student success in school. Research has shown that the teacher, the curriculum and instruction, and the classroom environment play a significant role in student success (Christenson et al., 2012).

The participants in this study revealed that concept-based curriculum and instruction had a positive impact on student academic engagement. When students were provided the opportunity to connect with content conceptually during the units of inquiry, they were more willing to participate and ask meaningful questions than when the teachers used other instructional formats. Participant 3 explained, “students know when they are just going through a system especially, by 5th or 6th-grade kids start to figure that out...the kids can sense that. So [in concept-based] learning, they are way more engaged because they’re like, wow, this teacher is going all out and doing all these things for me to make this year such a good year for my education, and the kids just know.” This is the lasting impact of providing students with a concept-based model that allows for student inquiry and ownership of their lived learning experiences.

The teacher, the classroom, and the instructional decisions have an incredible impact on student success and their beliefs about who they are as learners. The participants in this study intentionally chose every day to ensure that their students felt cared for and had a choice in their learning. These experiences create engaging learning environments where both the teacher and the students grow the flourish together.

References

- Appleton, J. J., Christenson S. L., & Furlong M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*(5), 369-386. Doi:10.1002/pits.20303
- A transdisciplinary programme of inquiry.* (2020, April 3). International Baccalaureate Organization. http://resources.ibo.org/pyp/works/pyp_11162-51465?root=1.6.2.10.5.3
- Balfanz, R., Herzog, L., & MacIver, D. (2007). Preventing student disengagement and keeping students on the graduation track in high-poverty middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*(4), 223–235.
- Balfanz, R. Byrnes, V. and Fox, J. (2014). Sent home and put off-track: The antecedents, disproportionalities, and consequences of being suspended in the ninth grade. *Journal of Applied Research on Children: Informing Policy for Children at Risk, 5*(2), Article 13. Available at: <http://digitalcommons.library.tmc.edu/childrenatrisk/vol5/iss2/13>
- Christenson, S. L., Reschly, A. L., & Wylie, C. (Eds). (2012). *Handbook of research on student engagement*. Boston, MA: Springer. doi:10.1007/978-1-4614-2018-7
- David, L. (2014). "Social Development Theory (Vygotsky)," in *Learning Theories*, July 23, 2014. <https://www.learning-theories.com/vygotskys-social-learning-theory.html>.
- Davidson, S., & Carber, S. (2009). *Taking the PYP Forward*. Suffolk, United Kingdom: John Catt Educational.
- Dewey, J. (1938). *Experience and education*. New York: McMillan.

Erickson, H. L. (2002). *Concept-based curriculum and instruction teaching beyond the facts*.

Thousand Oaks, CA: Corwin Press, INC.

Erickson, H. L. (2008). *Stirring the head, heart, and soul Redefining curriculum, instruction, and*

concept-based learning. Thousand Oaks, CA: Corwin Press, INC.

Erickson, H. L. & Lanning, L.A. (2014). *Transitioning to concept-based curriculum and*

instruction: How to bring content and process together. Thousand Oaks, CA: Corwin

Press, INC.

Erickson, H. L., Lanning, L.A., & French, R. (2017). *Concept-based curriculum and instruction*

for the thinking classroom. Thousand Oaks, CA: Corwin Press.

Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S.

L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student*

engagement (p. 97–131). New York, NY: Springer Science + Business Media.

https://doi.org/10.1007/978-1-4614-2018-7_5

Fredricks, J. A., Blumenfeld, P.C., & Paris, A.H. (2004). School engagement: Potential of the

concept, state of the evidence. *Review of Educational Research*, 74, 59-109.

Gettinger, M., & Stoiber, K. (2009). Effective teaching and effective schools. In T. B. Gutkin &

C.R Reynolds (Eds.). *The handbook of school psychology* (4th ed., pp. 769-790).

Hoboken, NJ: John Wiley.

Gettinger, M. & Walter, M. J. (2012). Classroom strategies to enhance academic engaged time.

In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student*

engagement (p. 653–673). New York, NY: Springer Science + Business Media.

- Janosz, M. (2012). Outcomes of engagement and engagement as an outcome: some consensus, divergences, and unanswered questions. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (p. 653–673). New York, NY: Springer Science + Business Media.
- Jensen, E. (2008). *Teaching with the brain in mind*. Alexandria, VA: ASCD
- Kalpana, T. (2014). A constructivist perspective on teaching and learning: A conceptual framework. *International Research Journal of Social Sciences*, 3(1), 27-29 retrieved from <http://www.isca.in/IJSS/Archive/v3/i1/6.ISCA-IRJSS-2013-186.pdf>
- Kohn, A. (2018). Twenty-Fifth anniversary edition, *Punished by rewards: The trouble with gold stars, incentive plans, A's, praise, and other bribes*. Boston: Houghton Mifflin Co.
- Lovelace, M. D., Reschly, A. L., & Appleton, J. J. (2017). Beyond school records: The value of cognitive and affective engagement in predicting dropout and on-time graduation. *Professional School Counseling*. <https://doi.org/10.5330/1096-2409-21.1.70>
- Martin, F. & Bolliger, D.U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning* 22(1), 205-222. doi:10.24059/olj.v22i1.1092
- McLeod, S. A. (2018, June 06). Jean Piaget's theory of cognitive development. Retrieved from <https://www.simplypsychology.org/piaget.html>
- McTighe, J., & Willis, J. M.D. (2019) *Upgrade your teaching: Understanding by design meets neuroscience*. Alexandria, VA: ASCD
- Murdoch, K. & Claxton, G., (author of introduction) (2015). *The power of inquiry: teaching and learning with curiosity, creativity, and purpose in the contemporary classroom*. Northcote, Vic: Seatsar Education

- Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (p. 3–19). Springer Science + Business Media
- Ritchhard, R. (2015). *Creating cultures of thinking: The 8 forces we must master to truly transform our schools*. San Francisco, CA: Jossey-Bass.
- Rumberger, R. W., & Lim, S. A. (2008). Why students drop out of school: A review of 25 years of research. *California Dropout Research Project* (Report #15). Santa Barbara, CA: UC Santa Barbara, Gevitz Graduate School of Education.
- Schmoker, M. J. (2011). *Leading with focus: Elevating the essentials for school and district improvement*. Alexandria, VA: ASCD.
- Sousa, A. D. (2016). *How the brain learns*. Thousand Oaks, CA: Corwin Press.
- Sousa, A. D., & Tomlinson C.A. (2011). *Differentiation and the brain: How neuroscience supports the learner friendly classroom*. Bloomington, IN: Solution Tree Press.
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners*. Virginia: ASCD.
- Tomlinson, C., & McTighe, J. (2006). *Integrating differentiated instruction and Understanding by Design: Connecting content and kids*. Alexandria, VA: ASCD.
- Vibert, A. B., & Shields, C. (2003). Approaches to student engagement: Does ideology matter? *McGill Journal of Education*, 38(2), 221-240.
- Wiggins, G., & McTighe, J. (2011). *The understanding by design guide to creating high quality units*. Alexandria, VA: ASCD.
- Yang, C., Sharkey, J. D., Reed, L. A., Chen, C., & Dowdy, E. (2018). Bullying, victimization,

and student engagement in elementary, middle, and high Schools: Moderating role of school climate. *School Psychology*, 33(1) 54-64. doi: 10.1037/spq0000250

Appendix A

Participant Survey

Directions: This one-on-one interview is on a volunteer basis and completely confidential. By proceeding to participate in the interview you are providing consent to use the data collected for the purpose of research for my dissertation. If at any point you feel uncomfortable answering the questions, you may request to end the interview. Please answer each question as thoroughly and thoughtfully as possible.

For this interview use the following definitions for these terms:

Student academic engagement: Includes students' attitudes about their work, assignment completion rates, and participation in class (Appleton et al., 2008, p. 370).

Concept-based curriculum and instruction: A framework that goes beyond the traditional two-dimensional framework for what students know (information) and can do (skills and process) to include the third dimension of understanding (conceptually significant and transferable to new learning experiences).

1. How many years have you been in education, and what roles have you been in?
2. Describe your current teaching environment, including the school structure and make-up of the student body, curriculum standards, and instructional programs. (For example, International Bachelorette, IGCSE, A levels, common core standards)
3. Please tell me about specific training on concept-based instruction and its impact on your teaching pedagogy.
4. Have you received specific training on student engagement practices? Describe its impact on your teaching pedagogy.
5. How do you know when students are engaged in the learning, and how do you monitor for student engagement in your class?
6. Describe what student engagement looks like in your classroom.
7. How do you intentionally plan learning experiences that focus on students' conceptual understandings?

8. What impact has the implementation of concept-based instructional practices had on student ownership of their learning and engagement?
9. How has the implementation of concept-based instructional practices influenced student engagement levels in your classroom?
10. How do you track student engagement in the classroom?

APPENDIX B

**UNIVERSITY OF NEW ENGLAND
CONSENT FOR PARTICIPATION IN RESEARCH**

Project Title: The Influence of Concept-Based Instruction on Student Academic Engagement

Principal Investigator(s): Amanda Romey

Introduction:

- Please read this form. You may also request that the form is read to you. The purpose of this form is to give you information about this research study, and if you choose to participate, document that choice.
- You are encouraged to ask any questions that you may have about this study, now, during or after the project is complete. You can take as much time as you need to decide whether or not you want to participate. Your participation is voluntary.

Why is this research study being done?

To gain information on educators' perception of the influence of concept-based curriculum and instruction on students' academic engagement.

Who will be in this study?

PreK-6 educators who are willing to participate in a semi-structured interview and reflect on their use of concept-based and their perception of student academic engagement.

What will I be asked to do?

Participate in a semi-structured one-on-one interview with the researcher.

What are the possible risks of taking part in this study?

There are limited risks associated with participating in the study as your identity and identifying characteristics will be revealed in the research. Furthermore, all data will be stored on a password protected computer and printed materials will be locked in a cabinet.

What are the possible benefits of taking part in this study?

The benefit to the participants is an opportunity to share their story and reflect on their instructional practices and student engagement.

What will it cost me?

There is not a cost associated with participating in the interview

How will my privacy be protected?

You will be assigned a number that will be used in the research and all identifying traits will be removed from the research paper.

How will my data be kept confidential?

All data will be kept secure on a password protected computer and all printed materials will be kept in a locked file.

What are my rights as a research participant?

- Your participation is voluntary. Your decision to participate will have no impact on your current or future relations with the University.
- Your decision to participate will not affect your relationship with the researcher.
- You may skip or refuse to answer any question for any reason.
- If you choose not to participate there is no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You are free to withdraw from this research study at any time, for any reason.
 - If you choose to withdraw from the research there will be no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You will be informed of any significant findings developed during the course of the research that may affect your willingness to participate in the research.
- If you sustain an injury while participating in this study, your participation may be ended.

What other options do I have?

- You may choose not to participate.

Whom may I contact with questions?

- The researchers conducting this study is Amanda Romey
 - For more information regarding this study, please contact Amanda Romey aromey@une.edu
- If you choose to participate in this research study and believe you may have suffered a research related injury, please contact

- If you have any questions or concerns about your rights as a research subject, you may call Mary Bachman DeSilva, Sc.D., Chair of the UNE Institutional Review Board at (207) 221-4567 or irb@une.edu.

Will I receive a copy of this consent form?

- You will be given a copy of this consent form.

Participant's Statement

I understand the above description of this research and the risks and benefits associated with my participation as a research subject. I agree to take part in the research and do so voluntarily.

Participant's signature or

Date

Legally authorized representative

Printed name

Researcher's Statement

The participant named above had sufficient time to consider the information, had an opportunity to ask questions, and voluntarily agreed to be in this study.

Researcher's signature

Date

Printed name