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Teachers' Knowledge, Perceptions, and Practices About Mindset in the Northern Mariana Islands

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Walden University
2018

Abstract

Teachers' Knowledge, Perceptions, and Practices About Mindset

in the Northern Mariana Islands

by

Bobby James Aguon Cruz

MA, Framingham State University, 2012

BS, University of Guam, 2010

Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

December 2018

Abstract

The problem studied was the poor academic achievement of middle school students in the Commonwealth of the Northern Mariana Islands (CNMI). Research indicates that a growth mindset positively affects a student's academic achievement and motivation to learn. However, despite the importance of mindset in fostering student success and enhancing learning, mindset remains underexplored in the CNMI. The purpose of this generic qualitative study was to fill this gap in knowledge by investigating teachers' knowledge, perceptions, and practices concerning mindset in the CNMI. Three research questions examined teachers' knowledge and perceptions of mindset in the CNMI and how teachers described and demonstrated the use of mindset in their practices. Dweck's seminal work on mindset served as the conceptual framework. Social constructivism guided the study process. Qualitative data were collected from 15 purposively sampled teachers at a local CNMI middle school. Data were analyzed through categorization and codification, from which emerging themes were used to answer research questions. Results indicated that teachers in the local middle school have limited knowledge and inaccurate perceptions regarding the mindset concept. Accordingly, the analysis recommended the need for and served as the basis for the design of a professional development workshop about mindset for teachers throughout the CNMI to enhance teacher instruction and improve student learning, thus promoting positive social change.

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Dedication

This study is dedicated to my family. It is for my mother, Patricia Aguon-Cruz, who is my greatest supporter and whose love for me is unconditional. It is for my Dad, who although has since passed away, would have been very proud and overjoyed for my achievement - I love you, dad! It is for my grandfather, Santiago Aguon, who is the patriarch of our family and a role model of hard work. This one is for you too pop! It is for my husband, Daniel Brown, who has stood by me through this entire journey, endured my difficulties, and given me the encouragement and love to keep going. It is for my one and only sister, Bonny Cruz, who means the absolute world to me and who has always been my cheerleader. It is for my brother-in-law, Billy Grow, who is a gentle giant and voice of positivity. To my extended family, you all were proud of me before I completed this degree. Your love and faith in me has made my success evitable. I love you guys. I love you all more than words can express.

This study is dedicated to my friends. It is for Lorraine Catienza and Annette Pladevega, who has helped me personally and professionally throughout this long journey. It is for my dear friends, Hazel Tudela and Cherlyn Cabrera, both of whom have stood in faith with me through difficult times. It is also dedicated to Yvonne Pangelinan, my boss and friend, who has urged me on and motivated me to keep going. It is for Lynette Villagomez, who is my dear friend and mentor.

To you all, I would not have made it to this point without your love and support.

This study is ultimately dedicated to my God, my Heavenly Father, who has kept me firmly in His grasp through each moment of this challenging process.

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I also acknowledge my Marianas March Against Cancer Family, all of whom given me a perspective that urges me to add value to my community. To all the members of my loving Marinas community, thank you all for cheering me on. Your words of encouragement fueled my fire to keep going. To my colleagues in the Commonwealth of the Northern Mariana Islands who so passionately work to ensure that all students live meaningful lives, I thank you for always reminding me of the power of education.

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Section 1: The Problem

The Local Problem

The poor academic achievement in middle schools in the Commonwealth of the Northern Mariana Islands (CNMI) is a perceived problem. As one middle school principal, shared, "Academic achievement across content areas in middle school has been relatively stagnant," Addition of nonacademic variables like a student's attitude towards learning might be the reason for the lack of growth (personal communication, May 22, 2017). Another middle school administrator, noted that the "primary curricular resources and lesson planning tools are not the issue," speculating that "there's something with instruction that needs to happen to help students stay motivated to learn" (personal communication, May 22, 2017). Pladevega, the coordinator for research and evaluation, discerned that "there is little focus on noncognitive elements, like students' *mindset* for instance, and we are not doing enough as a system to see what impacts [these] have on learning." Given that the academic factors that influence student achievement are in place, the problem of poor academic performance among middle school students in the CNMI is perceived to be related to the noncognitive factor of mindset and attitude towards learning. An investigation of the affective domain as addressed pedagogically presented an opportunity to understand the constructs of attitudes, values, and motivations and their impact on teaching and learning. Such constructs receive little attention in research given the difficulty to measure such constructs (Akos & Kretchmar, 2017). Affective factors, also known as *noncognitive factors*, influence an individual's potential for success (Chen et al., 2018; Henter, 2014;). As Dweck (2006) noted,

mindset—a noncognitive factor—has far-reaching implications on whether an individual succeeds or fails in any endeavor, but most especially in academics. While scholarship has displayed reconciliation between theory and practice as it relates to mindset and its positive correlation to success across the larger educational realm, the context of mindset among teachers in the CNMI remains unexplored. This lack of exploration underscores the urgency to address the problem of the lack of understanding about teachers' knowledge, perceptions, and practices about mindset in their classrooms.

The idea of mindset arises from the seminal work of C. Dweck, a renowned Stanford University professor and psychologist who has studied how individuals' perceptions of their intelligence and learning affect their achievement across disciplines. Dweck refashioned how mindset is perceived and brought it to the forefront of academic conversation. In particular, Dweck emphasized how mindset matters because of its direct correlation to achievement and success. She concluded that this simple idea has the potential to make all the difference in either enhancing students' achievement and growth or determining learning plateaus and subsequent failure. Thus, the focus of this project was on mindset, which is defined as the "lay beliefs about the nature of human attributes, such as intelligence or personality" (Dweck, 2012, p. 615).

According to Dweck (2006), there are two distinct types of mindsets: (1) growth mindset and (2) fixed mindset. The disposition to either a fixed or a growth mindset can prompt continuous learning and improvement or stifle growth altogether. An individual with a growth mindset fundamentally believes they "can cultivate and improve upon [their] abilities through practice and effort" whereas those with a fixed mindset believe

their "abilities are predetermined and largely unchangeable" (Dweck, 2006, p. 1).

Furthermore, a growth *mindset* contributes to lasting effects on students' achievements as

well as the reduction of ethnic, racial, and gender achievement gaps (Miyake et al., 2016;

Walton & Cohen, 2011).

As Fitzgerald and Laurian-Fitzgerald (2016) indicated, a growth mindset gives

students the opportunity to improve, as it is contingent upon the belief that learning is

never stagnant or fixed; rather, it is a process that can be sharpened through grit and

perseverance. Noncognitive factors are generally not considerations when addressing

achievement gaps (Lee, Ning, & Goh, 2014). Lane et al. (2013) noted that a majority of

educational institutions focus only on cognitive factors when trying to ensure that

students graduate and ultimately achieve academic success. Measures such as smaller

class sizes, mandatory tutoring, and learning communities are employed as interventions.

While these typical cognitive interventions are valuable, the research on noncognitive

factors like mindset is too promising to ignore as educators work to maximize students'

success. In fact, when noncognitive approaches to education are employed, such as a

focus on attitude, effort, and motivation, many students completed their courses and

performed exceptionally well years after the noncognitive or affective intervention

(Yeager & Walton, 2011). In particular, addressing students' beliefs about their potential

learning and mindset proves to be of great significance among the plethora of

noncognitive variables.

If mindset has a significant impact on a child's potential for academic success or

failure, as Dweck (2006) highlighted, then it follows that educators need to understand

the research on mindset. In my opinion, if this is so, then teachers must address it to nurture classroom environments that promote a growth-oriented paradigm to further support the success of each student.

Given the research on mindset, it is critical for teachers to instill a growth mindset in their instruction. By employing instructional practices that support a growth mindset, Dweck (2014) observed that teachers provide the best opportunity to maximize their students' potential for academic improvement and success. This is possible through professional development intended to promote a growth mindset in classrooms throughout the CNMI, thus contributing to positive social change to address the current lack of understanding regarding teachers' knowledge, perceptions, and practices in the CNMI.

Background

In order to understand the local problem, it is important to understand the characteristics of the region in which the problem is set. The Marianas is a volcanic archipelago of 15 islands in the Western North Pacific. Excluding Guam, the 14 northernmost islands of the chain make up the CNMI. The islands are situated between Hawaii, the Philippines, and south of Japan (Owen, 2011). According to the Central Intelligence Agency's (2017) *World Fact Book,* the CNMI has a population of 52,263 with a land mass of 464 sq. km, comparatively .5 times the size of Washington, DC. Of these 14 islands, three are inhabited: Saipan, Tinian, and Rota. Saipan is the largest of the three, is the most populated, and, serves as the center of commerce and government

activity. As a point of interest, the CNMI played a significant role in the Pacific Theater during World War II as the assembly and housing site of the atomic bombs.

Despite its historical significance, the CNMI's global imprint is minuscule due to its small population and its remoteness. It is not surprising, therefore, that academic research, particularly in the field of education, is limited. The CNMI's educational system adheres to the traditional U.S. public-school framework and serves a primary populace of U.S. citizens who come from diverse Asian and Micronesian heritages. While English is not the native language, it is the principal language of education and commerce (CNMI Public School System, 2013).

This project study signals an urgency to begin to add to the existing body of educational research. Specifically, in my opinion, the research has to potential to begin addressing the lack of understanding regarding mindset knowledge, perceptions, and practices among teachers in the CNMI.

Rationale

The chief rationale of this project study was to address the current lack of understanding concerning teachers' knowledge, perceptions, and practices about mindset in the CNMI. While the recent body of scholarship shows a resolution between theory and practice as they relate to mindset across the larger educational realm and its positive connections to success and achievement, the study of mindset in the CNMI remains wholly ignored. As a result, the lack of understanding about teachers' knowledge, perceptions, and practices about mindset in their classrooms is underscored.

As is pointed out in the subsequent problem section, the poor academic achievement in middle schools in CNMI is a perceived problem. According to Villagomez, CNMI Public School System Associate Commissioner of Accountability, Research, and Evaluation, noncognitive factors, or the affective domain, that include concepts such as attitude, effort, motivation, and mindset, are not consistent instructional considerations. Villagomez shared that while teachers may intuitively consider the affective domain, there is currently no data available to meaningfully measure how these related variables impact instruction in the CNMI (personal communication, May 24, 2017). Among these noncognitive variables is mindset, as it affects a child's potential for success or failure. Villagomez punctuated the need for mindset perceptions and practices to be explored and, somehow, integrated as an instructional consideration that can be measured. Villagomez is convinced that fostering a growth mindset in teachers and students will improve teaching and learning outcomes in the CNMI (personal communication, May 24, 2017).

Pangelinan, an Associate Commissioner of Student Support Services for the CNMI Public School System, corroborated Villagomez's sentiments (personal communication, May 26, 2017). She shared that the notion of mindset is still a relatively new idea in the CNMI. While Pangelinan has heard the concept of fixed and growth mindset referenced among leadership and is aware of the research implications of Dweck's work through various educational journals, there is currently no standard instructional approach to her knowledge in the CNMI that promotes a growth mindset in classrooms. Pangelinan echoed Villagomez' sentiment by sharing that there is a need to

explore mindsets among educational practitioners in the CNMI in order to better support

student achievement.

Catienza, a high school teacher leader in the CNMI with 10 years of experience,

noted that the modified Understanding by Design lesson planning tools currently

mandated by the district for lesson planning address a range of important academic

considerations including objectives, learning tasks, assessments, and intervention;

however, the tool does not address the affective domain. Student attitude, motivation, and

mindset, for instance, are not explicitly or intentionally instructional considerations as a

result. Caitenza noted that the focus is largely on the academic or cognitive domains as

defined by Bloom's taxonomy, leaving out the affective considerations (personal

communication, September 10, 2017).

The testimonies above set the context for the need to better understand teacher

knowledge, perceptions, and practices regarding the affective concept of mindset in the

CNMI. Therefore, this project study was inherently qualitative as I sought to describe its

importance and document a baseline of mindset practices among educators in the CNMI.

The central focus of this study was to measure the current knowledge base among

teaching practitioners as well as to document the methods and the approaches that might

root mindset as a component of an instructional framework or set a precedent for

professional development. The findings may potentially contribute to the research

supporting how mindset can shape student success.

Poor academic achievement in middle schools in CNMI is a perceived problem

that is largely attributed to lack of meaningful incorporation of noncognitive factors of

mindset and attitude in the mainstream teaching and learning processes. As pointed out by Henter (2014), noncognitive factors such as mindset have a significant influence on an individual's academic success. Therefore, given the influence of mindset on a person's perception with respect to their capacity, and its potential to shape success or failure, in this project study I sought to address the current lack of understanding concerning teachers' knowledge, perceptions, and practices about mindset in the CNMI. Furthermore, I intended for the project study to promote positive social change by addressing the gaps in both mindset knowledge and mindset practices to improve teaching and learning in the CNMI.

Definition of Terms

Cognitive factors: Variables associated with the process of reasoning related to understanding content knowledge and executing traditional academic skills such as mathematical problem solving and critical thinking as well as communication and writing (Farrington et al., 2012).

Fixed mindset and entity theory: A perception or underlying belief that intelligence and abilities are unchangeable—fixed traits—such that an individual inherently possess talent and ability or does not; thus, learning and improvement through effort are not possible, as fixed-mindset or entity theorists believe that if an individual is inherently smart, gifted, or talented, effort is not necessary. This type of belief decreases the motivation to work towards long term goals and often results in failure (Dweck, 1999).

Growth mindset or incremental theory: A perception or underlying belief that intelligence and abilities can be cultivated through persistent effort, guidance, and education. Individuals with a growth mindset believe that academic ability and skills that extend beyond academics can always be improved as growth-minded individuals attribute their performance and proficiency to the amount of effort they put in rather than to innate or natural intelligence, luck, or other factors out of their control (Dweck, 1999).

Mindset: An individual's perceptions and underlying beliefs regarding their own, and others', learning and growth potential, which, depending on the type of mindset, either fixed or growth, can determine success or failure (Dweck, 1999).

Noncognitive factors: Variables that are not traditionally measured by academic assessments such as the affective domain. This includes factors such as an individual's motivation, attitude concerning learning, and the resourcefulness or willingness to seek assistance (Farrington et al., 2012). These factors have been shown to significantly influence an individual's potential for success.

Significance of the Study

In effect, this project study is significant, as it provides useful insights on the current state of teachers' knowledge, perceptions, and practices regarding mindset in the CNMI. Ultimately, the study contributes to the existing database of research about the relationship between noncognitive factors (mindset) on students' academic achievement, as well as how teachers, particularly in the CNMI, can incorporate the mindset concept in their pedagogical practices.

Presently, as Yeager and Walton (2011) noted, educators intentionally do not address noncognitive factors such as mindset. If mindset among teachers in the CNMI can be better understood, then instructional interventions can be employed to help cultivate a growth mindset in classrooms, thereby maximizing student success. As will be articulated further in the literature review section, students with the growth mindset, compared to those with the fixed mindset, are significantly more oriented toward learning goals. Although they care about their grades, these growth-minded pupils care even more about learning (Dweck, 2006). Thus, it is likely that explicitly addressing mindset will have a positive impact on teaching and learning in the CNMI.

Teachers in the CNMI may appropriately be able to improve their current knowledge, perceptions, and practices regarding mindset, giving them the insight to strategically use mindset to support learning for the students in their charge. Such interventions are critical, as Dweck (2008) noted, as students with the growth-oriented paradigm showed a superior belief in the effective use of effort to improve ability, were mastery-oriented in reactions to setbacks, and were significantly more likely to utilize positive strategies, such as greater effort and innovative alternatives as they worked to overcome learning challenges. Moreover, as Berger (2015) cited, students with a growth mindset typically garner higher levels of performance versus those with fixed minds. Thus, teachers better equipped at advocating for a growth mindset among their students might prompt better performance among students.

The qualities constituting a growth mindset are cultivated over time through hard work and dedication, and students who adopt this belief are linked to success (Dweck,

2012). Interestingly, these concepts also apply to the teachers because the development of an appropriate mindset has proven effective in examining the successful turnaround teacher (King & Watson, 2010; Lewis & McKone, 2016). In most cases, effective teachers represent a critical factor influencing a student's achievement (Brock & Hundley, 2016). Therefore, when teachers exhibit a growth mindset, there is a high likelihood of establishing higher expectations as well as transferring these growth-oriented practices and values to the students in their care.

Given the research above, it is critical to measure the current knowledge, perceptions, and practices among educators in the CNMI regarding mindset. This understanding will prospectively assist in improving teacher instructional practices with the intent to create learning environments that foster a growth mindset in particular.

Based on the findings, this study provides an opportunity for initiating an informative campaign on mindset research and its implications on teaching and learning. Furthermore, a pedagogical framework may also be designed that roots mindset as an instructional focal point for teachers to consider each time they plan for a lesson. Given that the mission of the CNMI Public School System is to prepare students to be college-and-career-ready and successful and independent globally productive citizens (CNMI Public School System Annual Report, 2013), teachers are charged to help students embrace learning challenges, work through them, and, ultimately, overcome them. Moreover, students need to adopt a growth mindset and fundamentally believe that their potential to learn and improve is never fixed or stagnant; but rather, their growth is contingent upon persistent effort and hand work that ultimately renders progress.

The significance of this project study lies in the opportunity to begin research on what has been uncharted territory in terms of educational research in the CNMI. It sets a precedent for promoting positive social change by helping teachers understand how to effectively cultivate a growth-oriented paradigm in their classroom, filling a critical gap in educational practice that helps maximize the potential for success for all students in the CNMI.

Research Questions

This project study addressed the lack of understanding on mindset among teachers in the CNMI. Cognitive aptitude, while essential, only accounts for a relatively small percentage of success. A significant portion of success involves noncognitive variables such as motivation, resourcefulness, attitude, and mindset. Research indicates that teaching students to understand the growth mindset concept and applying growth mindset practices can enhance the students' academic achievement (Dweck, 2014). Despite these findings, mindset knowledge, perceptions, and practices are not well understood by most educators in the CNMI.

In alignment with the research problem and purpose of this study outlined above, a generic qualitative design was employed, driven by three open-ended research questions. The research questions helped to focus the study, and at the same time allowed for the emergence of themes and ideas from the data (Bogdan & Biklen, 2007). Additionally, the research questions below framed the project study, guided the methodology, literature review, and subsequent analysis. The three questions were directed at understanding the knowledge, perceptions, and practices regarding mindset

among teachers in CNMI. Research question 1 (RQ1) explored the knowledge and perceptions of teachers in the subject school regarding mindset concept. RQ2 explored the teachers understanding of the use of the mindset concept in pedagogical practices, while with RQ3 I sought to understand the ability of the teachers to demonstrate the use of mindset in their practices. The research questions were as follows:

RQ1: What knowledge and perceptions do teachers have regarding mindset at the subject school?

RQ2: How do teachers at the subject school describe the use of mindset in their practices?

RQ3: How do teachers at the subject school demonstrate the use of mindset in their practices?

Review of the Literature

The literature review section provides further context concerning the importance of mindset to bolster the need to understand teacher knowledge, perceptions, and practices in the CNMI regarding mindset. There are subheadings that guide this section: precedent for mindset theory, brain research and mindset, mindset and academic performance, teacher mindset and classroom impact, mindset practices and interventions, student achievement gaps and the role of mindset, professional development, and leadership for teaching and learning and mindset. These section headings represent relevant emerging topics that arose from a synthesis of the literature. I used the following databases: ProQuest, ERIC, and Sage. More specifically, the subsequent topics came to light as a result of the synthesis, resulting from a search of key terms: *cognitive factors,*

noncognitive factors, affective domain, cognitive domain, mindset, growth mindset, and *fixed mindset.* Other search keywords emerged from the developing themes related to mindset as a result of the literature review process. These themes included intervention, efforts to address mindset, and brain research, to name few. I attempted to identify research on the key terms noted above within the context of the CNMI and the broader Micronesia in general; however, no results were found.

Conceptual Framework

Dweck (1999, 2006, 2007, 2008, 2010), Dweck & Leggett (1988), and Dweck, Walton, and Cohen (2011) set the context for their seminal research on mindset as a major noncognitive factor in determining human potential for success. Dweck's seminal work on mindset served as the conceptual framework of this project study. As Dweck (1999) noted, mindset theory is derived from the social cognitive lens, which explains human behavior and thinking, proffering that such is shaped by human interactions and encounters. Humans are inherently learners and thus begin to assess their own abilities that naturally lead to a personal guiding theory regarding the range of human attributes, including intelligence.

These experiences set the context for underlying assumptions and, ultimately, conclusions that, in turn, shape the lens through which individuals view themselves and the world around them. This view, perception, or, as Dweck (1999) called it, mindset, sets the precedent for human action to either persist in the face of challenges or succumb to setbacks. These personal theories manifest through an individual's comparison and

feedback from others as well as through interactions within their own particular contexts (Bandura, 1999).

Dweck (2006) framed the growth and fixed mindsets respectively by relating them to two theories: entity and incremental theories. Entity theorists perceive human attributions as stagnant, largely unchanging. When a person's capacities are challenged, vulnerable behavioral patterns are exhibited that often lead to complete disengagement from the challenge in order to avoid revealing a lack of ability—fixed mindset. Conversely, incremental theorists believe that human qualities evolve in response to effort and experiences, focusing on development and improvement of capacity through mastery-driven behaviors that underscore the belief that humans can improve their ability through effort and perseverance—growth mindset.

Dweck's seminal work was the foundation for this project study, setting the context for understanding mindset knowledge, perceptions, and practices among teachers in the CNMI. This was understood using the social constructivist framework. Merriam and Tisdell (2015) indicated that the constructivist theory is a process of constructing meaning from shared experiences. The social constructivist paradigm is hinged upon the notion that knowledge is created through discourse and interaction regarding common realities (Creswell, 2012). Corroborating this, Merriam (2009) stated, "One learns through engaging, incorporating, and critically exploring the views of others, and new possibilities of interpretation are opened through the interaction" (p. 292). Therefore, as Creswell (2012) highlighted, the social constructivist process involves contributors

engaging in a shared experience of constructing and interpreting as they shape meaning and understanding of a given context.

The conceptual framework is based on the concept that people consider various attributes to the causes of intelligence and other traits (Kanuka, 2010; Sheehan & Ryan, 2017). Thus, the outcome of this study will help proffer recommendations for educational stakeholders in the CNMI, specifically teachers, in addressing the important noncognitive factor of mindset. The intended outcome of this project study was that perspectives among educational practitioners in the CNMI would be enriched by deep personal reflections that in turn would spark critical conversations that will render new mores, values that take the shape of growth mindset strategies that positively influence teaching and learning in the CNMI.

<div align="center">**Review of the Broader Problem**</div>

Precedents for Mindset Theory

Every person has a distinct way of achieving his or her set goals in planning when and where to implement their behaviors. This is usually referred to as implementation intention (Murphy & Dweck, 2016). The idea of implementation intention originated from the mindset theory, which also prompted a plethora of discoveries to reshape the theoretical frameworks for how educators and psychologists view learning.

There are a number of learning theories that were already in place before Carol Dweck published her seminal work on mindset which, as discussed above, is notable for contextualizing the dichotomous relationship between the growth mindset and fixed mindset and the inevitable attributions of success and failure that follow each

respectively. Bloom's taxonomy, for instance, and the affective domain, is one of the earlier foundations that were laid to help in the understanding of the conceptualization of mindset. In Benjamin Bloom's Taxonomy, there are three main domains of learning, which include affective (emotional/feeling), psychomotor (kinesthetic/physical), and cognitive (thinking) (Cohen & Sherman, 2014). While Bloom sets the foundations of learning overall, the underpinning of understanding the mindset requires a focus on the *noncognitive* domain, which is, in this case, the affective domain (Murphy & Dweck, 2016).

Most people perceive the learning process as a mental or intellectual function. However, it is necessary to note that learning does not involve only a cognitive or a mental function, but it also involves learning about physical skills, behaviors, and attitudes (Wieber, Sezer, & Gollwitzer, 2014). The affective domain is comprised of five levels that move from the lowest to the highest order. These levels include receiving, responding, valuing, organizing, and characterizing (Kathleen et al., 2014). Receiving is the lowest level of the affective domain and it requires an individual to be aware and passively pay attention to the existence of certain phenomena, ideas, or material (Martin, 2015). Responding is the second level of the affective domain and it requires active participation in the learning process. It requires a person to respond to a stimulus. Valuing is the third level and it is the ability to recognize and appreciate the value of something, ranging between simple to a complex acceptance of phenomena and their impact (Murphy & Dweck, 2016).

Organizing is the fourth level and it involves the gathering of different ideas, information, and values then integrating them with held beliefs, and finally internalize them as a consistent philosophy. This is what makes an individual distinct since it provides one with the opportunity to prioritize one's values over the others, thus leading to a unique value system (Haimovitz & Dweck, 2016). Its key aspects are assessing, relating, and comparing a value to create uniqueness. The highest level is characterizing and it involves internalizing values. It involves consistency where a person acts in accordance to the internalized ideas, philosophy about life, and his or her characterization (Griffith, Hammersley, Kadous, & Young, 2017).

The entity theory asserts that intelligence is a personal trait that can never be changed (Simpson Steele, 2017). According to the entity theorists, a person's intelligence can never change no matter how much knowledge he or she can gain. Therefore, entity theorist associate their inherent intelligence as a determiner that shapes both their achievements and failures.

On the other hand, the incremental theory argues that intelligence is never fixed and it can be improved through the learning of new ideas (Aditomo, 2015). In this case, Incremental Theorists will always blame lack of enough effort for any achievement failure. This, therefore, provides them with a second opportunity to learn and improve on their failures.

Brain Research and Mindset

In the last three decades, Carol Dweck and her partners developed an interest in studying student attitudes on failure. This failure, they realized, either prompted students

to invest more effort in their work or become completely discouraged (Buttner & Wieber, 2014). This is what motivated them to conduct research on the behavior of thousands of children, and from this, coin the growth mindset and fixed mindset to illustrate the common beliefs most people had about intelligence and learning. Dweck's research established that with a fixed mindset, people are certain their basic traits, such as talent and intelligence, are fixed and can never be changed (Dweck, 2010). Such people are usually found noting their most prominent traits or talents instead of developing them. This fixed mindset leads one to erroneously believe that only talent can determine an individual's failure or success.

On the other hand, with respect to the growth mindset, the attitude is that all traits, such as intelligence and talents, can be developed or improved through hard work and consistent practice or learning (Miyake et al., 2016). The growth mindset supports the art of learning and practice as it assures people that great accomplishments can be achieved through learning and hard work. Teaching growth mindset offers an opportunity for productivity and motivation in the worlds of sports, business, and education (Miyake et al., 2016). It also enhances socialization skills.

Advanced neuroscience researchers have indicated that the brain is extremely malleable. For instance, research on brain plasticity has shown that neurons can transform with time (Hohnen & Murphy, 2016). Neuron networks can strengthen existing ones, grow new connections, and even create an insulation that speeds up the transmission of impulses.

These neuroscientific studies have proven that most people can improve their neural growth through the actions they take, which may include asking questions, good sleeping habits, using good strategies, and having good nutrition (Hohnen & Murphy, 2016). Through continued neuroscientific research, teachers and mindset researchers are increasingly becoming aware that there is a direct link between mindsets and achievements. This is even making it possible to change a person's mindset from fixed mindset to growth mindset, which has led to increased achievements through motivation interventions (Hohnen & Murphy, 2016). Other studies on the different kinds of praise have shown that encouraging students through positive phrases such as "you are smart" cultivates a sense of motivation.

The modern neuroscience research has proved Dweck's growth mindset that people can change their mindset through hard work, learning, constant practice, and changing perception something that has contributed a lot in motivating those who had thought they have failed to achieve their dreams completely. Through growth mindset, even drug addicts have been helped through recovery programs because such people believed behavior can be changed and there is nothing as a fixed mindset (Hohnen & Murphy, 2016).

Mindset and Academic Performance

A fixed mindset has been linked with academic failures at school. Examination preparation is a key factor in determining the final outcome of a test (Maglio, Gollwitzer, & Oettingen, 2015). This requires an effort invested by both student and tutor. However, a student who is believed to have a *fixed mindset* usually develops a negative attitude

towards applying more effort to adequately prepare for upcoming tests (Schroder, Moran, Donnellan, & Moser, 2014). A teacher can contribute to poor test preparedness as he or she may already perceive a students' learning potential as fixed. Schroder et al. (2014) noted that as a results of the teacher's *fixed mindset,* there is an absence of differentiated learning support is provided for the student and encouragement to apply more effort. And further, that even with more tutoring help, this will create no change in their preparedness for exams (Laurian-Fitzgerald & Roman, 2016). Further, unfavorable examination results reinforce a fixed mindset for the student.

This negative perception is central to discouragement, and actually encourages students to drop out of school or try other activities because they believe they will never achieve success (Jansen, 2015). On the other hand, a *growth mindset* is key to improving academic performance. A growth mindset allows and provides room for improvement, something that is required in any academic environment. A growth mindset gives students another chance to improve (Fitzgerald & Laurian-Fitzgerald, 2016). Academics involve a learning process where new ideas are slowly imparted to students. This, therefore, requires that students be in a position to realize their minds are not fixed but malleable and able to internalize more ideas.

Teachers and tutors also find that it is easier dealing with a student who has growth mindset because they constantly improve their academic performance, and if he or she fails any test, it is easier to guide students with a *growth mindset* (Smallwood & Schooler, 2015). According to theories of self-hate, students with fixed minds usually exhibit little or no response to significant challenges in their lives, and this usually leads

to low self- esteem (Chaxel, 2015). On the other hand, students with growth mindset are usually motivated because they perceive failure as a lack of proper planning and hard work. They believe all challenges they are facing can be solved because they believe they have the intellectual ability to do so. Studies on behavior have established that students with fixed mindset usually maintain their self-esteem through physical appearances such as dressing smart or achieving performance goals that are typically easy (Dweck, 2015). Neuroscientific studies also support the connection between mindset and academic performance. This was after these studies discovered that neurons are elastic, and they can create a more sophisticated network of their paths or increase the rate of impulse propagation (Dweck, 2016). Thus, a *growth mindset* makes a significant difference in academic performance.

Teacher Mindset and Classroom Impact

A teacher's mindset has a direct impact on whether he or she becomes a good tutor. The manner in which they give feedback and comments to student behavior and conduct is key in determining student success (Laine, Kuusisto, & Tirri, 2016). Dweck argued that giving praise to students is a sure way of motivating them in every activity they engage in. In a classroom with a teacher who has a fixed mindset, it is possible to find a number of students who test well and simultaneously a significant number who do not test well. This is because the teacher has chosen to help only those students whom he or she believes are clever; the other students are labeled as failures, no matter how much effort the teacher puts into helping the student (Gray & Mannahan, 2017). Teachers who have a growth mindset do not have this discrepancy because they believe those students

who would normally fail a test have a chance to learn and improve their performance. One also finds that growth mindset teachers praise students for many things. Dweck's research is applicable not only to students, but also to teachers.

According to Dweck (2014), schoolteachers should learn about the advantages of having a growth mindset as opposed to a fixed mindset in relation to being a good or bad teacher. It is a good idea that most teachers have acknowledged the benefits of having a growth mindset, as it is a key factor in improving the academic performance among their students.

Studies have also upheld the notion that teacher mindset significantly affects the way teachers respond to students, which also influences the students' academic performance (McCutchen, Jones, Carbonneau, & Mueller, 2016). A study conducted by Rattan, Savanni, and Chugh, D. (2015) established that teachers with a fixed mindset in mathematics were more likely to believe that their students had lower potential than their growth mindset peers (KrugKimberly & Kool, 2014). Moreover, teachers with a fixed mindset often perceived low mathematics ability with a lack of inherent talent and thus expect less from such students (Mullen & Monin, 2016). As results, teachers with a fixed mindset convince students that their struggle to pass a mathematics test is acceptable, related to their lack of inherent talent and ability. They, therefore, resort to making mathematics easier by lowering expectations (Faulkner & Latham, 2016). Comfort-oriented feedback from teachers is directly associated with lower motivation in mathematics among the students, and lower expectations as compared to strategy-oriented feedback (Yeager et al., 2016).

Mindset Practices and Interventions

There are a number of interventions that have been put in place to address mindsets in classrooms. There is modeling where teachers, just like their students, are required to learn and develop growth mindset, which requires careful planning by the school management (Hohnen & Murphy, 2016).

Professor Jackie Gerstein argued that encouraging teachers to perceive themselves as learners is the key means of helping them to cultivate a growth mindset in them (Hügelschäfer & Achtziger, 2014). The school management team also needs to create space for new ideas, as this will provide the teachers with opportunity to try new ideas. One of the key aspects in gaining a growth mindset is trial and error, so teachers should not be afraid to make mistakes. It is necessary to begin by identifying the important frameworks to learn whether it is a new idea or not (Iso-ahola, 2015). Teachers should also build time for self-reflection to determine if is they are making progress or not towards gaining a growth mindset.

However, it is important not to focus on whether the self- reflection was a success or failure, the process in and of itself is the success that prompts continuous improvement and growth (Brinol & Petty, 2014). Then there is formative feedback, where a teacher performance management process usually appears as a distressing experience. However, the process can be very meaningful to a teacher's daily practice when the process is perceived as a part of the growth mindset, which also makes it more formative than summative (Wilson & Buttrick, 2016).

On changing the mindsets of students to improve academic performance, teachers need to apply three key motivators: autonomy, mastery, and purpose (Wilson & Buttrick, 2016). There are a number of ways through which a teacher can create a growth mindset in students through autonomy, including: grouping the students into different student-selected book clubs; setting time for free writing; assessing what was learned in the classroom; setting up an inquiry team to find out what the students wish to learn in a given day; and developing an effective approach to solving mathematical and science problems by allowing the students to share different strategies (Yeager et al., 2016).

Teachers should also learn how to praise students in areas where they succeed (Dweck, 2014). In such a case, the teachers need to praise the strategies and efforts students employed rather than their intelligence (Strahan, Hansen, Meyer, Buchanan, & Doherty, 2017). Praising intelligence usually undermines performance and motivation (Dweck, 2008). Teachers also need to help students value and focus on the processes of learning. Without believing in a learning process, students will mainly focus on intelligence as the primary indicator of their grades. This is a sure way of promoting fixed mindset among the students, leading to lack of motivation and low self-esteem (Kawinkamolroj, Triwaranyu, & Thongthew, 2015). Lastly, teachers should design a classroom activity, which promotes group work and collective thinking rather than individualistic or competitive work. Collaborative work motivates students more than individual work (Yeager & Walton, 2011).

Mindset on Student Achievement

Current empirical studies identify that a belief, which in this case is a student's *mindset* about intelligence, is directly related to the economic moderates or disadvantages gaps it influences on a student's achievement (Leutner, 2014). Psychological factors usually referred to as non-cognitive or motivational factors are usually more practical to a student's academic achievements than the *cognitive factors* such as a measure of intelligence (Stankov & Lee, 2014).

The *noncognitive* factors include, but are not limited to student's habits of self-control, feeling about their school and beliefs about themselves. Economists, psychologists, and educators have embraced the significance of non-cognitive factors in relation to a student's achievement in academics and labor market (Lee et al., 2014).

The noncognitive factors directly motivate students towards achieving their set goals (Kautz, Heckman, Diris, ter Weel, & Borghans, 2014). However, promoting positive beliefs or motivating students can affect students differently based on whether they have a fixed mindset or growth mindset. Students with a fixed mindset are usually difficult to motivate because they do not believe in applying effort to improve on an area they initially failed in (Stankov, Morony, & Lee, 2014). Students stop effort because they believe that cognitive factors, such as intelligence, are the key determinants of success; therefore, once they fail to achieve their goals, they conclude that the result is final and no improvement can be made (Stankov et al., 2014).

Students with a *growth mindset* are easy to motivate because they perceive difficult tasks as a means to improve their abilities (Titz & Karbach, 2014). They

therefore strive to find challenging learning environments to enable them to improve on their failures. Students with *growth mindsets* are said to have academic tenacity, which is primarily about working smart and working hard persistently to work toward fulfilling a set objective (McGeown & Clough, 2015). A growth mindset allows the students to think beyond short-term goals to creating higher-order or long-term goals. These students also endure are unafraid of working through challenging conditions, knowing that the process of learning is often difficult more knowledge and skill is gained that results in achieving better academic performance. Growth-minded individuals do encounter stigmatization or worries that are related to the belief of not being intelligent or excluded in school, but these sentiments are short-term (Khalaaila, 2015).

Efforts to Address Mindset

Education leaders have been supporting the cultivation of growth mindset among teachers to improve teaching and learning process (Dweck, 2015). Robert Brooks, a leading researcher in the area of motivation, school climate, and mindset, suggested that teachers should understand the impacts they have on student feedback, and consider that all students deserve better academic achievements (Dweck, 2015). He, therefore, provided a description of the characteristics of the *mindsets* that teachers and tutors utilized to cultivate mindset (Dweck, 2015). He suggested that teachers understand the impacts they have on the students and consider that all students deserve academic achievement. In this context, teachers must formulate a teaching framework that ensures all students meet their expectations, whether they are fast or slow learners (Rattan et al., 2015). Educators can professionally develop their mindset through short learning

sessions, in as little as one hour, in which participants are required to carry a laptop, or the tutor can use a projector to ensure that participants view the content on a screen (Aguilar, Walton, & Wieman, 2014). The session is focused on teaching a growth mindset. The team reviews and debates the curriculum required for teaching growth mindset, creates a plan for receiving and giving feedback via peer observations and develops a framework for modifying and implementing the curriculum (Kassel, Rymanoczy, & Mitchelle, 2016). Curriculum development teachers who have embraced a growth mindset as the curriculum they created showed effectiveness in improving the learning and teaching process (Broomhead & Skidmore, 2014).

Mindset professional development can be achieved through another framework. This includes an educational leader modeling the performance of a task and working with the teacher to put the task into practice. Although the educational leader supervises the accomplishment of the task, he or she allows the teacher to complete the task alone, providing autonomy for when and how the task will be applied (Schmieder-Ramirez, 2016). Mindset training aimed at cultivating a growth mindset among the teachers, supports the independence needed for teachers to employ creative application and design of strategies to support effective teaching and learning in their classrooms. Focusing on mindset training has been tested on elementary school teachers and the results have shown that these teachers significantly improved their knowledge in designing learning and teaching procedures (Schmieder-Ramirez, 2016).

Another framework for mindset professional development involves taking challenges, learning from the mistakes, accepting feedback, practicing, perseverance,

asking questions and taking risks (Walker & Qian, 2015). This framework focuses on training teachers on how effort and continued practice can help them succeed in an area they had initially failed in. This framework has been performed on mathematics teachers to train them on how to accept students' feedback about improving math performance. The outcome was positive as these teachers were seen striving to ensure that all the students improved their math score.

Leadership for Teaching and Learning Mindset

There are five key educational leadership practices that can promote growth mindset namely: delivering frequent and formative feedback; teachers' being deliberate about providing growth mindset comments that improve growth mindset; teachers' embracing the idea that learning happens when they are stretched beyond their comfort zone; teachers taking opportunity of the growth mindset to learn tutors' kit; and teachers upholding the growth mindset for education leadership course (Phillips & Henderson, 2015). Carol Dweck's research regarding mindset is applicable to educational leaders, teachers, and students.

According to Dweck, fixed mindset individuals believe that their talents, intelligence, and basic abilities are fixed traits (Rivera-McCutchen, 2014). On the other hand, growth mindset individuals believe that their abilities and talents can be developed and improved through learning and constant practice (Rivera-McCutchen, 2014). Whereas a fixed mindset sets a precedent for failure; a growth mindset sets a precedent for continuous improvement that is applicable to educational leaders, teachers, and students.

Barak (2014) indicated that educational leaders, consultants, and coaches are working to support mindset-design implementation in U.S. classrooms to equip teachers with the skills needed to support substantial challenges of behavior management that often impede student learning and academic success (Barak, 2014). They established that successful teacher disciplinarians operate on three basic frames of mind which include a growth mindset (Barak, 2014). According to the researchers, the growth mindset is the space of possibility the teachers have for each student or the belief that, through effective learning and teaching, students have a chance of improving their academic performance (Okonofua, Paunesku, & Walton, 2016). It is what encourages the teacher to show commitment towards helping the students improve their performance through a sense of urgency and courage (Marsh & Farell, 2014). Furthermore, a growth mindset involves the free interaction with students without personally considering what they do or say (Harvey & Jarett, 2014). Vogelgesang, Clapp-Smith, and Osland (2014) suggested that it is possible to determine a teacher's mindset through their actions such as the level at which they know their students developmentally, the kind of relationships they have with their students, the kind of respect they have for the students, the kind of words they use to praise the students, the avenues they use to promote motivation among students, how they create endorsement for behavior-management practices, how they respond to stimuli such as students' feedbacks and the actions they take, and the strategies they use to improve the students general performance in academic achievement.

In order to improve teaching and learning, educators need to understand and address the noncognitive factors focused on effort and the process that leads to growth

and in addition to cognitive factors such as intelligence (Stodd, 2014). Therefore, the school leaders, including district education administrators, need to work towards developing a growth mindset among their staff to improve academic performance (Stodd, 2014).

Jackie Gerstein's model has also had a positive impact on the learning and teaching process because it has improved the management of teachers' attitudes on the students' responses (Walker & Qian, 2015). Gerstein's model allows teachers to realize that it more advantageous for students to praise their hard work and efforts as they progress toward success rather than praising their cognitive abilities such as cleverness (Walker & Qian, 2015). A teacher's growth mindset has generally improved the academic performance of all students.

<div align="center">**Implications**</div>

The findings from this project study were the first of its kind in the CNMI. Teacher knowledge, perceptions, and practices regarding mindset have not been explored. The implications of this project will shape efforts to assist teachers and students in adopting a growth mindset—a key factor in academic persistence and long-term individual achievement. Additionally, as noted in the literature review, it is also important for educators to create learning environments that foster a growth mindset, which leads to increased academic success. The goal of the study was firstly to generate data that meaningfully establishes a baseline regarding of knowledge, perceptions, and practices as it pertains to mindset in the CNMI. Given the research implications of the impact fixed and growth mindset have on teaching and learning, it is critical to

understand such non-cognitive factors. This baseline will allow for the integration of growth-oriented mindset practices by implementing strategies to help students develop the mindset that leads to increased motivation, engagement, and resilience. The project that accompanies this study revolves around professional development. As noted in the literature review, several frameworks are available to drive training intended to support teachers in adopting a growth mindset set in the context of their classrooms. The effort will target instructional practices, such as feedback and praise that can be universally applied.

Better understanding mindset, as well as employing growth mindset practices instructionally, could change how educators and students in the CNMI succeed beyond just the academic realm, applying the growth mindset principles to drive their own success in all areas. Understanding the role that a growth mindset play in maximizing an individual's potential for success will support the CNMI Public School system's goal of ensuring that students are college and career ready as well as successful and productive global citizens.

Along with professional development, there is also the opportunity to facilitate an informative campaign on mindset research and its implications as well as adopt a mindset instructional framework. The campaign and pedagogical framework are rooted in mindset practices that will address appropriate praise and feedback for instance. The framework will allow teachers to employ growth mindset approaches each time they plan a lesson. In fact, as a part of the professional development series, teachers may contribute to creating a growth mindset framework.

A growth mindset on the topic of professional development is a viable projects to help address the problem of a lack of understanding of mindset and promote positive social change. The opportunity to execute a professional development is imperative, as individuals with a growth mindset achieve goals at a much higher rate, have less anxiety and depression, are more persistent and creative, have more supportive relationships and higher self-esteem, show more interest and enjoyment in life, and have a greater sense of well-being overall (Grant-Halvorson, 2010).

Summary

In Section 1, I described the local problem that drives the need for this project study, specifically the lack of understanding of mindset among teachers in the CNMI. I included a rationale for the study, identifying the personal communications I had with educational district leaders whose testimony both highlights the gap in knowledge and practice regarding mindset. I presented definitions of five key terms, namely cognitive and non-cognitive factors as well as fixed and growth mindsets.

Additionally, I addressed the significance of this project study's potential usefulness in bridging gaps in practice as they pertain to the non-cognitive factor of mindset and its potential positive impact on instruction. To address this problem, I posed three research questions geared at understanding the knowledge, perceptions, and practices regarding mindset among teachers in the CNMI. A substantive review of the literature was presented to provide a context for mindset and frame the larger problem. Topics addressed in the synthesis of scholarly articles include mindset's impact on academic achievement, brain research, mindset practices, and intervention strategies,

teacher mindset and its impact on student learning, as well as mindset among educational leaders and professional.

Lastly, the implications of this project study were addressed, either highlighting the opportunity to provide a growth mindset professional development or developing a *growth mindset* instructional framework. Both of which may potentially bridge the gap in practices and promote positive social change accordingly. The subsequent section describes the qualitative research design and justifies the selection of the research methodology. The section also describes how research participants were selected, articulates the role of the researcher, as well as addresses the study's limitations. Lastly, the subsequent section provides an overview of the data collection process and tools, defines methods used for both data collection and data analysis, as well as potential threats to the overall quality of the study.

Section 2: The Methodology

Qualitative Research Design and Approach

The research referenced in Section 1 was valuable in identifying mindset as an important factor in the overall academic achievement of students. A synthesis of studies revealed an opportunity to fill the gap in practice concerning the lack of understanding of mindset knowledge, perceptions, and practices among teachers in the CNMI.

I used a generic qualitative research design in this project study. The purpose for using a generic qualitative design rather than other qualitative methods is to contribute to fundamental knowledge about a phenomenon. My goal was not to study a particular case that already existed, as with a case study, or to determine how individuals assign meaning to a phenomenon, as in phenomenology, or to develop a theory from existing data, as is done in grounded theory. Rather, my goal was to understand the significance of concept of interest within the context of individuals' lived experiences. The concept may or may not have been familiar to the individual, and no previous data and artifacts existed. Thus, I deemed the generic qualitative design the best approach. As Patton (2015) noted, the generic qualitative research model is employed to uncover the participants' experiences by examining the meaning the participant attributes to particular experiences or processes. The underlying assumption for this design is that by identifying knowable patterns, it would be possible to use such patterns in the data to understand the underlying meaning of the data. These new understandings then become the new knowledge to help fill the identified gap in practice.

The research design was the generic qualitative design because this project study was problem-based, designed to resolve the gap in practice concerning the lack of understanding of mindset knowledge, perceptions, and practices among teachers in the CNMI. A constructivist approach framed the study, as I assumed that multiple realities exist and that the meanings individuals give to their experiences are important to understand the topic of interest.

Participants

I used a purposeful sampling technique because the goal was not to attempt to generalize the findings, but rather, to deepen an understanding of the unique situation confined within a specific context (Creswell, 2012). Critical case sampling is the specific type of purposeful sampling technique that I used. Critical case sampling is particularly advantageous when conducting exploratory qualitative research with limited resources and research where a single case can be decisive in explaining the phenomenon of interest (Patton, 2015).

Participants were to consist of minimum of 10 participants and a maximum of 15 in order to collect information that provides extensive, rich data, which is more possible with a smaller sample size (Creswell, 2012). I selected 15 middle schoolteachers (Grades 6 through 8) from the subject school. In order to create a data rich purposeful sampling, I chose from a cross section of teachers from a variety of backgrounds, subjects taught, and overall teaching experience. There are similarities in terms of the demographics among schools in the CNMI. Not accounting for grade levels, the sampling at the subject school was likely to result in the same findings as other schools in the CNMI. The number of

participants, 15, was based on the qualitative standard for this type of exploratory study where saturation is likely to occur.

In order to protect these teacher participants, The Office for Human Research Protections of U.S. Department of Health and Human Services (OHRP) notes three key elements: explicit permission from well-informed participants, close oversight of data, and careful attention to upholding the privacy of subjects (OHRP, 2016). Prior to the execution of the study, I (a) obtained approval from Walden University IRB, subject to school instructional leaders; (b) monitored perceptual data collected to ensure that nonessential instructional information was excluded (gender, race, and special classification); (c) obtained explicit consent from the participating teachers; and (d) ensured that all stakeholders involved understood the ethical guidelines and were able to carry out the procedures of the study.

Merriam (2009) noted that the overarching principle of qualitative research hinges upon achieving an "understanding of how people make sense out of their lives . . . and describe how people interpret what they experience" (p. 14). Data for such designs include interviews, observations, audiovisual material, field notes, journals, and other documents and reports (Bogdan & Biklen, 2007). Thus, this approach entailed conducting short interviews with the participants at the subject school. The interviewee had an opportunity to review their transcripts to ensure accuracy and trustworthiness of the data. Because sampling was purposeful and not representative, no specific number of participants was needed. Instead, a qualitative measure was used to determine the outcome of the responses obtained. To gain access to these participants, I sought the

approval of the IRB (approval number 03-14-18-0459202), Commissioner of Education,

and school principals. An announcement was broadcasted via e-mail by the school

principal to the teachers with an accompanying digital survey to glean information

regarding their years of experience and teaching expertise. Using the survey data, the

field was narrowed to 15 participants who represented a cross section of teachers who

taught different subjects as well as had varying differences in years of experience. These

teachers were not offered any incentive for their participation in the project. Participation

was strictly voluntary. They were also provided a memorandum of understanding that

outlined their agreement to both be interviewed as well as have their contributions

published.

The 15 participants who met the criteria for the study were contacted by phone

and via e-mail to schedule an initial face-to-face meeting to discuss the project study,

review documents granting permission for the study to be conducted, and discuss the

memorandum of understanding regarding their participation and the use of data and

findings. As Merriam (2009) suggests, it is imperative that the interviewee understands

the protocols for the interview. At the initial meeting, the interviews were scheduled.

At the onset of the interview, I focused on basic informal questions about the

teachers' backgrounds and themselves. Given that the teachers and I did not have had any

prior interactions, it was important to begin creating a safe space for sharing. According

to Creswell (2012), warming up participants using small talk and lighthearted exchanges

is an effective way to open an interview. Sharing our educational backgrounds and

passions for education was valuable. Bogdan and Biklen (2007) stated that allowing the

participant to dispel discomforts and establish a trusting atmosphere contributes to obtaining quality data.

Data Collection

With this project study I sought to investigate the understanding of mindset knowledge, perceptions, and practices among teachers in the CNMI. To collect data from the participants, I adopted the interview approach outlined in the subsequent sections. More specifically, I used a semistructured interview instrument. According to Berger (2015), semistructured interviews involve an engagement between the respondents and interviewer where the interviewer develops an interview guide that consists of topics and questions to be covered during the conversation. However, unlike the unstructured interview, this form of interview enables the interviewer to follow the interview guide while also following topical trajectories where appropriate.

The semistructured interview method was a particularly good fit for this study because there were limited opportunities to interview the participants. Furthermore, this was the first study of its kind in the CNMI where the data collected would essentially be a baseline of teacher knowledge, perceptions, and practices regarding mindset. Moreover, teachers at the subject school may or may not have had a context of mindset, providing varying responses that may have called for additional questions and clarification. The tool outlined below includes clear instructions while also providing comparable and reliable qualitative data (Wolgemuth et al., 2015). The semistructured interview was developed to ensure a keen comprehension and appreciation of how the participants

conceived and apply the mindset concepts in their practice. In turn, this allowed for the development of meaningful and relevant semistructured questions.

Using a qualitative interview for the study also allowed more freedom for the participants to expand on their accounts and answers (St. Pierre, 2014), specifically as informed by their feelings and experiences with the mindset concept in the classroom. The qualitative interview also allowed for a more exploratory study with the aim of investigating subjective understanding of the mindset concept. Indeed, the main aim of using the semistructured interview is to understand and interpret the *why* and *how* of mindsets, rather than embarking on a fact-finding mission (St. Pierre, 2014). The participants' experience in qualitative interviewing showed the diverse meanings and qualities associated with mindsets, which were explored through follow-up questions enabled by the semistructured nature of the instrument. This instrument specifically allowed for exploration of the participants' answers with regard to their attitudes, feelings, opinions, and understandings that they held in common (Harvey, 2015).

There are several fundamentals of semistructured interviews that guided its use in this project study. To begin with, perhaps the most important skill required in the study was listening, with Brinkmann (2014) advising that interviewers must be ready to listen to the participants on three levels. In this case, interviewing the participants required me to listen to the participants' actual words, as well as the subtext or inner voice concerning the participants' communication.

Thirdly, the interviewing process also involved listening to the flow and process of the interview to identify aspects of the answers that required follow-up questions. In

order to ensure enhanced attention and focus to detail, I recorded the interviews with

additional note taking to ensure accurate transcription for the analysis process. On top of

the standardized and predetermined questions, Seidman (2013) noted the importance of

follow-up questions to encourage elaboration of important points by the interviewee.

Such questions are outlined in the instrument sections below. Therefore, in the study I

strived to ask clarifying questions in order to acquire a more comprehensive apprehension

of the participants' understanding and use of the mindset concept.

Fusch and Ness (2015) also cautioned that qualitative interviews, and particularly

semistructured interviews, should respect boundaries by exploring the participants'

attitudes and opinions rather than probing the interviewee. For this study, I encouraged

the participants to explore their opinions and experiences with the mindset concept in a

respectful and sensitive manner. Further, I did not ask leading questions that implied or

suggested a specific answer in order to avoid harming the response validity. Indeed, this

was the main reason why the study adopted a semistructured interview approach—to

avoid creating expectations from the participants' about the answers they should provide.

This was particularly important for the first question, with which I sought to understand

the participants' familiarity with mindsets. Mann (2016) also cautioned against

interrupting the participants when they are answering the questions to ensure that they

feel comfortable.

To avoid interrupting the interviewees, I deemed the semistructured interview to

be a good fit for this study so as to avoid disturbing the interviewees' train of thought

while also ensuring the interview process remained on track. This tool was a particularly

good fit for the study because it allowed for the participants to expand, rephrase, or clarify as needed, leading to the collection of rich data. In order to ensure the quality of the data collected, it was imperative to disclose my working relationship with the prospective 15 participants at the subject school.

Role of the Researcher

I have served as a District Curriculum Manager for English Language Arts and currently serve as the District Director of Instructional Technology. In both those roles, I have had an opportunity to work with all schools and all teachers throughout the CNMI Public School System as well as with the subject school from which the 15 participants were identified. My engagement ranges from leading professional communities to providing professional development and in-service technical support work sessions, leading policy audit stakeholder teams, providing certification online of coursework, and approving technology initiatives and funding support.

Given my administrative leadership role in the district, it was imperative to outline protocols to ensure that the teachers knew and believed that what they shared would not have an impact on their professional roles. While my rapport in the district was very positive, and I imagined that the teachers at the subject school would have no reservations about participating and sharing openly, employing interviewing best practices to ensure a comfortable sharing environment where the interviewees were safe to disclose their thoughts and perceptions was necessary.

Instrument

The semistructured interview schedule instrument that was used to gather data hinged on a series of questions directed at the selected 15 teachers at the subject school. Collectively, the information yielded a better understanding of how teachers and school administrators perceived and used *mindset* in the classroom. This information was necessary to not only demonstrate current understandings and practices in *mindset*, but how to develop the use of *mindset* in the CNMI. This section summarizes the instrument, which is available in Appendix B.

The first set of questions was oriented around teacher knowledge and perceptions on mindset. To determine this, the researcher inquired about whether their peers and administrators were also familiar with mindset (Schmidt, Shumow, & Kackar-Cam, 2015). With respect to how teacher perception on mindset applies to students, the researcher also investigated the strategies used to improve student performance, and specifically how acknowledging student failure can be used as a tool to improve abilities (Yeager et al., 2016). It was also imperative to determine how teachers perceived *mindset* and how they used it in their practice, so the researcher asked questions specifically tailored to make these determinations.

The second set of questions focused on how the subject school described the use of *mindset* in practice. The researcher asked whether the participating teachers believed they could change student talents in specific areas (Orr & Kukner, 2015), as well as whether students with perseverance and grit are easier to mold (Hochanadel & Finamore, 2015). Relatedly, it was important to determine basic information such as whether the

teachers believed she or he could change a student's basic intelligence and ability to learn new things.

Finally, a similar goal to the second set of questions was to determine how exactly teachers at the subject school use *mindset* in practice. For instance, was useful to know how teachers created opportunities for students to pursue new ideas or try new approaches (Orr & Kukner, 2015). Building on this, other inquires included how teachers promoted persistence and excitement about school in the student, as well as how teachers encouraged students to try new approaches in the face of adversity. The role school administrators in the development of *mindset* was also key, so finding out how the school administration supports the development and application of the *mindset* concept in the classroom was necessary (Yan, Thai, & Bjork, 2014).

Data Analysis

Analysis Context

After collection of the data using semistructured interviews, the study used thematic analysis to examine and interpret themes or patterns emerging from the data. Ando, Cousins, and Young (2014) and Owen (2014) pointed out that thematic analysis focuses on pinpointing and examining themes in the data, which are important patterns within the collected data in order to describe the phenomenon under study based on the research questions. In this case, the data was examined in detail for the interviewer to become more familiar with the data based on the recorded interviews and notes taken during the interview. Further, the interviewer generated initial codes prior to examining these codes for emerging themes about the participants' familiarity with *mindsets*, how

they conceived use of mindsets in the classroom, and their actual application of the *mindsets* concept. Moreover, the interviewer also reviewed, defined, and named the emergent themes based on the research questions before making a report on the themes and how they provide answers to the research questions. As noted by Linan and Fayolle (2015), thematic analysis must go beyond identifying words and phrase in the text data and move to identifying explicit and implicit ideas within the data sets, thus emphasizing rich description and organization of the data.

According to Vaismoradi, Turunen, and Bondas (2013) and Fugard and Potts (2015), the primary theme development process is coding, in which the interviewer recognizes important moments during data collection and encodes these moments before interpreting their meanings. In this case, the interviewer will compare the frequency of specific themes amongst the different participants, while also identifying the co-occurrence of these themes and displaying the thematic relationships graphically. This method of qualitative data analysis was a particularly good fit for this study, specifically because the method allowed for the capturing of meaning intricacies within the set of data. The analysis used data collected via the interviews to support assertions and construct theories on the use of mindsets by teachers in CNMI, with these theories being grounded specifically in the collected data. Thematic analysis was also considered to be a good fit for this study because of its emphasis on the subjective human experience, which is the main thrust of the research questions. Indeed, the three research questions were focused on eliciting data about the participants' experiences, feelings, and perceptions about the *mindsets* concept. The use of semistructured interviews, along with the use of

thematic analysis, provided the participants with the opportunity to discuss mindsets in their personal words, and the interviewer with the opportunity to interpret these words in a manner that answers the research questions (Namey, Guest, McKenna, & Chen, 2016; O'Brien, Harris, Beckman, Reed, & Cook, 2014). Clarke and Braun (2013) further noted that thematic analysis could be either inductive or deductive where the latter is theory driven and attempts to fit data into preconceived themes, while the former is data driven and draws themes from the data. The study adopted the inductive mode of thematic analysis where data coding was conducted without fitting the participants' answers into pre-existing frames or models. However, this does not mean that the interviewer was free of the responsibilities required under theoretical epistemology. Instead, current theory on mindsets was used as the major assumptions driving coding of the data. During this process of coding, the study attempted to determine what the participants were doing or attempting to accomplish by using the *mindset* concept in the classroom.

Further, the thematic analysis attempted to determine how they accomplish their use of *mindset* and the strategies used to apply this concept in the classroom. Furthermore, the thematic analysis process considered how participants talked about mindsets and their understanding of the *mindset* concept application, while also identifying the assumptions made by the participants. Since codes in thematic analysis can emerge from data unexpectedly, Halverson, Graham, Spring, Drysdale, and Henrie, (2014) advised that an interviewer keep a detailed reflexivity journal to identify emerging codes and themes not previously considered pertinent to the study.

As noted by Zeng, Hou, and Peng (2016), positive education not only entails the improvement of a student's wellbeing but also involves enhancing his or her academic achievement. Zeng et al. (2016) argued that development of a *growth mindset* lies at the core of positive education. Individuals with a *growth mindset* (i.e., those who believe that intelligence is expandable) tend to endure challenges and bounce back from failures as opposed to those without a *growth mindset* (i.e., those who believe that intelligence is an immutable phenomenon) (Schroder et al., 2017). According to Schroder (2017) and Moran et al. (2017), *mindset* plays an important determining role in academic achievement or lack thereof. In fact, Yeager et al. (2016) contend that mindset-like beliefs distinguish students who succeed from those who fail across the college. As observed by Dweck (1999) and reiterated by Devers (2015), a *growth mindset* influences a student's classroom performance. According to Devers (2015), creating an enabling environment within which students realize how the brain learns and how intelligence is an expandable phenomenon helps students to develop a *growth mindset*. In this regard, *growth mindset* plays a significant determining role in a student's potential for academic success or failure. A more recent study by Truax (2018) has found that teacher language and *growth mindset* feedback can have a significant positive impact on a student's motivation to learn.

Quality Assurances

In an effort to assure quality of the qualitative data collected, procedures will be employed to increase both the credibility and confirmability of the data. Shenton (2004), cited that credibility and confirmability are among qualitative practices that help ensure

trustworthiness in the same way quantitative approaches strive for validity of the data. In particular, tactics were employed to ensure honesty, prevent biases, draw out truths, and ensure that the data collected accurately reflects the contributions of the volunteer participants.

Shenton (2004) defined qualitative credibility as a commitment by the researcher to demonstrate that the truest picture of the phenomenon under investigation is being presented as accurately as possible. One tactic to promote honesty was to ensure that all prospective participants are given the option to deny participation, which protects the data collection sessions as only those who are genuinely willing to contribute and prepared to offer data freely are involved (Shenton, 2004). Furthermore, Shenton (2004) added that participants are to be encouraged by the researcher to be open and honest from the beginning of the interaction where the researcher builds a rapport from the onset that allows for rich and accurate data to be collected; additionally, the independent status of the researcher should also be emphasized, allowing the participant to share without any fear of repercussions from the researcher or any other entity. Shenton (2004), recommended that participants need to understand that they have the prerogative to withdraw from the study at any point without the need to provide a rational to the researcher.

In reaching out to participants, I disseminated a digital survey requesting for volunteers. Wherein the introductory context of the survey, I provided an substantive overview of my study in accessible language and details the scope of participation. The survey emphasized the volunteer nature of the study, so those that choose to participate

do so freely. Furthermore, the digital survey were not sent out directly by me. Instead, the survey was given to the school administrator who sent it as a broadcast via e-mail to his or her teachers. In this way, the potential for coercion by the researcher had been minimized. Additionally, the survey provided me the contact information needed to set up interviews.

At the onset of the interviews, the participant consent form, available in Appendix C, was reviewed explicitly. In addition to providing the participants with a copy to read, I also revisited the scope of participation as well as highlighted the details regarding the participant's rights, which includes a commitment to protect their identity, ensure confidentiality as well as highlighted the participants right to withdraw from the study at any point in time without the need to provide justification. My independent role as researcher was disclosed and the participants were briefed on the semistructured interview process.

It is important to note that the semistrutured interview questions are also strategic in supporting the credibly of the study. It allowed me to ask follow-up questions to draw out as much data as possible as well as discern truths, probe where further investigation is needed as well as identify discrepancies in order to ensuring the quality of the data.

Continuing to address credibility, member checking was also employed. Lincoln and Guba (1985) noted that one of the most effective tactics in strengthening the credibility of a qualitative study is to employ member checking, which may take place during or and at the end of the data collection where participants read and review their respective transcription of dialogues in which they have participated. The focus of the

member checking strategy is to allow for the participants to ensure that their intended communication represents what they actually intended to convey so the data can be either validated, expanded, or corrected as needed (Lincoln & Guba, 1985).

To employ member checking, I, within no more than 2 days of the completion of each interview, provided a word-for-word transcription of the participant's interview to him or her via e-mail. The e-mail invited the participant to review the attached transcription thoroughly to ensure it is an accurate reflection of what he or she shared during the interview. If the transcription was accurate the participant did not need to respond. However, if upon reviewing the transcription the participant identified discrepancies or inaccuracies, he or she was encouraged to contact the me via e-mail or by phone within one week of receiving the e-mail. In which case, a follow up meeting was scheduled between the researcher and the participant at an agreed upon location and time to ensure the transcription inaccuracies are corrected for optimal accuracy.

Confirmability was also be addressed in this study. Shenton (2004), articulated that confirmability is the qualitative researcher's version of objectivity, implemented to ensure that findings are the result of the experiences and ideas of the participants as opposed to affinities and preferences of the researcher to in reduce the potential effect of investigator bias. Miles and Huberman (1984) argued that the essential component of establishing confirmability relies on the extent to which the investigator admits and discloses his or her own dispositions and inclinations regarding the subject matter being studied, acknowledging such within the research report. Therefore, as a limitation of this study, I recounted how the notion of the mindset concept came particular in my exposure

to the popular works and publication of Dr. Carol Dweck. As a result, I acknowledged my inclination regarding noncognitive factors overall, including the mindset concept, and how as an educator I have felt that these factors needed to be addressed pedagogically in order to support learning.

Limitations

The collection and analysis of data on teacher mindsets in CNMI classrooms was characterized by several limitations. For instance, the use of semistructured interviews, limited participant responses to the topics identified in the interview guide as compared to the unstructured interview method (Robinson, 2014). The use of a semistructured interview lessened the impact of potential bias, giving the researcher opportunities to provide and ask follow-up questions, which will help to reveal more about the participants' actual familiarity and beliefs about the *mindset* concept (Frels & Onwuegbuzie, 2013). However, the use of interviews limited the participants' responses due to the emergence of social desirability bias.

In this case, since the interviews focused on the familiarity of teachers with the *mindset* concept, which some of the participants may have identified as an important concept in the contemporary classroom, it was possible that the participants answered the questions asked in a manner they perceived as more favorable. Indeed, participants who might have been familiar with Dr. Dweck's influential book on the importance of mindset to success may have answered the questions to correspond to the author's writings rather than to their personal attitudes and opinions. Additionally, because the study was conducted in one geographical area, it is possible that the teachers gathered similar

opinions and beliefs about the mindset concept, which may have had a limiting effect on the capacity to generalize the study's findings and conclusion beyond the CNMI.

Atieno (2009), asserted that qualitative methodologies are inherently interpretative, relying on approaches that require meticulous study that involves observation, inquiry, and explanation and assumes that it is impossible to specifically define exactly what variables or factors are critical and should be considered to the exclusion of others. Therefore, it is important to acknowledge that there is inherent limitation in this qualitative method. In this study in particular, I attempted to isolate the noncognitive factor of mindset as it pertains to the knowledge, perceptions, and practices among teacher in CNMI.

Data Analysis Results

The following data analysis subsections are organized reiterate important approaches that guide the process of the study. Thus, the subsections include data collection, demographics, thematic analysis, then is followed by an articulation of findings for RQ1, RQ2, and RQ3.

Data Collection

The necessary, sufficient qualitative data to answer the research questions were collected through in-depth, semistructured interviews (Berger, 2015) with purposefully sampled 15 educators from the subject School. The 15 educators were drawn from various backgrounds, including subjects taught and overall teaching experience. To ensure that the data collected reflected the lived experiences of the participants, the study adopted a generic qualitative research design.

According to Patton (2015), a generic qualitative approach enables a researcher to uncover the lived experiences of participants by examining the meanings that the participants attribute to various aspects of the research phenomenon. The choice of the generic qualitative approach was informed by the social constructivist theory, which posits that various realities exist and that the meanings that individuals assign to their lived experiences are essential for understanding a research phenomenon. To ensure the quality of the collected data, the research avoided asking leading questions and interrupting participants while answering questions. Also, the necessary ethical considerations such as securing the participants' informed consents were observed during the research process.

Recap of Procedures for Quality Assurance

In summary, all measure for quality assurance were followed as outlined to ensure credibility and confirmability of the data collected. To promote honesty, all prospective participants were given the option to deny participation to protects the data collection, ensuring that only those who were genuinely willing offer data freely were involved. Furthermore, all participants were encouraged by me to be open and honest from the onset of our interaction, which allowed for a rapport where rich and accurate data were collected. My role as a student researcher working to complete my terminal degree was emphasized with the guarantees that participants could share without any fear of repercussions. Also, all participants understood their right to withdraw from the study at any point without the need to provide me with a rationale. I disseminated a digital survey requesting for volunteers. Wherein the introductory context of the survey, I provided a

substantive overview of my study in accessible language and detailed the scope of participation. The survey emphasized the volunteer nature of the study, so those that choose to participate did so freely. The survey was given to the subject school administrator who then sent it to her teachers via e-mail to minimize potential coercion. Using the survey information, interviews with volunteer participants were scheduled.

At the onset of each of the 15 interviews, each participant was given a blank consent form. I reviewed the consent form explicitly and allowed the participant time to read the form as well as addressed his or her questions accordingly and reiterated the scope of participation as well as highlighted the details regarding the participant's rights, which includes a commitment to protect their identity, ensure confidentiality as well as highlighted the participants right to withdraw from the study at any point in time without the need to provide justification. My independent role as researcher had been disclosed and the participant were briefed on the semistructured interview process. This was done before the participants singed the document.

Member checking was successfully employed. In no more than 2 days of the completion of each of the 15 interviews, I was able to provide a word-for-word transcription of the participant's interview via e-mail. The e-mail invited the participant to review the attached transcription thoroughly to ensure accuracy of what he or she shared during the interview, giving the participant an opportunity to identify discrepancies or inaccuracies. No inaccuracies were reported; thus, no follow up meetings were scheduled.

Confirmability was addressed in this study as well. In the limitations, I noted disclosed my dispositions and inclinations regarding noncognitive factors and the mindset concept, recounted how the notion of the mindset concept came particularly in my exposure to the popular works and publications of Dr. Carol Dweck. I acknowledged my sentiment regarding noncognitive variables, particular the mindset concept as defined by Dweck and my perspective on how such needed to be addressed pedagogically in order to support learning.

Demographics

As Patton (2015) noted, the generic qualitative research model is employed to uncover the participants' experiences by examining the meaning attributed to their particular experiences or process in order to identify knowable patterns that bring to light the underlying meaning of the data. Thus, this study gathered data from 10 to 15 participants, teachers in the CNMI, about the research phenomenon on mindset. Accordingly, it was necessary that the sampled participants represented different gender (Tannenbaum, Greaves, & Graham, 2016). Table 1 shows the distribution of the participants and their respective gender.

There were 15 participants identified, 9 of whom were female, and 6 of whom were male. Therefore, based on the results summarized in Table 1, 60% of the participants in this study were female, while 40% were male.

Table 1

Participants by Gender

Participant ID	Gender
PT1	Female
PT2	Male
PT3	Male
PT4	Male
PT5	Female
PT6	Female
PT7	Female
PT8	Female
PT9	Female
PT10	Male
PT11	Female
PT12	Male
PT13	Male
PT14	Female
PT15	Female
n=15	

Thematic Analysis of Interviewees' Responses

The thematic data analysis process adopted by the study integrated top-down (theory-driven) and bottom-up (data-driven approaches to thematic analysis). The top-down thematic analysis strategy was utilized in the initial phase of analysis, during which broad themes (a master code list) was developed based on concepts synthesized, and theoretical concept developed, from literature review, and guided by the research questions (Clarke & Braun, 2014). The top-down strategy identified and described 20 broad themes (i.e., a master code list) based on the 20 follow-up questions asked during

the interview. The themes are summarized in Tables 2, 3, and 4 based on the research

questions.

Table 2

A Master Code List for RQ1

RQ1	Questions	Theme	Code
What knowledge and perceptions do teachers have regarding mindset at the subject school?	To what extent are you familiar with the mindset concept?	Familiarity with Mindset Concept	FMC
	To what extent do you believe your colleagues and school administrator are familiar with the concept?	Familiarity of Colleagues & School Administrator with Mindset Concept	FCSAMC
	Do you believe that your students' basic talents, intelligence, and abilities can be improved?	Possibility of Improving Students' Basic Talents, Intelligence, & Abilities	PISBTIA
	What strategies do you believe can be used to achieve this?	Strategies for Improving Students' Basic Talents, Intelligence, & Abilities	SISBTIA
	Do you believe in the concept of mindset?	Belief in Mindset Concept	BMC
	How would you define this concept?	Definition of Mindset Concept	DMC
	How do you help your students embrace their failures?	Helping Student Embrace Failure	HSEF
	How do you believe that student failures can improve their abilities?	Belief that Student Failure can Improve Abilities	BSFIA
	What effect, if any, has the mindset concept had on your teaching and learning as a teacher?	Effect of Mindset Concept on Teacher's Teaching and Learning	EMCTTL

Table 3

A Master Code List for RQ2

RQ2	Questions	Theme	Code
How do teachers at the subject school describe the use of mindset in their practices?	Can you change a student's basic intelligence? Have you achieved this in your practice? If yes, How?	Ability to change student's basic intelligence	ACSBI
	Do you believe that you can change student talents in specific areas? Have you achieved this, and if yes, how?	Belief in changing student talents in specific areas	BCSTSA
	Do you believe that students can change their basic ability level by learning new things? If yes, how?	Belief in students' ability to change their basic ability level by learning new things	BSACBALLNT
	Do you believe that it is easier to teach students with perseverance and grit?	Believe in the ease to teach students with perseverance & grit	BETSPG
	What are some of your experiences with such students?	Experiences with students with perseverance & grit	ESPG
	Do you prefer teaching students with an innate ability in the topic or subject being studied?	Preference for teaching students with innate ability in topic/subject studied	PTSIAT/SS

Table 4

A Master Code List for RQ3

RQ3	Subquestions	Theme	Code
How do teachers at the subject School demonstrate the use of mindset in their practice?	How do you create space in your classroom for students to pursue new ideas and try new approaches?	Creation of space in classroom for students to pursue new ideas & try new approaches	CSCSPNI&TNA
	How do you help students build persistence in their schoolwork and also build excitement about their schoolwork?	Helping students build persistence in schoolwork	HSBPS
	Do you believe that fostering a positive mindset is part of your responsibility and duty as a teacher?	Belief in fostering mindset as part of teacher responsibility & duty	BFMPTR&D
	How does the school administration support the development and application of the mindset concept in the classroom	School administration's support of development & application of mindset concept in classroom	SASD&AMCC
	How do you help or encourage students to attempt new strategies if they are having problems understanding new classroom concepts?	Helping/encouraging students attempt new strategies for understanding new classroom concept	H/ESANSUNCC

As presented in Tables 5, 6, and 7, the results of the initial coding of sub-themes and were organized by the three research questions that guided the study. From the master code list (summarized in tables 2, 3, and 4), the analysis adopted the bottom-up approach to identify common words or phrases from the recorded interview responses to develop nodes (sub- themes). The results of the initial coding of sub-themes from the interview responses were based on the master code list (Fugard & Potts, 2015).

Table 5

Results of Initial Coding of Emerging Sub-Themes for RQ1

RQ1	Master	Emerging subthemes and sources
What ' knowledge and perceptions do teachers have regarding mindset in the subject school?	FMC	Limited knowledge (PT2, PT4, PT7, PT12, PT15); Basic knowledge (PT1, PT5, PT6, PT9); Intermediate knowledge (PT3, PT8, PT10, PT13); Advanced knowledge (PT11, PT14)
	FCSAMC	Neither believes nor doesn't believe (PT1, PT6, PT9); Doesn't believe (PT2); Somehow believes (PT3, PT4, PT15); Believes (PT5, PT7, PT10, PT13); Strongly believes (PT8, PT11, PT12, PT14)
	PISBTIA	Believes (PT1, PT2, PT3, P4, PT5, PT6, PT7, PT8, PT9, PT10, PT11, PT12, PT14, PT15)
	SISBTIA	Crating a positive learning environment (PT1, PT2, PT3, PT7, PT10, PT11, PT14, PT15); Individualizing the learning process (PT4, PT5, PT6, PT8); Encouraging technology-based learning process (PT9); Creating a challenging learning environment (PT12); Molding students in collaboration with parents and community (PT13)
	BMC	Believes (PT1, PT2, PT3, PT4, PT5, PT7, PT8, PT10, PT11, pT12, PT13, PT14); Neither believes nor doesn't believe (PT6, PT9, PT15)
	DMC	Limited definition (PT3, PT4, PT5, PT7, PT8, PT9, PT13, PT15); Basic definition (PT1, PT2, PT6, PT11, Pt12); Intermediate definition (PT10); Advanced definition (PT14)
	HSEF	Creation of communities of practice in classroom (PT1); Creation of a positive learning environment (PT2, PT7, PT11, PT13); Encouraging reflective learning (PT3, PT8, PT10, PT15); Motivating/Encouraging students (PT4, PT5, PT6, PT9, PT12); Role modeling (PT14)
	BSFIA	Believes (PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8, PT9, PT10, PT11, PT12, PT13, PT14, PT15)
	EMCTTL	Understanding learning needs of students from different backgrounds (PT1, PT4, PT6, PT11, PT14, PT15); Improving students' learning achievement (PT2); Realization that I'm a co-worker in the learning process (PT3, PT12); Being creative and innovative in content delivery (PT5); Improving the quality of my teaching (PT7, PT8, PT9, pT10); Increased self-esteem & self-awareness (PT3)

Table 6

Results of Initial Coding of Emerging Sub-Themes for RQ2

RQ2	Master code	Emerging subthemes and sources
How do teachers at the subject school describe the use of mindset in their practice?	ACSBI	Teacher can't change, students can when exposed to challenging environment (PT1, PT11, PT15); Can change but lacks necessary competency (PT2); Teacher can change by collaboratively working with students (PT3, PT4, PT5, PT6); Teacher can change by creating a positive learning environment (PT7, PT9, PT14); Teacher can change by individualizing the learning process (PT8); Teacher can change by exposing students to new experiences (PT10, PT12, PT13)
	BCSTSA	Teacher can't change talent, but can help student reach goal (PT1, PT3, PT6, PT11, PT12, PT15); Teacher can change talent through constant engagement with students (PT2); Teacher can change talent through role modeling (PT4, PT7); Teacher can change talent through interactive learning (PT5, PT8, PT10, PT13); No Response recorded (PT9); Teacher can change talent through exposure to new experiences (PT14)
	BSACBALLNT	Students can change if interested in topic/subject being learned (PT1); Students can change if motivated (PT2, PT4, PT5, PT7); Students can change if exposed to new/challenging learning experiences (PT3, PT6, PT8, PT9, PT10, PT11, PT14,PT15); Students can change if taught basics first (PT12, PT13)
	BETSPG & ESPG	Easy to teach such students because they are motivated, self-confident, goal- oriented, and self-driven (PT1, PT2, PT3, PT4, PT6, PT7, PT8, PT9, PT11, PT15); Not Easy to teach such students because they are overconfident, overambitious, challenging, and easily demoralized when they fail (PT5, PT10, PT12); Easy to teach such students because they are attentive (PT13); Easy to teach such students because they have the right attitude to learning (PT14)
	PTSIA/SS	No, I prefer students with learning challenges (PT1, PT9, PT10, PT11, PT12, PT13, PT14, PT15); Yes, because they're adaptable to the topic/subject being taught (PT2, PT7); No, they are more challenging (PT3, PT4); Don't have preference (PT5, PT6,PT8)

Table 7

Results of Initial Coding of Emerging Sub-Themes for RQ3

RQ3	Master code	Emerging subthemes and sources
How do teachers at the subject school demonstrate the use of mindset in their process?	CSCSPNI & TNA	Making the classroom as democratic as possible (PT1, PT6, PT10, PT14); Creating a virtual learning environment and ability grouping (PT2); Encouraging communities of practice within the classroom (PT3, PT4, PT5, PT15); Making classroom as convenient as possible (PT7); Creating a learning environment that gives students opportunities to explore new learning experiences (PT8); Creating an integrated and supportive/interactive learning environment (PT9, PT11, PT12); Making the classroom as practicable as possible (PT13)
	HSBPS	Making the learning process as creative and dynamic as possible (PT1); Incorporating technology in the learning process (PT2); Making the learning processes as practicable, real, and exciting as much as possible (PT3, PT5, PT14, PT15); Encouraging team work (PT4); Encouraging and motivating students (PT6, PT9, PT10, PT11); Creating a positive learning environment (PT7); Being enthusiastic, using incentives, and creating a democratic learning environment (PT8, PT12, PT13)
	BFMPTR & D	Yes, it's responsibility and duty as a teacher because it impact on my effectiveness as a teacher, and hence influences learning (PT1, PT4, PT6, PT7, PT8, PT14); Yes, it's responsibility and duty as a teacher because I'm a role model to the students (PT2, PT3, PT9, PT10, PT11); Yes, it's responsibility and duty as a teacher because I have to keep the students positive and motivated (PT5, PT12, PT13, PT15);
	SASD & AMCC	No particular support but grants autonomy, encourages personal growth, creates a positive work environment, and supportive of teachers' needs (PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8, PT9, PT11, PT12, PT13, PT14, PT15); The school counselor talks about mindset, but not the [deputy]principal (PT10)
	H/ESANSUNCC	Encouraging students to work in groups and participate actively in the learning process (PT1, PT2, PT10); Using creative, practicable, and dynamic approaches to problem solving (e.g., PBO project based learning) (PT3, PT4, PT5, PT6, PT9, PT11, PT12, PT13); Making students feel comfortable in the learning environment (PT7); Supplementing the learning process with additional learning and teaching materials (e.g. digital tools, graphic organizers, pictures clues) (PT8, PT14); Encouraging group work (PT15)

The results are organized in subsequent headings. As a context, it is imperative to reiterate that despite its academic significance of the mindset concept, its potential for enhancing students' academic achievement remains unexplored in the Commonwealth of Northern Mariana Islands (CNMI). Therefore, in a bid to fill this knowledge gap, I developed an in-depth understanding of teachers' knowledge, perceptions, and practices about mindset in the CNMI. Accordingly, the study sought to answer the following three main questions:

RQ1: What knowledge and perceptions do teachers have regarding mindset at the subject school?

RQ2: How do teachers at the subject school describe the use of mindset in their practices?

RQ3: How do teachers at the subject school demonstrate the use of mindset in their practices?

Findings for Research Question 1

RQ1: What knowledge and perceptions do teachers have regarding mindset in the subject school?

Familiarity of the mindset concept. As it pertains to familiarity of the mindset concept, five of the 15 participants have limited knowledge (PT2, PT4, PT7, PT12, PT15), while four of the participants had basic knowledge (PT1, PT5, PT6, PT9). For instance, when asked about the extent of his familiarity with mindset concept and belief that his colleagues and school administrators were familiar with the concept, PT2 observed as follows:

As for myself, I've been with those workshops, and some we have presenters that presented about mindset, and with those classifications of mindset, categories of mindset but then we don't really do it at school, because we don't know how to do it. Nobody guided us to do it. Same thing with my colleagues and I, I don't see any mindset being applied on their classes.

From the above response, it is evident that P2 possess a limited knowledge about the mindset concept. The results also indicated that four of the participants possessed intermediate knowledge (PT3, PT8, PT10, PT13), while two (PT11, PT14) had advanced knowledge about the mindset concept. For instance, PT11 demonstrated the extent of his and colleagues' familiarity with the mindset concept by observing as follows:

I would say that I have some knowledge on mindset, especially with growth and fixed mindset. It's something that I've exposed my students to already. We've had a couple of activities, especially in the beginning of the new year when we came back from break, even had an escape-room activity, involving growth and fixed mindset, and just giving them that awareness of the difference between the two.

Therefore, PT11 seemed to possess a more advanced knowledge of the mindset concept than PT2.

Familiarity of colleagues & school administrator with mindset concept. As it relates to the participants' understanding and perception of the familiarity of their colleagues and school administrators with the mindset concept, three of the 15 participants were undecided (PT1, PT6, PT9) while one participant did not believe that their colleagues or administrators had knowledge or familiarly with the mindset concept

(PT2). For instance, the undecidedness of participants is evident in the following remarks by PT1: "With my colleagues, I'm not sure if they know about mindset, even the admin." Three participants somewhat believed that their colleagues and administrators had knowledge and familiarity (PT3, PT4, PT15), four participants believed that their colleagues had knowledge and familiarity (PT5, PT7, PT10, PT13) and four participants strongly believed that their colleagues and administrators were both knowledgeable and familiar with the mindset concept (PT8, PT11, PT12, PT14). For instance, PT11 noted as follows:

> In terms of my colleagues and administrators, I think same as me. We have an idea of what it is and definitely I think that some of us do possess those qualities, of having growth mindset and trying to have the mindset to better the school as a whole.

Possibility of improving students' basic talents, intelligence, & abilities. When asked about the possibility of improving students' basic talents and abilities, all 15 participants believed student basic talents and abilities could be improved (PT1, PT2, PT3, P4, PT5, PT6, PT7, PT8, PT9, PT10, PT11, PT12, PT14, PT15). For example, PT3 noted as follows: "Yes, I believe that their abilities can be improved. The strategies used to improve them is Since we're talking about mindset, it's improving their mindset." PT12 even went ahead to illustrate how believed students' basic talents and abilities could be improved when the noted as follows:

> Oh yes. I believe they gotta be challenged every day. If you have a student who's understanding the concept and the lessons for that day, it's a disservice to them if

you're just gonna stick with   that. You always gotta challenge them. You maybe

have follow up questions, or ask them to do a little more research, and whatever

the task is given to them. But yeah, it's definitely important for all students to be

challenged and not be content with what they already know, or what they're

currently learning.

Strategies for improving students' basic talents, intelligence, & abilities.

Regarding strategies for improving student basic talents, intelligence, and abilities, eight

participants identified creating a positive learning environment as a strategy (PT1, PT2,

PT3, PT7, PT10, PT11, PT14, and PT15). For instance, PT11 provided an elaborate

response to this subject by noting as follows:

Most definitely. I think that all students can learn and all students can improve. I

think there are so many strategies, even just by creating positive learning

environment for them. Like I said, it could even be something as simple as

encouragement and praise and then obviously support with the skills. Because

skills and knowledge they're interconnected. They're obviously not separate from

one another and that's what some of us need to adjust. That's where mindset has to

shift, so yeah I think there are just so many strategies out there. Even something

as little as praise, to something with the way that you differentiate your

understanding.

However, four participants (PT4, PT5, PT6, and PT8) thought that students' basic

talents, intelligence, and abilities could be improved by individualizing the learning

process, while one participant noted encouraging technology- based learning process

(PT9), one participant indicated creating a challenging learning environment (PT12), and one indicated molding students in collaboration with parents and community as strategy to improve student basic talents, intelligence and ability (PT13). For instance, PT13 observed as follows:

> Okay, talents, intelligence, and abilities. I think that everyone is born with an inherent set of these things, and that. . . they can be sharpened and developed on. However, it takes teachers, parents, and community to help shape those. So, as an example, if a student or a child has learned to avoid adult communication because at home he's told not to talk when the parents are talking, in school, that mindset of, "I need to be quiet," is going to be there, and we have to break them out of that mold, right? So, I think that, yes, it can be modified, both positively and negatively, and it can be done on purpose, and it can also be done on accident through just a careless comment or through an action.

Belief in mindset concept. Continuing to articulate the results related to RQ1, as it pertains to belief in the mindset concept, 12 of the 15 participants noted that they believed in mindset (PT1, PT2, PT3, PT4, PT5, PT7, PT8, PT10, PT11, PT12, PT13, and PT14). For instance, PT5 observed as follows:

> I do believe in the concept of mindset. How I would define it . . . So mindset is just what you believe in, you're strong about it. And it's whether you allow yourself to change your mindset or just, I guess, stand still, not move. That's where you're at and you're gonna stay there for as long as you want to, until you actually grow or want to grow. So I guess that's my take on mindset.

Three participants provided inconclusive data, neither acknowledging their belief nor disbelief (PT6, PT9, and PT15). For instance, PT6 provided as follows:

I only have my own personal understanding of mindset, because it seems like there's research about it, and I don't know . . . I've never researched it, but I do feel that a person's mindset greatly, immensely affects their own success and what they're capable of doing. It's like your own expectations of what you are capable of, and how you view the world and things around you.

Definition of mindset. When ask to provide a definition of the mindset concept, eight of the 15 participants had a very limited definition of mindset (PT3, PT4, PT5, PT7, PT8, PT9, PT13, PT15); five participants had a basic definition (PT1, PT2, PT6, PT11, PT12). For instance, PT11 observed as follows:

That's definitely difficult to define. I do believe in the concept of mindset. Your mind is a powerful thing. That's very difficult, to define it, but I think it's the way you think, your attitude, your approach to affect change. Regardless of what kind of change you're trying to accomplish. Yeah, I believe it's attitude, approach, yeah I'll stick with that.

One participant had a related intermediate definition (PT10); and one had an accurate or advanced definition of mindset, able to identify the role of mindset in learning as well as the two types of mindset, fixed and growth (PT14). PT14 noted as follows:

Mindset is value that I . . . or a perception that any individual has or carries. As a teacher, I do believe that each of us has a mindset of his own, and it could also graduate into extremes. Let me just expand on that. Everybody wants to have a

growth mindset. That is the plan. However, there are days when you just seem to have a fixed mindset. But generally speaking, when you have a growth mindset, you generally have that growth mindset. There are other, like I said, there are days though when you could not be as receptive to growth as much as possible. There are days or times when you tend to retreat back to having a fixed mindset, but eventually at the end of the day, you do have a growth mindset. Was there any question that I missed?

Helping students embrace failure. When asked to comment on how they could help students embrace failure, one of the 15 cited the creation of communities of practice in classroom (PT1). PT1 remarked as follows:

In my class I teach science so a lot of it deals with performance based assessments and they are usually in groups. What I do is, instead of me telling them what they got wrong or whatever, we do ... I make the class critique and we talk about what's good and what they can improve on; not what they did wrong. So it's mainly how you, I guess, address it.

Four individuals noted the creation of a positive learning environment as an effective strategy to dealing with failure (PT2, PT7, PT11, PT13); four participants noted an encouraging reflective learning (PT3, PT8, PT10, PT15); five indicated the need to motivation and encouragement strategies to help students embrace failure (PT4, PT5, PT6, PT9, PT12); and one participant referenced role modeling (PT14). For instance, PT14 observed as follows:

Yes, I do. I absolutely believe that their failures can improve their abilities, because I for one, just like today really, this morning, I was telling them about how I was as a child. So when I share my experiences with them, they pick ideas from it. I was just telling them there was somebody whose tried to bully me, and that I was referred to as no good, because I was quiet. Eventually when I gave my project, which is a mythology, or a legend I think, I was one of the first, and I knew how to write, but the other persons did not know that I knew how to write. So I was left alone, I was not given the chance to grow. So I told them that this is a story, my personal story, they should always know that they're as capable as any other person in that room.

Belief that student failure can improve abilities. In regards student failure and its impact on improving abilities, all 15 participants believed that failures could improve student's ability with the right guidance (PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8, PT9, PT10, PT11, PT12, PT13, PT14, and PT15). For instance, PT8 responded as follows:

Of course. Okay, we're not perfect, right? And the way I handle that is to make them aware of their failures, so they can embrace it. Then, from there, you help them to analyze it, to self-reflect why failures happened, right, because there are some outside   factors that contribute to that failure. They might be under control, or they may have control over it, but then they can learn from those failures, can learn from those mistakes.

PT11 on the other hand remarked as follows:

Okay. It's through growth and experience. They've already experienced what it's like to . . . I really don't like saying fail. To fail or go down in something but using that experience they know how to move forward. They can figure out ways through, even with the help of other peers or myself like, "Okay, what do I need to do now to make sure that doesn't happen again?"

Effect of mindset concept on teachers' teaching and learning. Lastly, when asked about how mindset effects teachers' teaching and learning, six of the 15 participants noted mindset role in helping them to understanding the learning needs of their students from different backgrounds (PT1, PT4, PT6, PT11, PT14, PT15) and one participant indicated its role in improving students' learning achievement (PT2). PT11 for instance noted as follows:

It definitely changed my attitude towards certain things, especially with all the different mandates, their requirements. It's definitely created some form of . . . How do I explain? Ease into adjusting. My feelings of being very apprehensive or overwhelmed have subsided quite a bit, especially compared to before. It's not that I would resist a lot. It's just like, "Pam, but I'm already doing this." But I think it's good to have a particular mindset especially with different changes because you never know what your kids are going to benefit from, so why not try other things.

Two individuals noted its help in the realization that they are co-workers or co-laborers in the learning process (PT3, PT12); one participant noted that mindset effects one's ability to be creativity and innovative in content delivery (PT5); four expressed its

effect on improving the quality of teaching (PT7, PT8, PT9, PT10), and one participant noted the role of mindset in increasing self-esteem and self-awareness (PT3). PT3 responded as follows:

> Prior to being an educator, I was in the private industry. I owned a business. I went to a few of the Dale Carnegie workshops. So, I come from that background where I've had these trainings that are self-help type things. So, I take that past history and I brought it into me with education.

Findings for Research Question 2

RQ2: How do teachers at the subject school describe the use of mindset in their practice?

Ability to change student's basic intelligence. Relating to a teacher's belief that they can change a student's basic intelligence, three of the 15 participants noted that teacher can't change a student's basic intelligence; however, students can when exposed to a challenging environment (PT1, PT11, and PT15). PT1 observed as follows: "Okay. I don't think you can change a student's basic intelligence. I think they can. Depending on how ... I guess they learn from your teaching."

One participant noted that they believe they can help students change, but the student needs the necessary competency first (PT2); four participants indicated that a teacher can change a student's basic intelligence by collaboratively working with students (PT3, PT4, PT5, PT6); three participants indicated that a teacher can change a student's basic intelligence by creating a positive learning environment (PT7, PT9, PT14); one participant said that a teacher can change a student's basic intelligence by

individualizing the learning process (PT8); and three participants believe they could

change a student's intelligence by exposing students to new experiences (PT10, PT12,

PT13). PT10 observed as follows:

> Basic intelligence. We cannot really help how they developed. We get them at a
>
> certain level, and more often than not, they are not at level. You know, they're not
>
> at the 7th grade level, 6th grade level, but that's not their fault, and we cannot
>
> blame them for that. The best that we can do is just help them improve, basically.

Belief in changing student talents in specific areas. In examining if participants

believed they could change a students' basic talent, six of the 15 participants indicated

that a teacher can't change talent, but can help student reach goal (PT1, PT3, PT6, PT11,

PT12, PT15); 1 individual noted that a teacher can change talent through constant

engagement with students (PT2); two individuals believed that a teacher can change

talent through role modeling (PT4, PT7); four participants expressed the belief that a

teacher can change talent through interactive learning (PT5, PT8, PT10, PT13); one

participant did not provide a comprehensible response (PT9); and one participant noted

that a teacher can change talent through exposing students to new experiences (PT14).

For instance, PT14 observed as follows: "Yes . . . Their attitude. It's the attitude that

counts."

Two participants thought that a teacher can change talent through role modeling

(PT4, PT7); four participants expressed the belief that a teacher can change talent through

interactive learning (PT5, PT8, PT10, PT13); one participant did not provide a

comprehensible response (PT9); and one participant noted that a teacher can change

talent through exposing students to new experiences (PT14). PT9 noted as follows: "I think we can. I think we can change. We just have to tell them or encourage them that there's other things that they can try."

Belief in students' ability to change their basic ability level by learning new things. In continuing to articulate, the findings related to RQ2, participants were asked if they believed that students could change their basic ability level by learning new things. One participant noted that it was possible to change a students' ability if the student is interested in topic or subject being learned (PT1). PT1 remarked as follows:

Yes. For example, we're learning about matter and students actually are interested in the subject, they're going to try their best to understand it more, do some more research, learn more about it. When, I guess . . . when students are interested, yeah they can change their intelligence.

Four participants noted that students could change their basic ability if they are motivated (PT2, PT4, PT5, PT7); eight participants noted that they believed they could change a student's basic ability if students are exposed to new or challenging learning experiences (PT3, PT6, PT8, PT9, PT10, PT11, PT14, PT15); while two participants believed that students could change their basic ability if they are taught basics fundamentals/skills regarding the subject first (PT12, PT13). For instance, PT12 observed as follows:

The one thing that comes to mind, somewhat of an analogy is, when I was taught Singaporean math, that's one way where you can see the progression of how someone can get better at doing math. They start off with the basic fundamentals,

and then they build from that. So it's really, literally, a step by step process. If you can teach a student, no matter what area, whatever subject, you teach them the very basic fundamentals, and then you can build from that using the same fundamentals, even at the end product of things. They're gonna be able to see that it's very important to have those foundations, the basic fundamentals of whatever skills that they're trying to build up on.

Believe in the ease to teach students with perseverance & grit experiences with students with perseverance and grit. When participants were asked if they preferred to teach students with an innate ability in the topic or subject being taught, 10 of the 15 participants noted that it is easy to teach such students because they are motivated, self-confident, goal-oriented, and self-driven (PT1, PT2, PT3, PT4, PT6, PT7, PT8, PT9, PT11, PT15). PT9 responded as follows: "I think, yeah. It's easier to teach students with more perseverance . . . Because these students, they're trying their best to learn more things, or they're gonna try their best to make sure that they will learn something."

Three participants indicated that it is not easy to teach such students with innate abilities because these students are overconfident, overambitious, challenging, and easily demoralized when they fail (PT5, PT10, PT12); one participant noted that it is easy to teach such students with innate abilities because they are attentive (PT13); and one participant noted that it is easy to teach such students because they have the right attitude toward learning (PT14). PT14 observed as follows:

Most definitely. Attitude is the big factor that counts towards the person getting

motivated to reach for the brass tacks. When you try to reach out for goals, no

matter how low you are in intelligence, no matter how bad your emotional issues

are at home, I think when you have perseverance, when you persevere towards

reaching your goal, you will definitely get it. I have one of my students in eighth

grade. He mentioned to me one time, "I don't understand how these kids don't do

work. I have a very bad family life, I struggle, but I try to do my best." But he of

course . . . Not everybody's like that, although you want everybody to have that

kind of attitude.

Preference for teaching students with innate ability in topic/subject studied.

Lastly, when participants were asked if they had a preference for teaching students with

an innate ability in the topic or subject being studied, eight participants did not prefer

such students, citing that they preferred students with learning challenges (PT1, PT9,

PT10, PT11, PT12, PT13, PT14, PT15). For instance, PT1 remarked as follows:

No, I want to have a challenge to. I want to try and get that student that hates

science, to love science. That is, that's my goal to reach instead of having just

students that love science because it's going to be so easy but in life, everything is

challenging.

Two participants said that they do prefer student because these students with

innate ability are more adaptable to the topic or subject being taught (PT2, PT7); two

participants said they did not prefer students with an innate ability as such students are

more challenging to teacher (PT3, PT4); and three participants noted not having a preference (PT5, PT6, PT8). For instance, PT5 observed as follows:

> To be completely honest, I have no preference, because to say that I do means that I favor certain students over others, and honestly, I feel like every student has innate abilities, and for some students, it's more apparent, because they work hard and they stand out and they get good grades, but for other students ... Some of the students that have had a lasting impression on me are the ones who came in with a third grade reading level, and they couldn't even write a complete sentence, and yet, through my motivating them and my encouraging them, and my sitting down one to one with them, and say, "Hey, let's take a look at this essay. Let me help you with this. Let's reorganize this," and then say, "I'm so proud of you." Those students who aren't as obviously high achieving, they've excelled so much, and one example is one of my struggling students with one of the lowest...

Findings for Research Question 3

RQ3: How do teachers at the subject school demonstrate the use of mindset in their process?

Creation of space in classroom for students to pursue new ideas and try new approaches. As it pertains to the creation of space in classrooms for students to pursue new ideas and new approaches, four of the 15 participants noted that making the classroom as democratic as possible is an effective way to encourage students to tackle new ideas and attempt new approaches (PT1, PT6, PT10, PT14). PT1 noted as follows:

Well sometimes in my classroom, I actually give them the option to either just go ahead have a seat anywhere, sit on the ground, where they're comfortable with their groups to brainstorm with whatever the lesson is about to create new ideas and stuff.

One participant shared that creating a virtual learning environment and using ability grouping is an effective way to motivate students to pursue new ideas and try new approaches (PT2); four participants believed that encouraging communities of practice within the classroom is an effective way to promote new ideas and prompt new approaches (PT3, PT4, PT5, PT15); one individual noted that making classroom as convenient as possible is effective in promoting such an environment (PT7); one participant shared that creating a learning environment that gives students opportunities to explore new learning experiences is also effective (PT8); three participants contributed that creating an integrated and supportive and interactive learning environment is integral to helping students to pursue new ideas and new approaches (PT9, PT11, PT12); and one participant shared that making the subject as practicable as possible is effective in promoting such (PT13). PT13 noted as follows:

Okay . . . My destination is to develop students who can use the engineering and design process, the scientific method, critical thinking in their everyday life, not just when it's science time or project time. I do that by starting off with giving them all the basic building blocks. This is what I tell them, what I expect from them, the expectations. But then I leave it open. My projects in this class are . . . we have a garden inside the class. This classroom is my conference room. We sit

here. We'll sit down, and that's why I sit up in the conference area, and we talk about the problems we're having outside, and I ask them to brainstorm and come up with ideas to how to fix it. And then we go outside, and I let them experiment with methods to do that. And they will succeed or they will reach a stumbling block that says, "Hey, this didn't work, Mr. James. What can I do," and then we'll talk about options for it.

Helping students build persistence in schoolwork. When teachers were asked how they help students build persistence in school work and also build excitement about their school work, one of 15 participants said that making the learning process as creative and dynamic as possible is effective (PT1). PT1 for instance remarked as follows:

For me every year I try and do different things instead of reinventing the wheel, like just sticking with the book. So last year I did interactive notebooks, actually two years ago and then last year I tried digital interactive notebook. This year I'm doing Cornell Doodle Notes and they actually are showing more interest and they're actually wanting to do their work. They're excited to do their work because they get to color, they get to draw, and they get to fill in the blanks instead of writing all of their notes by themselves.

One participant shared that incorporating technology in the learning process was a sure way to achieve such (PT2); four participants noted that making the learning processes as practicable, real, and exciting as much as possible helps students build persistence in school work and also build excitement (PT3, PT5, PT14, PT15)

One participant helped students build persistence in school work by encouraging team work (PT4); four participants did so by encouraging and motivating students (PT6, PT9, PT10, PT11). PT11 observed as follows:

> I think for persistence, that is a struggle because not everyone has that same level, or that same drive, but I think with continuous encouragement, like showing them that you genuinely want to see them succeed, or like you're actually following up, or following through, with what you shared with the students. There was a second part, what was the second part?

PT7 created a positive learning environment (PT7) by being enthusiastic, using incentives, and creating a democratic learning environment (PT8, PT12, PT13).

Belief in fostering mindset as part of teacher responsibility & duty. When asked if they believed that fostering a positive mindset is part of their teaching responsibility and duty as a teacher, six of the 15 participants said that it is their responsibility and duty as a teacher because it impacts their effectiveness as a teacher, and hence influence on learning (PT1, PT4, PT6, PT7, PT8, and PT14). For instance, PT1 responded as follows:

> Yes, because if you don't have a positive mindset your students are actually going to feel it. When they come in the classroom and you're not showing a smile or you're looking down, they're gonna feel that emotion and they're not going to want to . . . they're not going to be motivated and excited to be in a class. So if you have a positive mindset, they're going to have a positive mindset as well. So you're like their . . . like a role model.

Five participants said that it is their responsibility and duty as a teacher because teachers are a role models to the students (PT2, PT3, PT9, PT10, PT11); and four participants said that it is their responsibility and duty as a teacher because they have to keep the students positive and motivated (PT5, PT12, PT13, PT15). PT15 noted as follows:

I believe it is. I mean, we're here for them. We're here to teach them all the things that should prepare them for their real life. I would say, I would foster whatever they would like to learn. I would try my best to give it to them. If I can't, then I will let them know. "I'm sorry, I don't know this one. Maybe we could find somebody else who could come in and present to us."

School administration's support of development and application of mindset concept in classroom. Continuing to articulate the results as it pertains to RQ3; participants were asked if their administration support the development and application of the mindset concept in the classroom. 14 of the 15 participants indicated that no particular support was provided by administration in regard to mindset, however, the administration does grant autonomy, encourages personal growth, creates a positive work environment, and supports teachers' needs (PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8, PT9, PT11, PT12, PT13, PT14, PT15). For instance, PT2 noted as follows:

Not much on the mindset but as a new teacher here of this school, I believe that they are always supportive to a teacher's needs with respect to the materials and necessary or the implementation of the course or of the subjects. They are 100% supportive with that. As for the mindset, as I said I don't see a lot of them for now.

> Yeah, it's all about us to implement or to maybe a research but as I said we need guidelines for that. We need help.

One of the participants (PT10) shared that the school counselor talked about mindset, but not the school administrators. PT10 observed as follows:

> Not explicitly, no, not explicitly. But, I believe a lot of us just have an unspoken understanding of how we can support that, but it's not explicitly supported, in a sense. The counselor though, she does come in and talk about mindset, so in that sense, yes. But, from like principal and vice principal, not explicitly, like I said.

Helping/encouraging students attempt new strategies for understanding new classroom concept. Lastly, in regards to helping and encouraging students' attempt at new strategies for understanding new concepts, three of the 15 participants noted that encouraging students to work in groups and participate actively in the learning process was an effective strategy (PT1, PT2, and PT10). For instance, PT1 noted as follows:

> Okay. So usually in my class we do a PowerPoint presentation, they take notes and if they have any questions I put them in groups and I make them write questions and sometimes when they write questions another student can answer and then we share with the class instead of signaling out that student that's having a problem. So we can address it as a whole.

Eight participants noted using creative, practicable, and dynamic approaches to problem solving (e.g., PBO project based learning) as useful strategies to encourage students to attempt new strategies for understanding new concepts (PT3, PT4, PT5, PT6, PT9, PT11, PT12, PT13); one individual noted making students feel comfortable in the

learning environment as a strategy (PT7); two participants noted supplementing the learning process with additional learning and teaching materials (e.g. Digital tools, graphic organizers, pictures clues) as useful for promoting such (PT8, PT14); and one participant noted encouraging group work as an effective in encouraging students' attempt at new strategies for understanding new concepts (PT15). PT15 observed as follows:

> So they will write down and then we'll go to it one by one until everybody understands it. And then there'll be some students who do understand it so I will ask them, "Can you take this group of students and you tell them what it's like." Then I will bring them back and then I will have them explain to me what are they understood about what their classmate explained.

In interpreting the findings above for the three research questions that guided this study, the data suggested that the teachers in the CNMI have a limited knowledge of the mindset concept. Their perceptions on mindset, specifically on an individual's potential for learning, are highly growth oriented despite their lack of understanding concerning the mindset concept. And, in regard to mindset as a pedagogical practice, there were no clear attribution of instructional routines and strategies that were explicitly or directly employed by the teachers to address the mindset concept. However, of the variety of strategies indicated by the teachers, several strategies are often associated with a growth mindset.

Conclusion

In light of the findings above, it is evident that the participants in the subject school have limited knowledge regarding mindset. Nevertheless, a significant majority of the teachers believes in the concept of mindset, and those students' basic talents, intelligence, and abilities can be improved. However, most of the teachers can only provide a limited definition of the mindset concept. For instance, one of the teachers defined the mindset concept as follows, "Mindset is who you are, who you think you are, what you're capable of, what your beliefs are, who you are in the world."

The study findings also indicated that the majority of the teachers believe that student failures can improve their abilities. For most teachers, the mindset concept helps them in understanding the learning needs of their students. Even though the school administration had given the teachers the necessary autonomy, promoted teachers' professional development, supported teachers' needs, and has created an enabling work environment, the administration has not explicitly addressed the concept of mindset, regarding developing the necessary guidelines for its development and implementation in the classroom. For example, one of the teachers said the following about the school administration's support of the development and implementation of the mindset concept in the classroom:

"Off the top of my head, I don't think so. I do not think they focus on students' mindset so much. I think they understand it to a certain extent, but for the most part, they leave it to the teachers to figure things out."

The problem statement of this study underscored the notion that the *growth mindset* concept, despite its influential role in students' academic achievement, is not currently meaningfully incorporated in pedagogical processes in middle schools in CNMI, a phenomenon that significantly contributes to the poor academic achievement among middle school students in the CNMI. The results of the study thus confirmed the research problem. The results of the study suggested that the mindset concept in the subject school is currently underdeveloped and not implemented in the learning process. Most teachers, if not all, also have limited knowledge and inaccurate perceptions regarding the mindset concept. Also, the mindset concept is underutilized in the subject school. Moreover, teachers at the subject school do not demonstrate the use of mindset in their teaching practices. Accordingly, there is a need for a sensitization program on the importance of developing and implementing the mindset concept in the classrooms at the subject school. Such a program should encompass promoting professional development for teachers in the subject school.

Section 3: The Project

Introduction

The current study was conducted to develop an in-depth qualitative understanding of teachers' knowledge, perceptions, and practices about mindset in the CNMI. Accordingly, the study answered three research questions. First, what knowledge and perceptions do teachers have regarding mindset at the subject school? Second, how do teachers at the subject school describe the use of mindset in their practices? Third, how do teachers at the subject school demonstrate the use of mindset in their practices? The findings of the study indicated that the mindset concept in the subject school is currently underdeveloped and not reasonably integrated into the learning process. The majority of teachers in the school possess limited knowledge and inaccurate perceptions regarding the mindset concept. Moreover, the findings of the study revealed that the mindset concept is underutilized in the subject school and that teachers in the school do not demonstrate the use of mindset in their teaching practices.

Improvement of the genre of professional development plays an important role in enhancing teachers' knowledge of the pertinent components in understanding the imperatives of mindset and the applicable approaches of comprehending the school subjects. Despite the affirmed declining levels of professional development among teachers in the CNMI, a concerted effort to advance such an aspect will improve the integration in the subject school, hence improving the overall results and performance among the teachers as they deliver critical instructive services that in turn improve student academic outcomes.

In addition, such an approach will ensure that the teachers have an accurate perception regarding mindset. Professional development plays an essential role of developing service delivery strategies among teachers, which in turn has a direct influence on teacher-student academic impact. In a wider context, Crowley (2017) indicated a comprehensive enhancement of professional practice is critical in broadening the understanding of various components of teaching, hence improving the overall success of teachers in the dispensation of their services. According to Winn, Emans, Newman, and Sandora (2018), an expansive broadening of the scope of professional development will enhance the overall impact of teachers on the learners. Additionally, González and Skultety (2018) affirmed that enhancing professional development will enable teachers to understand various aspects of the different impediments to the overall success of their service delivery.

Based on the above findings, there is a need for a sensitization program on the importance of developing and implementing the mindset concept in the classrooms at the subject school. Such a program needs to encompass promotion of professional development for teachers in the subject school. Accordingly, this study proposes a professional development sensitization seminar ("the Project"), which will focus on helping teachers in the CNMI to improve their knowledge, perceptions, and practices regarding mindset, with the ultimate goal of improving teaching and learning in their respective classrooms.

Rationale

Most educational reform processes have tended to focus more on what materials students are taught (curriculum) and how the material is taught (pedagogy; Dweck, 2014; Serdyukov, 2017). Little attention is often given to psychological factors or what is sometimes referred to as noncognitive or motivational factors in education literature (Dweck, 2014). As pointed out by Dweck (2006), academic tenacity, or mindset in the context of the current study, is an important determinant of a student's academic success or failure. The challenges students experience within and without the learning environment affect their psychology, with significant consequences for their learning achievements (Dweck et al., 2014). Therefore, as large-scale challenges with the educational systems continue to be faced, there is a need for educators to facilitate "students to become more motivated and successful learners" (Dweck et al., 2014, p.2). This research proposes an in-depth advancement of professional development as a pivotal approach to enhancing the understanding of learners.

According to Gathumbi, Mungai, and Hintze (2014), equipping teachers with motivational skills is one of the professional development requirements and pedagogical best practices for the 21st century learning environment. Therefore, with adequate knowledge about and accurate perceptions and effective practice of the mindset concept, teachers can utilize the concept to enhance the academic tenacity of students by integrating it in their teaching practices. Such integration of the mindset concept thus promotes long-term learning and achievement among the students. It is for this reason that the project is deemed necessary for teachers in the CNMI. Therefore, the project is

aimed at understanding the importance of professional development in enhancing various aspects of teachers understanding and effective delivery of service.

Review of the Literature

Introduction

This subsection provides the theoretical and contextual framework within which the project was designed. The literature search focused on professional development for teachers, its effectiveness in changing teacher practices, and frameworks of professional development that related to the mindset concept. In particular, what emerged was a review of existing relevant literature on the mindset concept, covering (a) sensitization and professional development programs; (b) growth mindset for teachers (GMT); (c) growth mindset for teacher teams (GMTT); (d) making the mindset shift; (e) instruction, learning environment, and instructional routines; and (f) motivational tactics. In addition, literature in the review expounded on mindset instructional strategies such as (a) digital learning stories, (b) choice maps, (c) adolescent literature, (d) computer programs, (e) peer tutoring, (f) self-evaluation, (g) formative feedback, and (h) teacher modeling. The review also centered on professional development and its role in changing teacher practices. More specifically, I attempted to identify professional development related to promoting a growth mindset in the classroom. Themes that emerged from the initial literature search regarding professional development related to instructional practices that include praise, feedback, cooperative learning, language frames, performance tasks and assessment, and instructional routines.

Professional Development

Various sensitization and professional development programs for educators on the importance of developing and implementing the growth mindset concept in the classrooms have been initiated and implemented in various jurisdictions across the globe. These programs are often grounded in the understanding of the important role growth mindset plays in enhancing students' academic success (Bedford, 2017). Research has shown that professional development plays a critical role in promoting growth mindset in the teaching and learning environment (Fraser, 2017). In an exploration of the application and implementation of growth mindset principles within a primary school, Fraser (2017) found that the nature and extent of growth mindset promoted in the teaching and learning environment was largely influenced by the level of educators' professional development. Such development determined teachers' understanding of the foundation of growth mindset teaching and learning. In another study, Daniels (2017) found that professional development is one of the important curricular factors that motivate middle school teachers to become and remain effective.

One of the professional development/sensitization models commonly designed for fostering teachers' professional development and enhancing growth mindset implementation in the teaching and learning environment is the Mindset Kit designed by Stanford University's Project for Education Research that Scales (PERTS). The Mindset Kit is intended to enhance teachers' professional development by equipping them with the necessary skills for helping students develop growth mindset (Beaubien, Stahl, Herter, & Paunesku, 2016). The PERTS' Mindset Kit is a set of online lessons and

mindset practices designed to equip educators with the basic skills for teaching and fostering growth mindset practices in the classroom (Worrall, 2017). The Kit is based on the understanding that students with growth mindsets who feel motivated, resilient, and engaged are more likely to become successful learners (Paunesku et al., 2015). The Kit's resources include professional development courses for teachers, parents, teacher teams, and a growth mindset for Math. The Kit's Growth Mindset for Teachers and Growth Mindset for Teacher Teams are characterized by various objectives and activities.

According to Kennedy (2016), professional development programs are anchored on various theories that underpin the curricular and pedagogical processes. Reviews of professional development programs often classify such programs based on the duration of a program, program design features, program intensity, or the use of specific pedagogical techniques such as online lessons or coaches (Kennedy, 2016).

Growth Mindset for Teachers

The GMT is one of the aspects of the PERTS' Mindset Kit aimed at enhancing the professional development of educators. The GMT is a 45-minute course the objective of which is to enhance teachers' professional development by equipping them with basic concepts regarding growth mindset. It offers growth mindset quizzes, features activities, and provides relevant demonstration videos (Beaubien et al., 2016). Through this course, teachers learn about the growth mindset concept and why it is important, how to teach the growth mindset concept (i.e., talking to students about neuroscience), including preparation of growth mindset lesson planning, as well as the various forms of praises that foster growth mindsets (Beaubien et al., 2016). The GMT course, the overarching

goal of which is to enhance professional development of teachers, also takes teachers

through modes of promoting mistakes from the scholarly works of Dweck and Boaler and

teaches them how to use different tools for assessing students' development of positive

mindsets as well as how to use math and science tests to foster students' growth mindsets

(Beaubien et al., 2016). See Appendix A for a tabular summary of the GMT.

A qualitative study conducted by Sharplin, Stahl, and Kehrwald (2016) to assess

the impact of professional development on teacher pedagogical practices among

preservice teachers found that professional development enhances the preservice

teachers' teaching practice and ability to provide feedback to strengthen the development

of growth mindset among learners. Sharplin et al. (2016) expounded that professional

development's orientation on individualized growth and peer interaction promotes the

kind of growth-oriented practices that are effective in nurturing a growth mindset among

students in the classroom.

Growth Mindset for Teacher Teams

The GMTT is a 30-minute course the objective of which is to improve the

professional development of school administrators seeking to introduce the mindset

concept in their schools by equipping them with the requisite skills on growth mindset

practices (Beaubien et al., 2016). The course entails taking teacher teams through a five-

session professional development series intended to help the team develop the necessary

skills for implementing growth mindset practices in their schools, exposing teacher teams

to a wide range of professional development growth-mindset activities and

learning/teaching resources, and using growth mindset outreach materials to introduce

teacher teams to growth mindset research (Beaubien et al., 2016). In addition, the GMTT takes teacher teams through basic processes for designing invitation handouts for teachers to take part in growth-mindset professional development sessions as well as evidence-based practices for fostering teaching of growth mindset in their schools (Beaubien et al., 2016). See Appendix A for a tabular summary of the GMTT. According to Ashok (2014), an effective mindset toolkit for fostering growth mindset should be simple and responsive to a teacher's teaching styles and a learner's personal learning needs.

Making the Mindset Shift

Professional development plays a critical role in increasing educators' capacity to make necessary mindset shift in the teaching process (Jacob, Xiong, & Ye, 2015). According to Dweck et al. (2014), growth mindset is not entirely a property of the students. Schools and teachers also have a role to play in fostering growth mindsets. One of the ways to have schools and teachers embrace the growth mindset concept is to initiate programs that motivate schools and teachers to create challenging learning environments that hold students to high standards (Dweck et al., 2014). A challenging learning environment fosters growth mindset development and achievement of learning goals (Dweck et al., 2014). Schools and teachers can also promote learners' effective self-regulation by providing the students with both cognitive and non-cognitive (i.e., motivational) support (Dweck et al., 2014). Lastly, Dweck et al. (2014), posited the need for schools through the teachers to create a sense of affirmation and belonging among students within the learning environment.

Schools that embrace and foster growth mindset also refrain from practices that undermine learners' motivation (Dweck et al., 2014). This can be done by holding learners to high standards. When learners are properly held to high standards, Dweck et al. (2014) contended that the learners realize their full potential and the fact that intelligence is malleable. Schools should also encourage teachers to use motivational scaffolding when commenting on learners' academic achievements (Dweck et al., 2014). One of the forms of motivational scaffolding is the use of question-based comments and objective complements (Dweck et al., 2014). The effectiveness of teachers' use of objective feedbacks in fostering growth mindsets was demonstrated in a study conducted by Truax (2018). The results obtained by Truax (2018) indicated that students were motivated to write whenever they received objective complements from teachers. Kraker-Pauw, Wesel, Krabberndam, and Atteveldt, (2017) found that teachers' pedagogical beliefs could have a significant impact on their teaching behaviors, particularly about the kind of feedback they give their students.

In a study that sought to evaluate various training aimed at influencing teachers' mindsets, Seaton (2018) conducted a total of six training sessions across to phases, with phase one – the initial training phase – comprising 37 teachers. The second phase, which was attended by 17 teachers, encompassed five sessions of training. The study found that there was a statistically significant shift in teachers' mindsets during the 3-month period for which the study lasted. The evaluation results indicated an increase in participants' knowledge, confidence, and perceptions regarding mindset and its practice in the

classroom environment (Seaton, 2018). Accordingly, Seaton (2018) concluded that training has a significant impact teachers' mindset shift and practice.

Fraser (2017) explored the application, implementation of growth mindset practices in teaching and learning within a school environment, with the aim of identifying the strengths of various mindset application, and implication approaches. The study found that collaborative approaches to implementing mindset programs for teaching and learning are more effective with a school setting (Fraser, 2017).

Focus on Instruction

Research has shown that teacher professional development improves the instructional ability of educators by equipping them with the necessary pedagogical skills and teaching experience (Kennedy, 2016). The instructional strategies and teaching experiences acquired by a teacher through professional development programs can improve academic tenacity among students, and foster their growth mindsets (Polirstok, 2017). According to Polirstok (2017), the preliminary instructional strategy for fostering growth mindset is facilitated students to understand the value of effort and being resilient even in challenging times. Using a wide range of instructional strategies has been found to be another effective approach to fostering growth mindset among students (Polirstok, 2017). Adopting a wide range of instructional strategies helps a teacher to reach all learners within their learning environments (Sung, Chang, & Liu, 2016). Research has also shown that teaching students to change their language(s) can also help in fostering their growth mindsets (Dweck et al., 2014).

Whether a student becomes fixed-minded or growth-minded depends on his/her choice of words when expressing themselves to others (Enriquez, Clark, & Calce., 2017). Sherry and Roggenbuck (2014) and Polirstok (2017) contended that a teacher's use of reframing language or instructional feedbacks such as "there is still room for improvement" can help a student to develop a growth mindset.

Instructional strategies that promote deliberate experimentation or give students an opportunity to set their learning goals is another effective way of fostering growth mindset among students (Louws, va Veen, Meirink, & van Driel., 2017). For instance, a teacher can facilitate a fixed-minded student who underperforms in Math to develop a growth mindset in the subject by allowing the student to set his/her goal to attain a specific grade in the next Mathematics test (Laursen, 2015). The teacher then helps the students to explain the procedure he or she will be using to attain the set goal (Polirstok, 2017). Once the student attains his/her set goal, he or she will be able to realize his/her mathematical abilities and skills, and hence notice that such skills and abilities are not fixed (Sherry & Roggenbuck, 2014). Teachers can also foster growth mindset in their students by adopting instructional strategies that model the students' growth mindsets. Modeling a growth mindset is one of the effective approaches to helping the students develop a growth mindset (Polirstok, 2017). A teacher models a growth mindset by letting his/her students learn how he or she deals with setbacks, telling them to try a new instructional strategy when he or she feels nervous (Polirstok, 2017). The students then realize that setbacks are part of life and that even a teacher can face setbacks (Polirstok, 2017).

Guido (2016) has identified 10 instructional strategies that teachers can adopt to foster growth mindset in their classrooms. First, a teacher needs to refrain from praising intelligence and sheer effort; as such, praises can discourage the development of growth mindset (Guido, 2016). Instead, a teacher should acknowledge a student's effort to try new approaches. Second, there is need to adopt a wide range of instructional strategies with differentiated instructional tactics and principles for purposes of varying, the presented content (Guido, 2016). Third, a teacher needs to introduce of simple gamification elements, while fourth, teaching the values of challenge and perseverance, while spending time explaining to the students the value of overcoming challenges that one is faced with (Guido, 2016). Fifth, Guido (2016) explained that teachers should strive to encourage students to provide explanations for the answers they give. Sixth, Guido (2016) encouraged helping students change their language from a growth averse to development oriented. In other words, this strategy emphasizes helping student see their challenges as an opportunity to improve. Seventh, there is need for teachers to provide students with explanations regarding abstract concepts and skills, and their application in the real-world situation (Guido, 2016). Eighth, there is need for a teacher to dedicate time for goal-based journaling to help students to develop a growth mindset through learning how to set their own goals and striving to achieve the set goals (Guido, 2016). Nineth, Guido (2016) called for the frequent use of "yet" in instructional comments. Lastly, teachers should foster language framing and the use of success folders in the learning environment (Guido, 2016).

Learning Environment and Instructional Routines

Professional development programs play an important role in terms of equipping educators with the requisite skills to organize *growth mindset*-promoting learning environments (Mintrom & Cheng, 2014; Truax, 2018). Besides, through professional development programs, educators acquire necessary skills for developing instructional routines that enhance the development of *growth mindset* among learners (Dweck, 2014; Evans, Waring, & Christodoulou, 2017). Learning environment and instructional routines have a significant impact on the development of growth mindset (Kern, Waters, Adler, & White, 2015; Nicole & Helenrose, 2016; Polirstok, 2017; Zeng et al., 2016). For instance, Zeng et al. (2016) found that a positive learning environment that is characterized by learner-centered instructional routines such as language framing and frequent use of "yet," could foster growth mindset among students.

In their study, Nicole and Helenrose (2016) presented the Kara's story - a case study of a teacher-created context for fostering the development of growth mindset. In the Kara's classroom, Nicole and Helenrose (2016) found that the teacher (Kara) modeled knowledge with various assessment strategies. One of the strategies adopted by Kara involved encouraging students to take risks and letting the students understand that making mistakes is an acceptable strategy for promoting growth mindset (Nicole & Helenrose, 2016). Kara openly admitted to her students that she always made mistakes and that she always learns from her mistakes (Nicole & Helenrose, 2016). Nicole and Helenrose (2016) found that Teacher Kara also routinely encouraged her students to check her work and would make the necessary changes to her scoring if the students

could provide evidence that her scoring was incorrect. Nicole and Helenrose (2016) observed Kara's students actively reviewing their work to identify any mistakes.

The other instructional strategy that Nicole and Helenrose (2016) observed in Kara's classroom was the routine provision of timely, formative, and process-oriented feedback using "love notes." The teachers placed Post-Its on her students' work and one which she made comments such as "what makes you say so?" what is your evidence?" and "tell me about it..." (Nicole & Helenrose, 2016). According to Kara, love notes not only provided students with timely and formative feedbacks but also supplied students with information about the methods and procedures for understanding concepts and completing assigned tasks (Nicole & Helenrose, 2016).

Nicole and Helenrose (2016) also observed that in the Kara class, the emphasis was more on effort and growth than the outcome. Teacher Kara conducted several writing conferences with her students during which she explicitly discussed their progress during the overtime (Nicole & Helenrose, 2016). During the conferences, Nicole and Helenrose (2016) observed Teacher Kara provided here students with growth-focused feedback, which she communicated honestly. Teacher Kara also fostered a growth mindset among her students by setting and communicating high standards to them through assessment-based conversations, which included deliberating on scoring rubrics (Nicole & Helenrose, 2016).

Motivation Tactics

A quasi-experimental study conducted by Karimi and Zade (2017) to determine teachers' employment of motivational strategies in the learning process before and after

undergoing a professional development program established that professional

development has a significant influence on a teacher's use of motivational strategies.

Research has shown that teachers can employ various motivational tactics to help

students understand the value of developing a growth mindset. For example, Polirstok

(2017) identified various methods that can employ to motivate their students to develop a

growth mindset. They include the use of digital stories, choice maps, adolescent

literature, peer tutoring, verbal-self instructions, self-evaluation, and computer programs

(Polirstok, 2017). Some of the growth mindset motivation tactics include learning stories

or digital stories (Pride, 2014; Steele & Scott, 2016; Steele, Hives, & Scott, 2016);

adolescent literature (Connors, 2014; Elish-Piper, 2014; Kaufman & Libby, 2015); choice

maps (Kaufman & Libby, 2015; Polirstok, 2017); computer programs (Saunders, 2014;

Wilkins, 2014); the seven mindsets (the ultimate life summit program) (Gamel, 2014);

peer tutoring (Alzahrani & Leko, 2018; Bowman-Perrott, Davis, Vannest, Williams,

Greenwood, & Packer, 2014; Yurt & Aktas, 2016;); self-evaluation (Polirstok, 2017); and

verbal self-evaluation (Polirstok, 2017). See Appendix 2 for a summary of the motivation

tactics. The following is a brief description of the motivation tactics.

Learning stories or digital stories. These include students' narrative providing a

chronological account of the obstacles they have encountered and how they have

overcome such obstacles. The narratives emphasize resilience (Polirstok, 2017). Research

has shown that digital stories have a significant impact on academic achievement. For

instance, a study conducted by Aktaş and Yurt (2017) to determine the effect of a

learning environment that integrates digital stories found that students who are exposed to

digital stories did better academically than their counterparts without exposure to digital stories. Teachers can thus integrate digital stories in their instructional strategies.

Adolescent literature. Encompasses books, articles, and short stories that present peers who require growth mindset to successfully overcome challenges and develop self-confidence as a consequence (Polirstok, 2017). In a study conducted by Rust (2015) to examine the ways in which adolescent high school students take up virtual self-representation tactics in school-based online communities, the findings indicated that a student's cultivation of self is influenced by the affordances of the space he/she inhabits. According to Rust (2015), adolescents associate more with learning environments that integrate popular culture, add humor, and create room for gossip. This therefore presents other challenges for teachers dealing with adolescent students, to reevaluate the learning environment to ensure its conformity to the learner's needs.

Choice maps. Students can either confront an academic challenge from a "learner-mindset" perspective or "judger-mindset" perspective (Polirstok, 2017). The negative voices that a student hears when overcoming the "judger-mindset" are key in determining his/her ability. The shift from the "judger-mindset" to a "learner-mindset" is important for the development of a growth mindset. Concept mapping is an effective instructional strategy for helping students to make sense and create meaning out of complex prose. Students engaging in concept mapping are required to come up with important concepts and develop a relationship between the concepts (Bae & Kokka, 2016). Choice mapping thus serves as an important instructional strategy worth adopting in a learning environment.

Computer programs. A common computer program used for motivating growth mindset is the Brainology, which is a software program for students between grades five and nine. The program teaches students about neuro-mechanism (how the brain works), and how students can strengthen their brains, just as they can do with muscles (Polirstok, 2017). A study conducted by Sentence and Csizmadia (2017) found that despite their effectiveness in enhancing *growth mindset* among learners, the use of computer programs poses significant challenges for educators. However, through professional development programs in which teachers are taken through various mechanisms of incorporating computer programs in the teaching and learning processes, Sentence and Csizmadia (2017) noted that teachers are able to overcome the challenges and successful implement computer programs in their classrooms to motivate their students.

The seven mindsets (The Ultimate Life Summit Program). The Ultimate Life Summit Program (ULSP) provides students with a seven mindset-based instruction, which focuses on helping the students to develop a life plan. The ULSP motivates students to seize the moment, pursue their talents, practice accountability, and embrace the interconnectedness of the world around them (Polirstok, 2017). Professional develop equips teachers with the necessary skills for the effective implementation of the ULSP in their classrooms. Polirstok (2017) demonstrated how teachers who are beneficiaries of professional development programs are able to effectively implement the ULSP model in their classrooms and successful enhance the development of *growth mindset* among their students.

Peer tutoring. Encompasses students helping their peers to learn concepts through practice and repetition. It can include cross-grade peer tutoring, cross-age peer tutoring, or reciprocal peer tutoring (Polirstok, 2017). Comfort and McMahon (2014) conducted a study to determine the effect of effects of peer tutoring on the academic achievement, during practical assessments, of the tutors and tutees. Using final year students of an undergraduate course to providing optional peer tutored sessions on a weekly basis for a total period of twelve weeks, Comfort and McMahon (2014) found that peer tutored students experienced significant academic achievement than their non-peer tutored counterparts. The academic achievement in the peer tutored group was 73.64%, while 46.20% in the non-peer tutored group. The findings by Comfort and McMahon (2014) thus demonstrate the effectiveness of peer tutoring as a strategy for enhancing *growth mindset* among learners.

Self-evaluation. Self-evaluation is a metacognitive approach to fostering growth mindset, in which students evaluate their work based on integrated criterion, which comprises both academic and social behavioral aspects (Polirstok, 2017). According to Polirstok (2017), self-evaluation provides a student with an effective way through which to enhance the development of his or her growth mindset. Polirstok (2017) observed that teachers should encourage self-evaluation practices in their classrooms to allow for the fostering of *growth mindsets* among the students. Polirstok's (2017) observations thus corroborate the views of Dweck (2014) who identified self-evaluation as one of the effective strategies with which teachers can enhance the development of growth mindsets among students.

Verbal self-evaluation. Entails students regulating their social behavior or academic work through metacognitive processes (Polirstok, 2017).

Teacher Modeling

Teacher modeling is an instructional strategy, in which new concepts or learning approaches are demonstrated to the students by the teacher, and the former is expected to learn by observing the modeled learning concepts and approaches (Azer & Azer, 2016; Ellis, Denton, & Bond, 2014). Previous studies have found that modeling can serve as an effective tool for fostering the development of growth mindset. For instance, a study conducted by López, Torrance, Rijlaarsdam, and Fidalgo (2017) found that modeling led to an improvement in the writing performance of upper-primary students.

Formative Feedback

As pointed out by Kraker-Pauw et al. (2017), formative feedback is an effective tool for enhancing the development of growth mindset among students. According to Kraker-Pauw et al. (2017), professional development programs can equip educators with necessary formative feedback skills for enhancing the development of growth mindset. Formative feedback is an effective way of fostering the development of growth mindset among students (Nicole & Helenrose, 2016). Formative feedback is intended to facilitate students to modify they own cognitive processes or behavior to improve their learning abilities. As demonstrated in Kara's classroom, formative feedback encompasses the use of a wide range of strategies, including end-of-year conferencing, timely feedback using collaborative "love note"; three-color quiz with feedback on learning progress, outcome, and process; as well as shared revision of learner-generated statements/questions (Nicole

& Helenrose, 2016). A study conducted by Fluckiger, Vigil, Pasco, and Danielson (2016) found that formative feedback as a pedagogical strategy not only gives timely feedback, but also involves students as partners in a collaborative learning process, informs instruction, and provide scaffolding for the students. In their study that analyzed the oral performance of sixth-grade students at a public school in Colombia, authors Sisquiarco, Sánchez Rojas, and Abad (2018) found that strategies-based feedback could foster the development of growth mindset among learners.

As was the case in Kara's classroom, for instance, Teacher Kara was able to use Post-It notes to provide scaffoldings for her students and thus making the learning process more interactive (Nicole & Helenrose, 2016). Formative feedback thus leads to enhanced student learning, improved instruction, and better learner products (Fluckiger et al., 2016).

Praise

Praise is a critical and sensitive way of fostering growth mindset in the teaching and learning environment (Dweck, 2007). As pointed out by Dweck (2014), through professional development programs, teachers are able to lean the various effective ways of praising the academic achievement of their students. A study by Jenkins, Floress and Reinke (2015) found that praise is a powerful tool that if used appropriately in the learning environment, can foster growth mindset. However, how a teacher praises his/her students determines whether the students become growth-minded or fixed-minded (Dweck et al., 2014). Educators need to implement teaching strategies that praise the processes that students put in their work rather than the students' innate traits (Dweck et

al., 2014). Teachers should employ teaching strategies that provide the students with the right way to mull over their intelligence and what they are capable of achieving (Dweck et al., 2014). Dweck (2015) identified three tips for teachers when praising the performance of their students. First, teachers should strive to praise what is worthy (Dweck et al., 2014). Second, praises should focus on a student's behavior, not his/her innate traits (Dweck et al., 2014). In other words, teachers need to praise students for what they have done, and for what they are. Third, when praising, Dweck (2015) contended that a teacher needs to choose non-generic phrases as opposed to generic phrases. A phrase such as "You are a good mathematician" ought to be avoided when praising students' efforts. Instead, a non-generic phrase such as "You did well in solving the sums" would be appropriate.

Language Frames and Speaking Templates in Classroom Conversations

Professional development programs play an important role in equipping teachers with the requisite skills for developing effective language frames and speaking templates in the teaching and learning environment (Polirstok, 2017). Language framing is one of the powerful tools with which a teacher can foster growth mindsets among his/her students. Studies conducted by Enriquez et al. (2017) demonstrated how teachers could incorporate children's literature for creating dynamic learning frames, social justice development and growth mindsets in their classrooms. According to Enriquez et al. (2017), language framing, including the language employed by teachers to prompt students' responses during the learning process, can foster the development of growth mindset among the students.

Cooperative Learning

Professional development programs help educators, in terms of equipping the educators with the necessary skills for implementing effective cooperative learning activities in their classrooms (Polirstok, 2017). Cooperative learning or community of practice is an instructional strategy in which a teacher encourages students to work in small groups to perform common tasks (Baloche & Brody, 2017). According to Baloche and Brody (2017), cooperative learning enhances positive student achievement, encourages students to actively participate in the learning process, promotes intergroup relations, as well as facilitates students to develop creative and critical skills. A study by Strahan et al. (2017) observed a cooperative learning process that focused on four aspects of mindset – the belief that an individual's learning abilities can improve when he/she invests more effort, an individual's willingness to overcome challenges, development of effective learning strategies, and ability to link effort with accomplishments. After a yearlong observation of the cooperative learning process, Strahan et al. (2017) found that students were able to exhibit all the four aspects of mindset. Laurian-Fitzgerald and Roman (2016) explored the effect of cooperative learning skills on fostering growth mindset among young students.

The study found that cooperating learning environments provided young students with an opportunity to shift from being fixed-minded to become growth-minded learners. Teachers can adopt informal cooperative learning approaches or formal cooperative learning to foster growth mindset in their classrooms (Johnson, Johnson, & Smith, 2014). Informal cooperative learning can involve learning activities such as think- pair-share,

peer instructions, or jig-sawing (Davidson & Major, 2014). Think-pair-share involves a teacher asking discussion questions and instructing his/her students to answer the questions before turning to their peers to discuss the responses. After the discussions, the teacher then gives the groups an opportunity to discuss their responses with the rest of the class (Love, Dietrich, Fitzgerald, & Gordon, 2014). Peer instruction is a modified think-pair learning activity, which involves personal response devices such as clickers, comprising multiple-choice questions (Davidson & Major, 2014). Jigsaw encompasses students working in groups to emerge as experts in a segment of a given learning process. Other "expert groups" work on the other segments of the learning process (Johnson et al., 2014).

Formal cooperative learning, on the other hand, entails students working together to complete assigned tasks. For formal cooperative learning processes to be more effective, the teacher spells out the learning objectives, with particular emphasis on the requisite skills for succeeding in the task (Johnson et al., 2014). Students may be assigned specific roles within their respective groups. The teacher continues to play an important role of a facilitator as the groups perform the assigned tasks. Besides, the teacher encourages the students/groups to reflect on their engagements for purposes of identifying the relevant potential for future group works (Johnson et al., 2014).

Reflection

Reflection is another growth mindset fostering strategy that teachers can learn how to utilize effectively through professional development programs (Polirstok, 2017). Reflection is an instructional strategy in which a teacher encourages students to review

and assess their individual or group performance after the completion of a given learning task or exercise (Ellis et al., 2014). Reflection helps students to identify their mistakes and learn from their experiences (Gadner-Baasch, 2016). According to Gadner-Baasch (2016), reflection helps learners develop a growth mindset, regarding building relationships fostering perseverance and developing a sense of responsibility. Some of the reflective practices that teachers can encourage in their classrooms include encouraging students to learn from and through their experiences to gain useful insights and become more self-aware (Jennings, 2015). Teachers could also encourage individual and group reflection through journaling in which he/she engages students in reflective writing (Gadner-Baasch, 2016). This helps students to assign meaning to their personal and group experiences and turn such experiences into practice (Gadner-Baasch, 2016).

Assessments and Performance Tasks

Professional development programs equip teachers with the necessary skills for implementing assessments and performance tasks that enhance the development of growth mindsets among students (Polirstok, 2017). Teachers can use summative assessment and formative assessments to foster growth mindset among their students. Summative assessments, as the name sounds, are end-of-unit assessments the illustrate students' performance in the course of the unit (Evans, Zeun, & Stainer, 2014). Formative assessments, on the other hand, are assessments that are aimed at informing learning for the students (Hiong, 2017). When giving a formative assessment, teachers should ensure that students have a comprehensive and clear sense of their respective learning paths (Yeager et al., 2017). When using assessments to foster growth mindsets,

teachers need to give diagnostic feedback instead of awarding grades to students work (Houston & Thompson, 2017).

According to Houston and Thompson (2017), students who receive diagnostic feedbacks perform better than their counterparts who receive grades. Diagnostic feedbacks that are not accompanied by grades enable students to focus more on improving their abilities in the unit or subject (Houston & Thompson, 2017).

Teacher Guided Lessons and Activities

This subsection presents mindset lesson plans for elementary, middle and secondary schools. The elementary lesson plan (see Appendix C) is for 2nd Grade, and is intended to facilitate a learning process on becoming growth minded. The middle lesson plan (see Appendix C) on the other hand is for 6th Grand and seeks to facilitate a learning process on cultivating a growth mindset. Lastly, the secondary level lesson plan (see Appendix C) is for the 10th Grade and focused on developing a growth mindset (Kraker-Pauw et al., 2017; Musingafi, Mhute, Zebron, & Kaseke, 2015).

In summary, the teacher guide provides various instructive components for mindset lesson plans for elementary, middle, and secondary schools. For example, academic achievement and self-confidence are some of the critical aspects of focus on the elementary school mindset lesson. Given the various objects evident in the three different levels of categories, it is clear that the guide offers both a student-based and an instructor-focused aspect of understanding and integrating different components of lessons in the various categories. Particularly, the lesson highlights the imperative scopes of human

intelligence and underscores on the various approaches through which student can apply skills and expertise as instructed by the teachers.

Summary

Professional development will help bridge the gaps in knowledge, perceptions, and practice as it relates to the concept of mindset in among teachers in the CNMI. The information above sets the context for professional development as a viable project and articulate the accompanying pedagogical thrust that will be addressed. To recount, the content Growth mindset for teachers (GMIT), growth mindset for teacher teams (GMTT), making the mindset shift, focus on instruction, learning environment and instructional routines, and motivational tactics, including the digital learning stories, choice maps, adolescent literature, computer programs, peer tutoring, self-evaluation, formative feedback, and teacher modeling. The fundamental purpose of professional development is to improve the teachers' understanding of subject school and enhance the teachers' knowledge, practices, and perception in Commonwealth of Northern Marian Islands (CNMI) through sharpening of skills and enhancement of expertise.

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Project Description

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Purpose of the Project

As noted in the problem statement of this study, and as corroborated by the findings of the study, the knowledge of teachers in the CNMI about the mindset concept is considerably limited. Besides, the teachers do not fully utilize the growth mindset measures in their pedagogical practices. The limited knowledge of teachers about the growth mindset and the underutilized nature of the growth mindset concept in the

teaching and learning processes in the middle schools in the CNMI are thus contributing to the poor academic achievement among students in the CNMI. The project is thus designed purposefully to help teachers in the CNMI to improve their knowledge, perceptions, and practices regarding mindset, with the ultimate goal of improving teaching and learning in their respective classrooms. Consequently, the attainment of the specific goal will play an important role in improving the scope of service delivery by the teachers and enabling them in understanding the critical role through professional development. Therefore, through the recommendation of various strategies, the project will bestow experts with additional approaches and motivate various perspectives of future research studies.

Resources

In order to successfully plan and execute this professional development, there are several resources that are needed. The resources include stakeholder partnerships as well as financial support and instructional materials. Firstly, I will need buy in and support from the CNMI Public School System stakeholders. In particular, the leadership, which includes key management, the Commissioner of Education, along with school principals, will be critical. These partnerships will encourage teachers to participate in this learning opportunity.

I will also need funding support to secure a venue and provide for refreshments and meals for participants given the duration of the professional development outlined below. Furthermore, funding will also be needed to procure instructional resources and materials to support the interactive learning activities planned for the participants.

Existing Supports

While there are no comprehensive existing professional development opportunities in the CNMI that relate to mindset explicitly, there are programs that do address noncognitive interventions. Thus, are available avenues through such programs for leveraging. Also, there is perhaps an opportunity for full funding to support my professional development through the Public School System's Federal Programs Office, which has discretion to outsource for learning supports for teachers provided the activities alignment with a number federally supported initiatives. Through this avenue, a proposal detailing my professional development could be submitted.

Potential Barriers and Possible Solutions

While facilitating a professional development seems like a relatively easy activity, there are potential barriers to consider. The primary barriers include time, stakeholder buy in as well financial resources. While these barriers are important consideration, there are a range of solutions to mitigate such.

Firstly, gaining stakeholder buy in is a potential barrier. Without the support of the leadership of the CNMI Public School System, it will be difficult to both generate interest and promote participation among teachers who are the primary audience. To mitigate this challenge, I will need to work with the CNMI Public School System's Key Management and Commissioner of Education. I will need to present my research on the mindset concept as well as outline the professional development plan and objectives in advance and convince them of the potential positive social impact of my training.

Specifically, I need to focus on the how this professional development will positively impact the teaching practices that will drive improvements in student academic outcomes.

Secondly, identifying time throughout the school year to facilitate my professional development poses another potential barrier. The school year calendar is busy with both school and district level activities. Securing time for professional development with teachers is a competitive process among school and district office leaders. Opportunity to allocate time for a professional development facilitated by an outside entity would be a challenge. To mitigate this barrier, I will need to secure a time well in advance of the school year to work with a cohort of teachers. My activities might also be offered in several points throughout the school year to be the least disruptive to the calendar. I might also offer the professional development over the weekends or when school is not in session. Being flexible, communicating, and working around the existing schedule of the school and district will be the key to addressing this potential barrier.

The last barrier to consider will be the funding support to secure a venue, provide refreshments and meals, as well procure instructional resources. As noted in the section above on existing supports, I might be able to leverage support through programs that support professional development. Also, there is the opportunity for full funding of my professional development through the public school system's Federal Programs Office, which has discretion to outsource for learning supports for teachers provided the proposed activities alignment with a number federally supported initiatives. Also, there are nonprofit organization, such as the Humanities Counsel, Chamber of Commerce, and the Marianas Young Professionals that are always willing to entertain proposals for

activities that support positive social change in the community. I will also have the option to work with the legislative leaders, who might be willing to support my professional development.

With my professional development being offered free on my end and with no cost by participants as the existing positive working relationship I have already established with the school district and the community, there is likely to be a wealth of support to mitigate the barriers described above.

Project Goals

I intend to achieve specific goals, which include to improve the knowledge and perceptions of teachers in the CNMI regarding the mindset concept; to foster the development of the mindset concept in the schools in CNMI; and to create awareness among teachers in the CNMI about the importance of integrating mindset practices in their classrooms.

The overarching outcome is to promote positive social change. Thus, it is imperative to note that larger goal is that be that more teachers throughout the CNMI will gain exposure and proficiency in both understanding and practice as it relates to the mindset concept and can apply the mindset concept pedagogically to improve both their teaching, and subsequently the learning of their students.

Project Outcomes

With my execution of the project, my intent is to deliver various outcomes. Specifically, participants, primarily teachers in the CNMI, will improved their knowledge of teachers regarding the various aspects of the mindset concept. Participants will gain

more accurate perceptions regarding the mindset concept. And, participants will increase their awareness of the need to integrate mindset practices in their classrooms.

Target Audience

The project is targeted at all teachers in the elementary, middle, and secondary schools in CNMI. All teachers in elementary, middle, and secondary schools in the CNMI will therefore be expected to be a beneficiary of the proposed project.

Roles and Responsibilities of Persons Involved

The professional development will be organized and facilitated by me. My role as the organizer will be to ensure that activities related to the professional development are in order. In particular, these responsibilities include engaging pertinent stakeholders, securing funding, setting up the venue, and procuring instructional resources. Furthermore, my role as the facilitator will be to conduct the 6 day professional development. My responsibilities as facilitator include tracking of participant attendance, presenting the content, conducting related activities, managing time, providing support throughout, as well as executing evaluations and processing certificates of completion.

The role of the participants, which will be primarily teachers, will be to come prepared to learn and engage with both me as well as their educational colleagues. The professional development is content heavy and driven by interactive instructional activities that will require collaboration, so participants will need to adhere to professional norms and respect the contributions of others. Furthermore, the participants will be encouraged to complete the professional development from start to finish. Commitment thus is needed by all participants in order to stay engaged for 4 hours a day

for 6 days, maximizing the potential to achieve the outcomes and goals of the

professional development.

Timetable and Components

As I have designed it, the professional development and sensitization seminar will

take six days to complete. Participants will invest a total of 4 hours each day of focused

professional development. This 4 hours does not factor in breaks. Therefore, a leeway of

up to 30 minutes is a consideration depending on the cohort of participants. In total,

participants will have complete 24 hours of professional learning.

The session overall will focus on helping teachers both understand the concept of

mindset as well as make the *mindset* shift as it applies in their classrooms. Additionally,

the seminar will emphasize instructional practices and routines that foster a growth

oriented mindset among students in the classroom. Further details related to time

management per day as well as the content that will be addressed are outlined explicitly

in the subheadings below, which are organized in the chronological sequence in which

they will be addressed.

Making the mindset shift. Making the mindset shift is one of the components of

the proposed professional seminar. On the first day of the seminar, and for a duration of 2

hours, the participants in the seminar will be taken through how to make the mindset

shift. The activities to be undertaken during this session will include defining the mindset

concept (Dweck et al., 2014); differentiating between fixed mindset and growth mindset

(Dweck et al., 2014); highlighting the important role of teachers in making the mindset

shift (Dweck et al., 2014); as well as highlighting approaches for teachers to foster growth mindset among students (Kraker-Pauw et al., 2017; Seaton, 2018; Truax, 2018).

Focus on instruction. This session will take place on the first day of the seminar, and will last for 2 hours. During the session, participants will be taken through the elements of an effective instructional strategy; appropriate instructional strategies for fostering growth mindset (Polirstok, 2017); and the importance of using a wide range of instructional strategies in fostering growth mindset (Dweck et al., 2014; Enriquez et al., 2017; Laursen, 2015; Louws et al., 2017; Polirstok, 2017; Sherry & Roggenbuck, 2014; Sung et al., 2016).

Participants will also be taken through a session about *learning environment and instructional routine.* The 2-hour session will be held on the second day of the seminar, and will entail defining learning environment and instructional routines (Polirstok, 2017) and identifying examples of instructional routines (Polirstok, 2017). The session will also will also include a demonstration of the impact of a learning environment and instructional routines on the development of growth mindset (Kern et al., 2015; Nicole & Helenrose, 2016; Polirstok, 2017; Zeng et al., 2016).

Motivation tactics. The 2-hour session will be held on the second day of the seminar, and will involve defining motivation tactic (Nicole & Helenrose, 2016; Polirstok, 2017); identifying and explaining motivation tactics for fostering growth mindset (Pride, 2014; Elish-Piper, 2014; Kaufman & Libby, 2015; Steele & Scott, 2016; Polirstok, 2017); as well as demonstrating the effects of various motivation tactics on growth mindset (Nicole & Helenrose, 2016; Polirstok, 2017).

Teacher modeling. This session will be held on the third day, and will last for two hours. The activities to be carried out during the session will include defining teacher modeling (Ellis et al., 2014; Azer & Azer, 2016); demonstrating the effect of teacher modeling on growth mindset (López et al., 2017), and how teachers can explicitly employ modeling to foster growth mindset.

Formative feedback. The 2-hour session will be held on the third day of the seminar and will entail defining formative feedback (Nicole & Helenrose, 2016) and demonstration of the effect of teacher formative feedback on growth mindset (Nicole & Helenrose, 2016; Santiago, 2017). During this session, demonstrations will also be made on how teachers can explicitly employ formative feedback to foster growth mindset (Fluckiger et al., 2016; Nicole & Helenrose, 2016; Sisquiarco et al., 2018).

Praise. The session on praise will be held on the fourth day of the seminar. During this 2- hour session, participants will be taken through what constitutes praise in the context of mindset (Jenkins et al., 2015). The session will also include demonstrations on the effect of teacher praise on growth mindset (Dweck et al., 2014; Jenkins et al., 2015; Dweck, 2015) as well as how teachers can explicitly employ praise to foster growth mindset (Dweck et al., 2014; Jenkins et al., 2015; Dweck, 2015).

Language frames and speaking templates. On the fourth day, and for a duration of two hours, the seminar will focus on language frames and speaking templates in classroom conversations. The session will involve defining language framing speaking templates in classroom conversations (Enriquez et al., 2017) and demonstrating the effect of language framing and speaking templates in classroom conversations on growth

mindset (Enriquez et al., 2017). In addition, the session will involve a demonstration of how teachers can explicitly employ language frames and speaking templates in classroom conversations to foster growth mindset (Enriquez et al., 2017).

Cooperative learning. This 2-hour session will be held on the fifth day of the seminar, and will involve a presentation on the elements of cooperative learning is (Baloche & Brody, 2017), as well as demonstrations on the effect of cooperative learning on growth mindset (Davidson & Major, 2014; Johnson et al., 2014; Laurian-Fitzgerald & Roman, 2016; Baloche & Brody, 2017; Strahan et al., 2017) and how teachers can explicitly employ cooperative learning to foster growth mindset.

Reflection. The fifth day of the seminar will also focus on the appropriateness of reflection as an instructional strategy. The 2-hour session will explain the various aspects of reflection as in instructional strategy (Ellis et al., 2014), and demonstrate the effect of reflection on growth mindset (Ellis et al., 2014; Jennings, 2015; Gadner-Baasch, 2016) as well as how teachers can explicitly employ reflection to foster growth mindset (Ellis et al., 2014; Jennings, 2015; Gadner-Baasch, 2016).

Assessments and performance tasks. The sixth day of the seminar will be dedicated to assessments and performance tasks. During the 2-hour session, elements of assessment and performance tasks will be highlighted (Evans et al., 2014). The session will also involve demonstrations on the effect of assessments and performance tasks on growth mindset as well as an explanation of how teachers can explicitly employ assessments and performance tasks to foster growth mindset (Evans et al., 2014; Hiong, 2017; Houston & Thompson, 2017; Yeager et al., 2017).

Teacher guided lessons and activities. This will be a 2-hour session, which will also be held on the sixth day of the seminar. The session will highlight elements of an effective growth mindset lesson plans and demonstrate the processes of effective growth mindset lesson planning.

Project Evaluation Plan

The proposed project is intended to meet three main goals namely to: improve the knowledge and perceptions of teachers in the CNMI regarding the mindset concept; foster the development of the mindset concept in the schools in CNMI; and create awareness among teachers in the CNMI about the importance of integrating mindset practices in their classrooms. The project is thus expected to generate a number of outcomes, including an improvement in the knowledge of teachers regarding the mindset concept. This subsection therefore provides the following evaluation criteria for the project (See Appendix A or a tabular summary of the project's evaluation criteria):

Project goal 1. To improve the knowledge and perceptions of teachers in the CNMI regarding the mindset concept. The expected outcomes for this goal include Improved knowledge of teachers in CNMI regarding the various aspects of the mindset concept; more accurate perceptions of teachers in the CNMI regarding the mindset concept.

The following criteria questions will be used to evaluate whether Goal 1 and its expected outcomes have been achieved: Has the knowledge levels of teachers regarding the mindset concept improved? Are teachers now having an accurate perception of the mindset concept?

Project goal 2. To foster the development of the mindset concept in the schools in CNMI. The expected outcomes for this goal include Improved development of the mindset concept in the schools in CNMI; Increased integration of mindset practices in the learning processes in the schools in CNMI.

The following criteria questions will be used to evaluate whether Goal 1 and its expected outcomes have been achieved: Is the mindset concept now embraced in (most) schools in CNMI than before?; Are school administrators now supporting/emphasizing the need for incorporating the mindset concept in the mainstream learning processes?; Have the schools domesticated a mindset sensitization program?

Project goal 3. To create awareness among teachers in the CNMI about the importance of integrating mindset practices in their classrooms:
The expected outcome for this goal include Increased awareness among teachers in CNMI of the need to integrate mindset practices in their classrooms.

The following criteria question will be used to evaluate whether Goal 1 and its expected outcomes have been achieved: Are (more) teachers now aware of the importance of integrating mindset practices in their classrooms than before?

Project Implications

The project is expected to accomplish various objectives and propose various implementable recommendations. It is expected to improve teachers' knowledge and perceptions regarding the mindset concept, lead to a mindset shift among both teachers and students, an improvement in self-confidence and self-esteem of learners in CNMI, and lead to an increase in academic tenacity among learners in CNMI.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

Strengths

Holloway (2006) noted that research continues to strengthen the direct correlation between teacher professional development and improved student learning outcomes. Fishman, Marx, Best, and Tal (2003) indicated that professional development is linked to teacher learning that in turn drives student learning. The intended project outcome for this study is to improve the knowledge, perceptions and practices of teachers in CNMI regarding the mindset concept in order to support improved learning among students. This is a worthwhile venture given the research on how the mindset concept may positively impact student success. The potential for social and academic change in CNMI as a result is therefore evident. With professional development as the means to address the change in teacher knowledge, perceptions, and practice, the project shows promise.

Darling-Hammond (2008) argued that teachers need to understand how to support growth as it pertains to both cognitive and noncognitive domains in order to effectively support student learning. The professional development project is designed to address just this.

Because teachers act as role models to students and are at the center of modeling and transforming learners to become responsible members of the society, it is imperative to focus on enlightening teachers on ways to add value to their teaching as it pertains to the noncognitive factor of mindset. If successful, teachers will be the key actors in the integration of the mindset concept in the mainstream learning processes.

Limitations

Gabriel, Valente, Dias-de-Oliveira, Neto, and Andrade-Campos (2018), noted that to accomplish goals, all stakeholders must be involved in the alignment of expectations. Holloway (2006), suggested that while professional development among educators is linked to improved student academic outcome, it's important to involve both school leaders and teachers to maximize success. By focusing primarily on teachers, there is the potential risk of not winning the goodwill and support of the school administrators who may feel undermined and excluded from the process of fostering the integrating the mindset practices within the learning environments in their schools. Thus, excluding administrators from the professional development poses potential limitations. Without the endorsement of leadership, widening the impact of the professional development, much less implementing such practices in the classroom of an individual teacher, might be hampered.

Another limitation worth noting is lack of opportunity provided for direct feedback as teachers experiment with the strategies in their classroom. Once the seminar ends, teachers will be left on their own to determine the mindset applications within their classrooms. Mardapi and Herawan (2018) identified that follow up to professional development is needed to ensure sustainability. Without coaching support or mechanisms for discourse and feedback, the quality and fidelity of implementation will remain questionable.

Recommendations for Alternative Approaches

The purpose of the project was to address the findings that indicated a lack of understanding as it pertains to knowledge, perception, and practices regarding the mindset concept among teachers in the CNMI. To bridge the gap in teacher knowledge and practice, I created a professional development and sensitization seminar. As noted by Fishman et al. (2003), professional development is ideal for supporting teacher improvement. Therefore, the project is in keeping with the ultimate objective of the research. However, there are opportunities for alternative approaches as well as refinement of the project itself.

In regard to refining the project, there can be an integration of administrators as a target audience. Winning the necessary support from the schools' administrators may further strengthen the sustainability of the intended outcome. Furthermore, the project facilitator may consider organizing sensitization seminars for teacher teams as opposed to individual teachers. These teacher teams can work in a cohort to facilitate a continuation of teachers' professional development at their respective schools.

The alternative approaches are also appropriate. For example, a policy that requires teachers to address the noncognitive factor of mindset instructionally might have been proposed. This may have catalyzed investments both financially and in term of human capital to support the district wide rollout of curricular and instructional approaches that support the mindset concepts.

Scholarship, Project Development and Evaluation, and Leadership and Change

Throughout the research process, the mindset concept has emerged as a motivational idea with which schools and teachers can enhance the academic achievements of the learners in their charge. The diversity of research in the domain of the mindset concept, specifically the growth mindset, has proven insightful and influential. This study has been a learning journey for me on the various aspects of the mindset concept. The development of the project has honed my lesson planning skills and improved my knowledge about the creation, facilitation, and evaluation of professional development programs.

Reflection on Importance of the Work

I expect this work to stand as a significant contribution to the existing literature on the mindset concept and the teachers' knowledge, perceptions, and practices regarding the concept, particularly in CNMI. I expect the findings presented herein to provide useful insights for informing policy decisions in CNMI. Also, I expect the results to give an outlook on the mindset phenomenon in CNMI regarding knowledge and practice gaps and the actions that need to be taken to fill the gaps. The research findings are also a source of information for future research on the mindset concept, particularly in CNMI. I also expect the project to go a long way in helping teachers in the CNMI to improve their knowledge, perceptions, and practices regarding mindset, with the ultimate goal of improving teaching and learning in their respective classrooms.

Implications, Applications, and Directions for Future Research

In this study I set out to examine the mindset concept as it pertains to teachers' knowledge, perceptions, and practices in the CNMI. The findings indicated that there is limited understanding of the mindset concept and its applications among teachers. Given the research implications of mindset, there is an opportunity to promote positive social change at the school and district level by incorporating growth mindset professional development and adopting growth mindset frameworks to drive instructional planning. Doing so would promote positive social change that would improve teaching and learning in the CNMI.

In this study I focused on assessing teacher knowledge, perceptions, and practices regarding mindset among teachers in the CNMI. The study did not cover other educational stakeholders such as counselors, administrators, or parents. Thus, the same generic qualitative design used to drive this study might be used to explore the concepts of mindset with these stakeholders. The instrument is based on general tenets of mindset that are applicable to them as well. With some minor alterations, the tool can be used to gather rich data to provide deeper insight on the concept of mindset among these stakeholders. Should these studies by executed, it would add significant value to in addressing the gap in understanding of mindset across key demographics that impact student learning. The knowledge gained from such studies will further drive positive social change that can extend beyond the classroom.

Conclusion

Based on the findings of this study, teachers in CNMI lack adequate requisite knowledge and accurate perceptions regarding the mindset concept. Besides, the mindset concept remains underdeveloped and underutilized in the schools in CNMI. Accordingly, the project presents a viable avenue for the facilitation of learning and growth for teachers in the CNMI, specifically the improvement in teachers' knowledge, perceptions, and practices regarding mindset, with the ultimate goal of improving teaching and learning in their classrooms.

Throughout this process, I strengthened my understanding and application of qualitative research. As supported by Green and Thorogood (2018), qualitative research provides an avenue to understand some phenomena that are not easily quantifiable or are too complex to be measured by empirical data. In general, the qualitative inquiry relies on the complex contribution of human interpretation of lived experiences. Thus, research questions, data collection, analysis, reporting of findings, and measures of trustworthiness are different than in quantitative approaches. The direction a researcher takes is driven by the investigation of the problem or the gap in the scholarship that the researcher is attempting to bridge.

This process sharpened my skills in conducting a search of the literature. I am now able to differentiate the credibility of sources and trust the process developing the themes, which inform the research through saturation. My organizational skill in organizing and synthesizing the scholarly contributions of others has greatly improved.

Lastly, I learned about the potential negative implications of the research process. While the intent of understanding a phenomenon may add to broader learning, it must be executed with careful consideration to ensure that the subjects impacted by the researcher activities are thoroughly protected. This protection for the participants includes the need to uphold confidentiality as well prevent any physical or psychological harm.

Overall, completing this research project study was quite challenging. However, it added great value to my professional role as educator and has led to a deeper appreciation of what it means to be a scholar practitioner. A great mentor, Dr. Larry Creedon, once told me that the learning process is an ongoing cycle of erring and learning and erring and learning some more. In this journey, I have done just that. I have erred and learned and erred and grown.

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Appendix A: The Project

Project Outline

Mindset Matters: Professional Development		
Component	**Activities**	**Timeline**
Making Mindset Shifts	Defining the mindset concept (Dweck et al., 2014)	Day 1 (4 hour duration)
	Differentiating between fixed mindset and growth mindset (Dweck et al., 2014).	
	Highlighting the important role of teachers in making the mindset shift (Dweck et al., 2014)	
	Highlighting approaches for teachers to foster growth mindset among students (Kraker- Pauw et al., 2017; Truax, 2018; Seaton, 2018).	
Focus on Instruction	Explaining what is an instructional strategy.	
	Identifying appropriate instructional strategies for fostering growth mindset (Polirstok, 2017).	
	Explaining the importance of using a wide range of instructional strategies in fostering growth mindset (Sherry & Roggenbuck, 2014; Dweck et al., 2014; Laursen, 2015; Sung, Chang, & Liu, 2016; Polirstok, 2017;Louws et al., 2017; Enriquez et al., 2017).	
Learning Environment & Instructional Routines	Defining learning environment and instructional routines (Polirstok, 2017).	Day 2 (4 hour duration)
	Identifying examples of instructional routines (Polirstok, 2017)	
	Demonstrating the impact of a learning environment and instructional routines on the development of growth mindset (Kern et al., 2015; Zeng, Hou, & Peng, 2016; Nicole & Helenrose, 2016; Polirstok, 2017).	
Motivation	Defining motivation tactic (Nicole & Helenrose, 2016; Polirstok, 2017).	
	Identifying and explaining motivation tactics for fostering growth mindset (Pride, 2014; Elish-Piper, 2014; Kaufman & Libby, 2015;Steele & Scott, 2016;	

Mindset Matters: Professional Development		
Component	**Activities**	**Timeline**
	Polirstok, 2017)	
	Demonstrating the effects of various motivation tactics on growth mindset (Nicole & Helenrose, 2016; Polirstok, 2017).	
Teacher Modeling	Defining teacher modeling (Elis, Denton, & Bong, 2014; Azer & Azer, 2016).	Day 3 (4 hour duration)
	Demonstrating the effect of teacher modeling on growth mindset (López et al., 2017).	
	Demonstrating how teachers can explicitly employ modeling to foster growth mindset (López et al., 2017).	
Formative Feedback	Defining formative feedback (Nicole & Helenrose, 2016).	
	Demonstrating the effect of teacher formative feedback on growth mindset (Nicole & Helenrose, 2016; Santiago, 2017).	
	Demonstrating how teachers can explicitly employ formative feedback to foster growth mindset (Nicole & Helenrose, 2016; Fluckiger et al., 2016; Sánchez Rojas & Abad, 2018).	
Praise	Describing what constitutes praise in the context of mindset (Jenkins et al., 2015).	Day 4 (4 hour duration)
	Demonstrating the effect of teacher praise on growth mindset (Dweck et al., 2014; Jenkins et al., 2015; Dweck, 2015).	
	Demonstrating how teachers can explicitly employ praise to foster growth mindset (Dweck et al., 2014; Jenkins et al., 2015; Dweck, 2015).	
Language Frames and Speaking Templates	Defining language framing speaking templates in classroom conversations (Enriquez et al., 2017).	

Mindset Matters: Professional Development		
Component	**Activities**	**Timeline**
Classroom Conversations	Demonstrating the effect of language framing and speaking templates in classroom conversations on growth mindset (Enriquez et al., 2017)	
	Demonstrating how teachers can explicitly employ language frames and speaking templates in classroom conversations to foster growth mindset (Enriquez et al., 2017).	
Cooperative Learning	Define what cooperative learning is (Baloche & Brody, 2017).	Day 5 (4 hour duration)
	Demonstrating the effect of cooperative learning on growth mindset (Davidson & Major, 2014; Johnson et al., 2014; Laurian-Fitzgerald & Roman, 2016; Baloche & Brody, 2017; Strahan et al., 2017).	
	Demonstrating how teachers can explicitly employ cooperative learning to foster growth mindset	
Reflection	Defining reflection (Ellis et al., 2014).	
	Demonstrating the effect of reflection on growth mindset (Ellis et al., 2014; Jennings, 2015; Gadner-Baasch, 2016).	
	Demonstrating how teachers can explicitly employ reflection to foster growth mindset (Ellis et al., 2014; Jennings, 2015; Gadner- Baasch, 2016).	
Assessments and Performance Tasks	Defining assessments and performance tasks (Evans, Zeun, & Stainer, 2014).	Day 6 (4 hours)
	Demonstrating the effect of assessments and performance tasks on growth mindset (Evans, Zeun, & Stainer, 2014; Hiong, 2017; Yüksel & Gündüz, 2017; Houston & Thompson, 2017).	
	Demonstrating how teachers can explicitly employ assessments and performance tasks to foster growth mindset (Evans et al., 2014; Hiong, 2017; Yüksel & Gündüz, 2017; Houston & Thompson, 2017).	
Teacher Guided	Highlighting elements of an effective growth mindset lesson plans.	

Mindset Matters: Professional Development		
Component	**Activities**	**Timeline**
Lessons and Activities	Demonstration of the processes of effective growth mindset lesson planning	

Project Evaluation

Project Evaluation		
Project Goals	**Expected Outcomes**	**Evaluation**
To improve the knowledge and perceptions of teachers in the CNMI regarding the mindset concept.	Improved knowledge of teachers in CNMI regarding the various aspects of the mindset concept.	Has the knowledge levels of teachers regarding the mindset concept improved?
	More accurate perceptions of teachers in the CNMI regarding the mindset concept.	Are teachers now having an accurate perception of the mindset concept?
To foster the development of the mindset concept in the schools in CNMI.	Improved development of the mindset concept in the schools in CNMI.	Is the mindset concept now embraced in (most) schools in CNMI than before?
	Increased integration of mindset practices in the learning processes in the schools in CNMI.	Are school administrators now supporting/emphasizing the need for incorporating the mindset concept in the mainstream learning processes?

Project Evaluation		
Project Goals	**Expected Outcomes**	**Evaluation**
		Have the schools domesticated a mindset sensitization program?
To create awareness among teachers in the CNMI about the importance integrating mindset practices in their classrooms.	Increased awareness among teachers in CNMI of the need to integrate mindset practices in their classroom	Are (more) teachers now aware of the importance of integrating mindset Practices in their classrooms than before?

PowerPoint Slides

The following slides outline the professional development and sensitization seminar.

SHARED AGREEMENTS

1. Remain opened-minded
2. Respect the contributions of others
3. Participate in activities
4. Honor our "safe space" learning environment
5. Post questions comments or concerns in the "Parking Lot"

PROFESSIONAL DEVELOPMENT OUTCOMES

You will be able to:

- Understand various aspects of the mindset concept and it's impact on teaching and learning.
- Examine your own mindset and be challenged to make shifts in your perceptions about learning that will improve your ability to help students learn.
- Learn strategies that support a the mindset concept in your classrooms.
- Create an instructional framework to to apply growth mindset practices in your classrooms.

PROFESSIONAL DEVELOPMENT OUTCOMES

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- Learn strategies that support a the mindset concept in your classrooms.

- Create an instructional framework to to apply growth mindset practices in your classrooms.

ACTIVITY: MINDSET ASSESSMENT

- Find the Mindset Assessment Profile Tool in your materials.

- Take time to complete the survey.

- Be sure to consider each item thoroughly before deciding on a response.

DEFINING THE MINDSET CONCEPT

The mindset concept has been defined based on multiple perspectives:

- Dweck et al. (2011) set the context for their seminal research on mindset as a major non-cognitive factor in determining human potential for success.

- Humans are inherently learners and thus begin to assess their own abilities that naturally lead to a personal guiding theory—a mindset.

- These experiences set the context for underlying assumptions and, ultimately, conclusions about how the work around them work, including their potential for learning.

The mindset concept is characterized by a wide range of factors, which has been defined distinctly by numerous authors. Dweck et al. have been integral in defining the approach of mindset concept. Notably, they base their perspectives that humans are inherently built to seek more understanding, which affects their understanding on various issues.

REVIEWING RESULTS

If your profile number falls into this range:	Then your MAP (Mindset Assessment Profile) group is:	People in this MAP group usually believe the following things:
8-12	F5	You strongly believe that your intelligence is fixed—it doesn't change much. If you can't perform perfectly you would rather not do something. You think smart people don't have to work hard.
13-16	F4	
17-20	F3	You lean toward thinking that your intelligence doesn't change much. You prefer not to make mistakes if you can help it and you also don't really like to put in a lot of work. You may think that learning should be easy.
21-24	F2	
25-28	F1	You are unsure about whether you can change your intelligence. You care about your performance and you also want to learn, but you don't really want to have to work too hard for it.
29-32	G1	
33-36	G2	You believe that your intelligence is something that you can increase. You care about learning and you're willing to work hard. You do want to do well, but you think it's more important to learn than to always perform well.
37-40	G3	
41-44	G4	You really feel sure that you can increase your intelligence by learning and you like a challenge. You believe that the best way to learn is to work hard, and you don't mind making mistakes while you do it.
45-48	G5	

DIFFERENCE BETWEEN FIXED MINDSET AND GROWTH MINDSET

The scope of mindsets can be divided into two major parts.

- The inclination that a person has regarding mindset is influenced by a wide range of provisions including their perception on learning—mindset, which is either a fixed mindset or a growth mindset.

- The **fixed mindset:** believe "abilities are predetermined and largely unchangeable" whereas the **growth mindset** is anchored on the premise that a person can continually increase their capacity through continued practice.

- Therefore, the fixed mindset does not endeavor to enhance their capacities while on the other hand growth mindset endeavors on increasing their overall capabilities.

The fixed and growth mindset can be differentiated through the efforts that the individual will undertake on enhancing their capabilities on different undertakings. The fixed mindset is based on the assumption that the person cannot change the existing the situation while the growth is inclined towards continually expanding their perceptions on different issues.

...CONT. DIFFERENCE BETWEEN FIXED MINDSET AND GROWTH MINDSET

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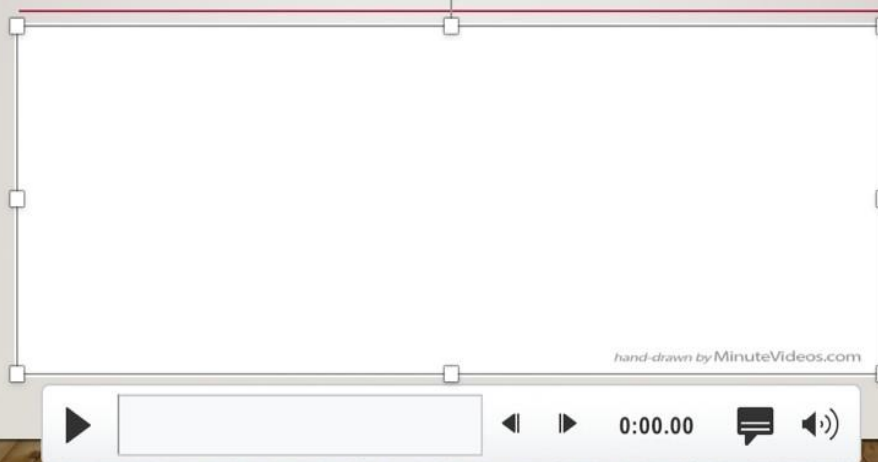
ACTIVITY: THINK, PAIR, SHARE

- Think independently on the mindset concept.
- Consider the differences between the fixed and growth mindset.
- Consider your assessment results.
- Share you thoughts with a partner
- Share your thoughts with the larger group
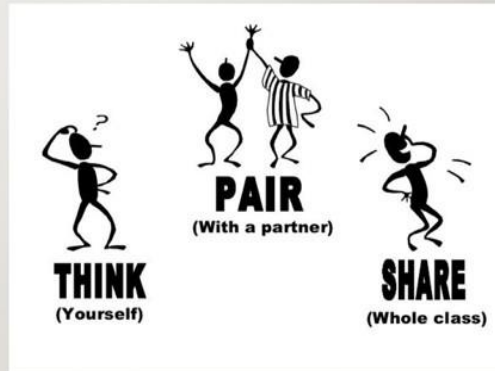
ROLE OF TEACHERS IN MAKING THE MINDSET SHIFT

- Teachers play a significant role in inculcating the ideal/values on the learner.
- Dweck argued that giving praise to students is a sure way of motivating them in every activity they engage in.
- In a classroom with a teacher who has a fixed mindset, it is possible to find a number of students who test well and simultaneously a significant number who do not test well. Teachers who have a growth mindset don't have this discrepancy.
- This is because the teacher believes those students who would normally fail a test actually have a chance to learn and improve their performance.
- One also finds that growth mindset teachers praise students for many things.
- Hence, it implies that a teacher's perception and stance on the student's performance will affect the ability of the learners to gain the necessary traits to have necessary changes.

Teacher's have a significant impact on the mindset that the students will develop regarding given issues related to learning. Dweck findings prove to be useful in the demonstration of similar assumption through the reliance on the concept that relying on praise has been cited to enhance the level of motivation among the students. As teacher's perception is inclined towards positivity, the ability of the students to gain the ideal mindset equally increases. As such, it connotes that the teacher's view on the significance of multiple attributes will ultimately affect their way of understanding various underlying phenomenon.

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…CONTD. ROLE OF TEACHERS IN MAKING THE MINDSET SHIFT

- Teachers have a critical impact on the defining characteristics of the mindset that the student has on various issues.

- Teachers must formulate a teaching framework that ensures all students meet their expectations, whether they are fast or slow learners (Rattan et al., 2015).

- Therefore, the teachers are obliged to instigate frameworks that increase the level of engagement among the students.

- As these scope of undertakings increases, the ability of the learners to shift their scope of mindset is shifted from the fixed to growth.

Based on the analyzed aspects that will affect teacher's perception on given issues, it implies that teachers have a significant role in augmenting the way the learners engage with various issues related to mindset. The formulation of structured content that is predisposed towards expanding the mindset has been demonstrated to be integral in the expansion of the way the student will engage with the multiple issues.

APPROACHES FOR TEACHERS TO FOSTER GROWTH MINDSET AMONG STUDENTS

- The creation of an epitome learning environment is a critical aspect that will influence the realization of growth mindset among students.

- It is important for educators to create learning environments that foster a growth mindset, which leads to increased academic success.

- Truax (2018) has found that teacher language and growth mindset feedback can have a significant positive impact on a student's motivation to learn.

- Moreover, expanding the scope of challenging aspects regarding the activities carried out by the students is another critical approach that is bound to increase the realization of growth among the

The concept of fostering growth mindset has been demonstrated to be characterized by the need to take into consideration various issues including an appropriate learning environment. The element of having appropriate language use is another imperative phenomena that is likely to empower the achievement of growth among students.

EXPLAINING AN INSTRUCTIONAL STRATEGY

- Instructional strategies are understood to be the approaches that the tutors will employ to facilitate the issuance of the ideal teaching aspects.

- The instructional strategy encompasses the broad scope of undertakings that will be employed by the teacher in the endeavor of promoting an ideal learning environment for the students.

- By employing instructional practices that support a growth mindset, teachers provide the best opportunity to maximize their students' potential for academic improvement and success.

Instructional strategy contribute to positive social change to address the current lack of understanding regarding teachers' knowledge, perceptions, and practices in the CNMI.

APPROPRIATE INSTRUCTIONAL STRATEGIES FOR FOSTERING GROWTH MINDSET

- Understanding By Design lesson planning tools currently mandated by the district for lesson planning.

- As the enhancement of lesson planning increases, the ability of the teacher to foster growth mindset equally increases.

- The illustration of the intended content with appropriate examples is another imperative phenomenon .

- Therefore, the culmination of these aspect will increase the ability of the student to achieve the set objective of growth mindset.

Notably, addressing a ranging of important academic considerations including objectives, learning tasks, assessments, and intervention; however, the tool does not address the affective domain.

SIGNIFICANCE OF USING BROADENED INSTRUCTIONAL STRATEGIES IN FOSTERING GROWTH MINDSET

- The widening of the approaches used in fostering growth mindset increases the ability of the learners to discern the taught concepts.

- As the scope of challenging aspects increases, the resilience of students to learn the multiple attributes being taught increases.

- The increment in intellectual growth through the wide scope infers that the mindset of the students will be broadened.

- Consequently, it is apparent that instructional strategies are vital in fostering growth mindset.
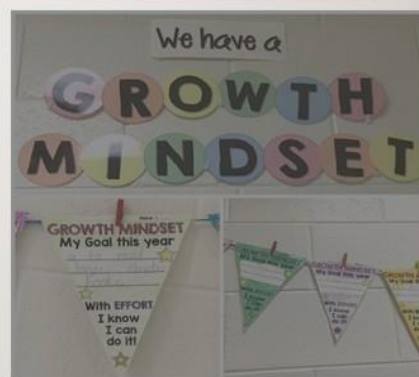
By employing instructional practices that support a growth mindset, teachers provide the best opportunity to maximize their students' potential for academic improvement and success. This is possible through professional development intended to promote a growth mindset in classrooms throughout the CNMI.

…CONTD. SIGNIFICANCE OF USING BROADENED INSTRUCTIONAL STRATEGIES IN FOSTERING GROWTH MINDSET

- The use of teaching plans that reflect on the objective of increasing the comprehension capacities are advantageous.

- The use of guided inquiry is an effective undertaking that will ensure that accuracy takes precedence.

- The use of leading discussion is another instructional strategy with significant impact as it increases the level of student engagement.

- The adoption of the writing for learning methodology is advantageous as it reinforces the aspect of understanding the underlying concepts as opposed to cramming them.

The scope of benefits associated the use of instructional strategies is relatively wide since each is associated with specific element that augment the ability of the student to engage with the taught concepts. The importance of widening the scope is ensuring that fostering growth mindset is anchored on the broad fundamental approaches that would enhance the realization of improved results on shift of mindsets.

ACTIVITY: REFLECTION & SHARING

- Independently, reflect the the information shared. Jot down ideas and/or questions that come to mind.

- In a groups of three, take a moment to share your thoughts and questions.

- Once each member has had an opportunity to share, engage in discussion.

- Provide commentary on the contributions of others.

DEFINING LEARNING ENVIRONMENT & INSTRUCTIONAL ROUTINES

- The **learning environment** is understood as the context under which the students engage with multiple learning initiatives.

- The context could prevail in the form of physical aspects associated with the given environment as well as cultural values held.

- The **instructional routines** encompass the various conceptual frameworks, guides or processes that are used by the teachers in the effort of delivering the intended learning objectives.

- Through these frameworks, the capacity of the students to embrace the taught theories and approaches increases significantly.

Strive to find challenging learning environments to enable them to improve on their failures. Students with growth mindsets are said to have academic tenacity, which is primarily about working smart and working hard persistently to work toward fulfilling a set objective.

PHYSICAL LEARNING ENVIRONMENT
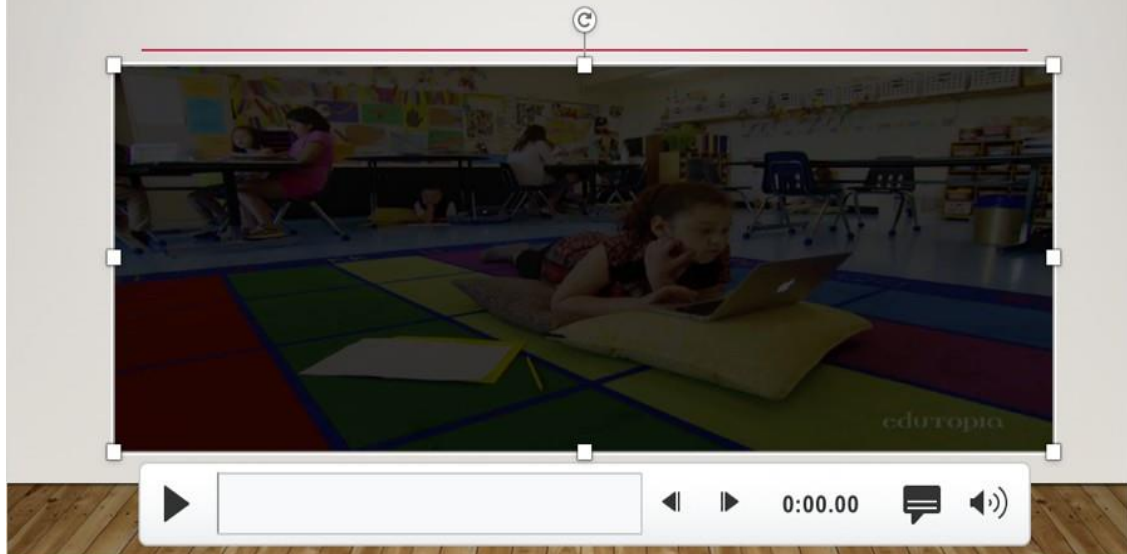
EXAMPLES OF INSTRUCTIONAL ROUTINES

Learning environments and instructional routines can be used to help students consistently work to meet learning objectives by incorporating consistent processes such as:

- Setting objectives, which help student focus on the learning targets

- Understanding real world connections, which support relevance

- Feedback, which is specific to where the student is at in relation to the learning targets

- Praise, which another essential instructional routine that can be used to alter the perception of the students to embrace the ideal positivism.

- The praise that is specific is effectual as it inculcates a sense to strive in attaining the learning objectives.

- Motivation & Engagement, helps student stay driven and encouraged to wards meeting learning goals.

The feedback and praise are some of the critical examples that can be used in instructional routines due to their high level of relevance in fostering the ideal learning endeavors.

THE IMPACT OF A LEARNING ENVIRONMENT AND INSTRUCTIONAL ROUTINES ON THE DEVELOPMENT OF GROWTH MINDSET

- The learning environment and instructional routines have been associated with the development of growth mindset.

- As the level of learning environment is appropriately aligned, the applicability of various phenomenon taught is realized.

- Therefore, the aptitudes of the learner to comprehend the essence of similar endeavors is amplified.

- Moreover, the instructional routines are effective in honing the student's comprehension capacity on the multiple aspects.

The learning environment and instructional routines have a critical impact on the development of growth mindset since they increase the scope of elements that the student engages in, which ultimately increases their intellectual capacities resulting in shift of mindset.

DEFINING MOTIVATION TACTIC

- The aspect of motivation tactic culminates the various approaches that can be employed by a teacher as means of increasing enthusiasm among the learners.

- Through a similar endeavor, the student is encouraged to understand various learning issues from a rather optimism perspective.

- As a result, it implies that the essence of the motivation tactic endeavor is instilling a sense of self-assurance among the students concerning the completion of given learning operations.

Motivation tactic is an approach that the teacher can employ to influence the ability of the student in discerning the learning endeavor from an optimism perspective. Therefore, the student is empowered to embrace to broaden their mindset concerning their academic and intellectual capabilities.

EFFECTS OF MOTIVATION TACTICS ON GROWTH MINDSET

- Research demonstrates that a "growth mindset" equates to greater motivation in student learning.
- The implications of such a mindset are far reaching as there is a significant correlation between one's mindset and success.
- Mindset concept plays an important role in the realm of positive education.
- For instance, research has shown that a growth mindset has a significant determining effect on a student's academic achievement.
- Also, encouraging the students to normalize their experiences infers that they ability to understand the dynamics that they can utilize to bring about the needed changes.

Motivation tactics have a critical impact on the growth mindset of the learner as they compel the students to understand various issues from a personalized perspective. Therefore, the student will be able to eliminate fallacies associated with their performance. Ultimately, their motivation increases significantly.

ACTIVITY: COLLABORATIVE POSTER SESSION

- Get in groups of 3. Try to Identify 3 individuals that you did not have an opportunity to work with yet today.
- Identify a note-taker. Take time to talk about the motivational strategies you incorporate in your practice. Have each individual contribute and ask the note-taker to jot down these ideas on the poster.
- Identify three strategies that you believe best supports a growth mindset. Note these strategies on the poster and draw a nonlinguistic representation to help others remember what you have shared.
- Prepare to share your work with the larger group.

DEFINITION OF TEACHER MODELING

- The concept of teacher modeling is the approaches that the teacher will employ in his or her endeavor of articulating educational objectives.

- The model is structured to reflect on the fundamental elements that would propel the learner in increasing their understanding capacity on learning objectives.

- Therefore, the desired changes regarding the behavior and conduct of the students becomes the guiding aspect for the development of the teacher modeling.

- As a result, the teacher ought to make sure that the existence of scenarios that would frustrate the students from achieving the set objectives are eradicated.

Teacher modeling is therefore understood as the approaches that will be used in carrying out learning initiatives with the major objective being on imparting necessary learning objectives. The scope of behavior and conduct changes are the major influencing factor regarding the approaches that will used in teacher modeling.

MODELING

0:00.00
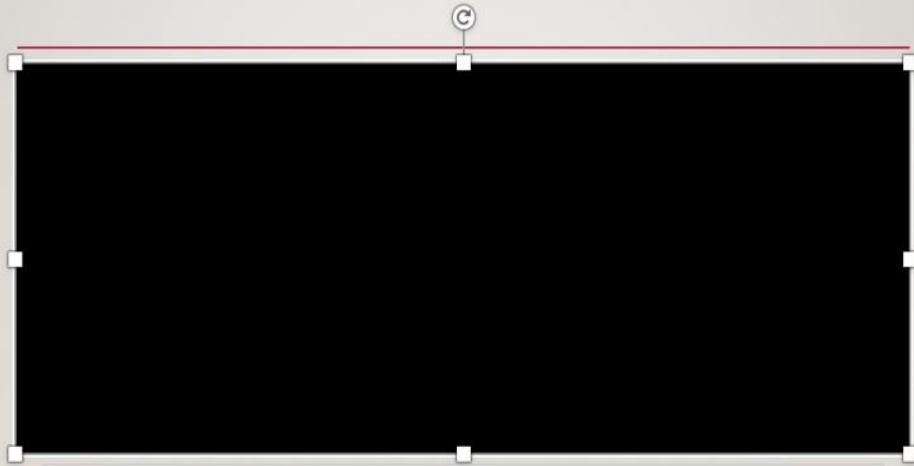
EFFECT OF TEACHER MODELING ON GROWTH MINDSET

- The utilization of teacher modeling approaches can be effectual in enhancing the growth mindset.
- The fundamental approach of the teacher modeling is predisposed towards inculcating the ideal attributes that increases the ability of the learners to understand their situations from an enhanced perspectives.
- Besides, teacher modeling inculcates an improved perspective among the students on the ideal measures that they need to rely upon as means of increasing their performance.

HOW TEACHERS CAN EMPLOY MODELING TO FOSTER GROWTH MINDSET

- The employment of modeling is applicable through the use of various strategies.
- The analysis of the student needs is an approach that a teacher can use in ensuring that the enacted methodologies are within the realm of student needs.
- Furthermore, enhancing the level of engagement among the students by asking questions during a lesson is another viable approach that can be used in ensuring that the growth of mindset is realized.
- For example, during a science class, a teacher can prompt the applicability of the taught concept in an actual setting.
- The use of group discussion among the students increases the ability of the students to engage with each other on academic related issues.

The applicability of the teacher modeling should be based on the need of addressing the different elements associated with fostering growth mindset. Undertaking student's needs and group discussions are appropriate approach that increases the way students understand their capacities.

ACTIVITY: MODELING SCENARIOS

- Consider how you have used modeling as a strategy in your practice.

- Reflect on the nuances of modeling, and identify key components that make modeling effective in promoting a growth mindset.

- Share your consideration and reflections with a partner.

- Be prepared to share with the larger group.

DEFINING FORMATIVE FEEDBACK

- The formative feedback is an anchored on the premise of the teacher utilizing both formal and informal approaches of understanding the learning progress of the student.

- Through a similar undertaking, it facilitates the enactment of ideal correction measures.

- The incorporation of both the informal and formal approaches is disposed towards ensuring that the progress of the learner is understood effectively.

- Both the teacher and student plays an active role in the formative feedback is inclined towards ensuring that the ideal corrective measures are implemented.

Formative feedback is understood as the used of feedback from both the teacher and student for the development of improved measures that increase the initiation of enhanced approaches.
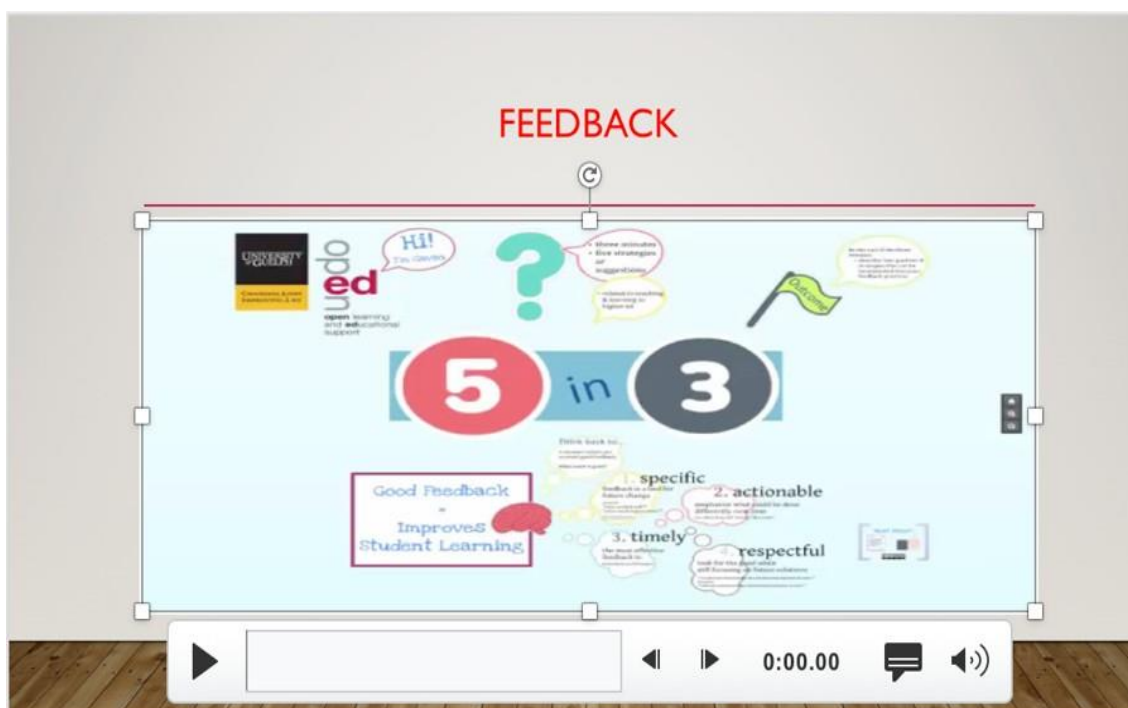
EFFECT OF TEACHER FORMATIVE FEEDBACK ON GROWTH MINDSET

- The formative feedback has been demonstrated to be effectual in understanding the progress that has been attained.

- Through the process, the enactment of growth mindset is realized as it creates an ideal platform for the realization of various scenarios that embrace improved perspectives.

- The formative feedback increases the level of motivation among the students as it instils a level of open mindedness on their ability to undertake various academic undertaking.

- Notably, the intrinsic motivation is the primary effect that is realized in the formative feedback, which results in growth mindset.

The formative feedback instills a sense of intrinsic motivation as the student is empowered to understand learning from a personal perspective based on the scope of achievement that has been realized. Consequently, the ability of the students to comprehend areas that they can change.

HOW TEACHERS CAN EMPLOY FORMATIVE FEEDBACK TO FOSTER GROWTH MINDSET

- The application of formative feedback can be engaged through the use of multiple approaches and concepts.

- The use of questionnaires is an effective in assessing the achievement that has been realized.

- The use of feedback is another effective strategy of understanding the progress that has been attained concerning the learning initiative.

- Promoting an effective environment for understanding the learning goals through discussion is an effective approach.

The most effective employment of formative feedback can be achieved through questioning, the use of feedback as well as engagement platform for understanding the learning objectives.

ACTIVITY: CREATING THE IDEAL

- Write 3 examples of ineffective feedback you've either given your student or feedback that someone has given you.

- Rewrite those three example, considering the components below:
  - Specific
  - Actionable
  - Respectful
  - Encouraging

- Prepare to share your examples with the larger group.

PRAISE IN THE CONTEXT OF MINDSET

- The attribute of praise is characterized by the use of multiple approaches inclined towards enhancing the mindset of the students.

- Praise constitutes the encouragement of the students through highlighting their achievements on the learning endeavors.

- The reassurance of the students that their scores can be improved is a notable aspect that is evident in praise among students.

- The teacher focuses on gratifying the progress of the students on their progress in learning efforts.

The concept of praise involves highlighting the achievements that the student has achieved as a platform of convincing them that they can attain better results in their learning operatives.

THE EFFECT OF TEACHER PRAISE ON GROWTH MINDSET

- Owing to the significance of teacher's feedback on the welfare of the students, carrying out praise is effectual in increasing the attainment of growth mindset.

- The praise aids in highlighting the achievement that the student has attained.

- Therefore, the student will be assured that they can improve their performance.

- As a result, it denotes that the student will be understanding their progress from a comprehensive approach as they understand that they are able to attain more achievements.

The praise carried out by the teacher inculcates a sense of improvement on the student's performance, which ultimately affects the achievement of growth mindset among the learners.
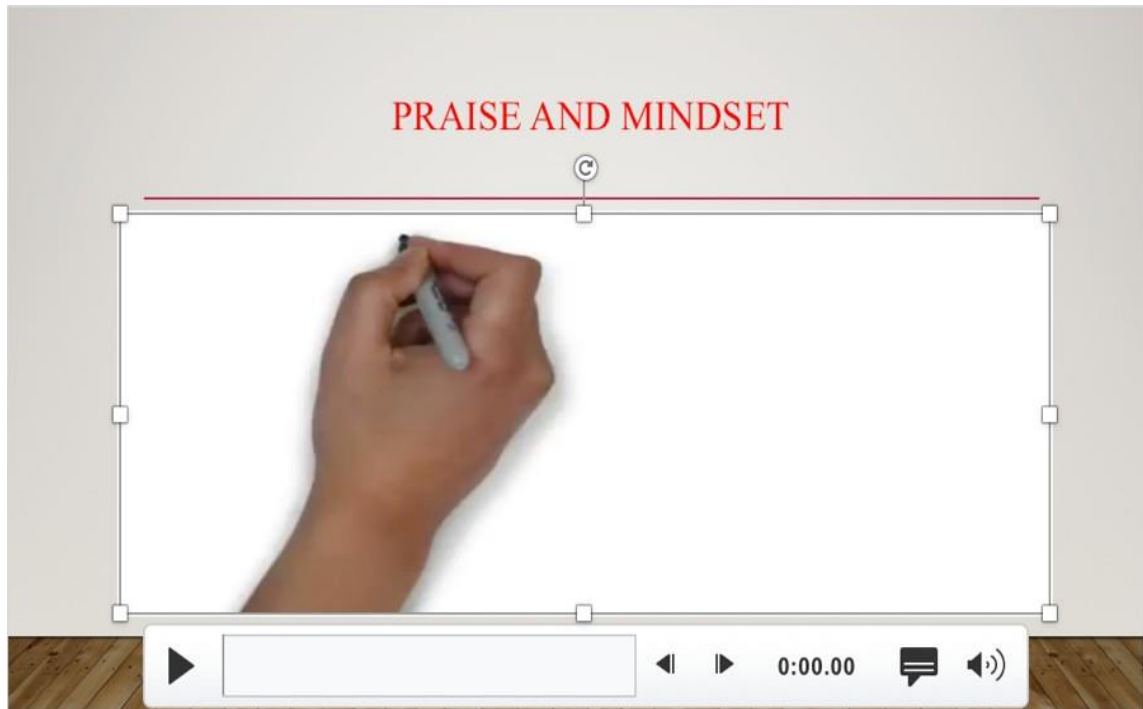
PRAISE AND MINDSET

HOW TEACHERS CAN EMPLOY PRAISE TO FOSTER GROWTH MINDSET

Teachers can employ various praise approaches as means of increasing growth mindset.

- Making the praise worthy is an effectual approach that can influence the attainment of growth mindset as it instils a value that their actions were worthy their operations.

- Additionally, making the praises as subtle is another significant approach the teacher can use to effectually instil a sense of improvement.

- Ultimately, praising the student privately is another effectual approach that can influence the students to embrace growth mindset.

The application of the praise is based on increasing the ability of the students to understand their potential can be expanded as their performance is not limited to what they have achieved. Making the praise worthy would instil a sense that they deserve the praise, which is effectual in fostering growth mindset. Also, making the praise subtle and private is another critical undertaking that can be used to increase their understanding on their overall performance.

ACTIVITY: JIGSAW

- You will be given a number that corresponds with a section of the reading as you will engage in close reading.

- Identify the reading entitled, "Making Sure Your Praise Is Effective: Research-backed ideas on how to give meaningful praise to inspire and reinforce positive behavior" in your resources.

- Based on the number your are assigned, focus on doing a critical read of just that corresponding section. Using the highlighter and pens, annotate important information.

- After the close reading, group yourselves according to your numbers. Discuss your findings and document key ideas on the poster provided.

- Share with the larger group.
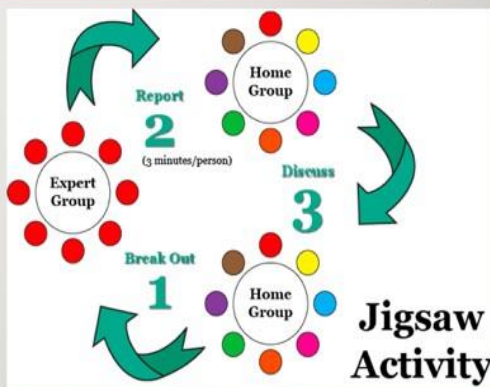
DEFINITION OF SENTENCE STARTERS & LANGUAGE FRAMES

- The form of language utilized in the classroom is a critical aspect that determines the level of motivation among the students.

- In the context of classroom conversations, framing is defined as the use of language that the students can relate with (Hawkins, 2013).

- Therefore, the multiple defining traits among the students is the major defining characteristic for the mode of conversation that will prevail.

- Conversely, speaking templates encompasses the use of structured communication aspects that guide the students on the use of given words and phrases within given context.

Language framing is defined as the adaptation of language to coincide with the defining characteristics of the students. The speaking templates are effectual in establishing the applicability of using given word or rather phrases, which implies that they are effectual in guiding the students.
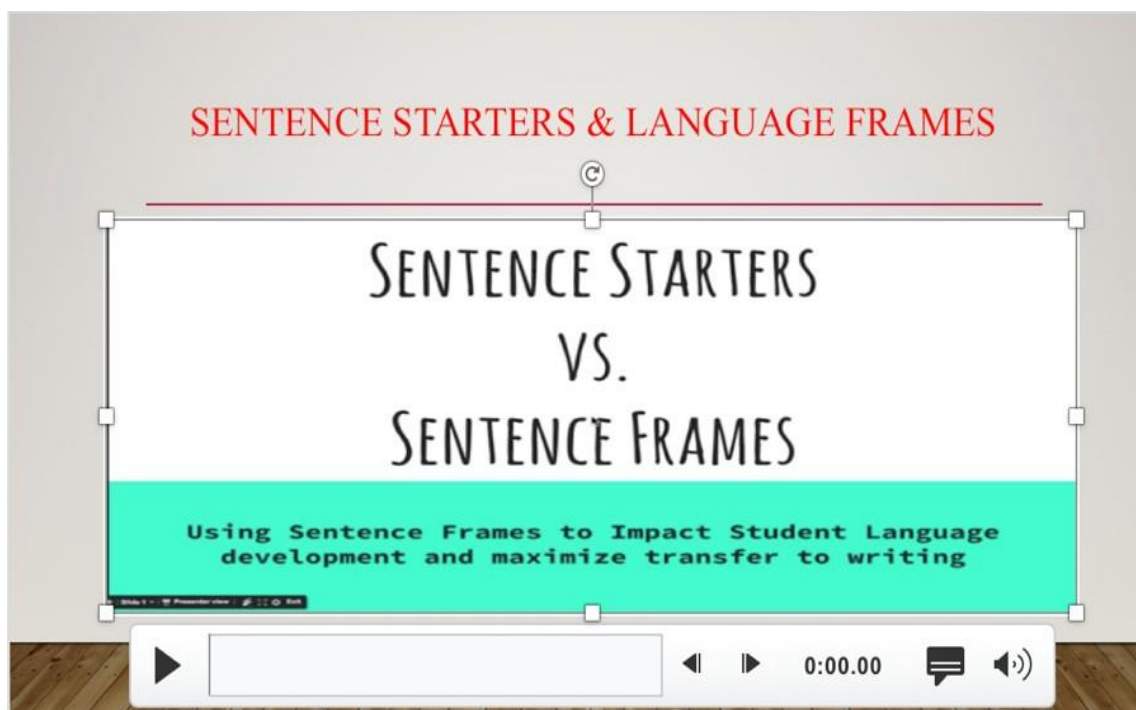
THE EFFECT OF SENTENCE STARTERS & LANGUAGE FRAMES ON CREATING A GROWTH MINDSET

- The aspect of language framing increases the realization of growth mindset owing to the facilitation of an enhanced scenario.

- Through language framing, the student is empowered to understand the taught concept by relating with various phenomenon within their context. As a result, it implies that the conversation is characterized by broadened elements.

- Additionally, the speaking templates allows the student to engage in conversation through a structured approach.

- As the level of understanding increases, their mindset is equally expounded since they are able to engage with various issues in an effectual way.

The language framing approach is effective in increasing the capacity of the student to discern the applicability of various lingual attributes. As similar aspects are realized, it infers that their mindset will be equally changed.

HOW TEACHERS CAN EMPLOY LANGUAGE FRAMES AND SPEAKING TEMPLATES IN CLASSROOM CONVERSATIONS TO FOSTER GROWTH MINDSET

- The utilization of the language frames and speaking notes can be carried out through the application of multiple undertakings.

- Integration of local dialect is an effectual way of improving their comprehension capacity among students, which impacts their overall performance.

- The application of the speaking templates can be attained by structuring an outline that should be followed in different situations related to classroom undertakings.

- For example, encouraging a student to expound on the ideas they present through the use of cause-effect approach is an effective strategy.

The language frame can be undertaken by integrating cultural aspects in the learning endeavor, such as the used local dialect. The infusion of a similar phenomena implores that their capacity to relate with the taught approaches. The applicability of he speaking templates can be realized through the use of structured

ACTIVITY: CREATING GROWTH MINDSET SENTENCE STARTERS & LANGUAGE FRAMES

- Take a moment to reflect on a lesson you recently taught.

- Consider incorporating a growth-oriented sentence starter and language frame to guide how students converse.

- Write down your examples

- With a partner, turn and share your compositions and discuss your rationale for why such promotes a growth mindset.

- Be open to feedback and make adjustments if fitting.

- Share your work with the larger group.

DEFINITION OF COOPERATIVE LEARNING

- The cooperative learning is a teaching approach that is characterized by the use of small of teams that include students of different levels regarding their understanding capacities with each obligated to carryout specific roles within the group (Baloche & Brody, 2017).

- Therefore, the level of engagement among the students is high as each student is mandated to teach a fellow student a new concept.

- The essence of having different students with varied intellectual capacities is to widen the scope of interaction.

Cooperative learning is a teaching methodology whereby the teacher uses integrated groups or rather teams with their understanding capabilities being distinct. Therefore, each of the student in the team will be obligated to have active participation.

COOPERATIVE LEARNING
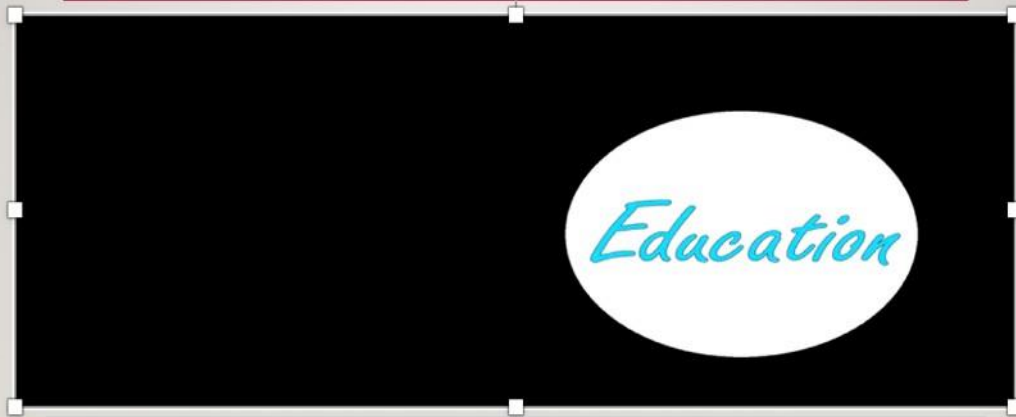
THE EFFECT OF COOPERATIVE LEARNING ON GROWTH MINDSET

- The concept of cooperative learning creates an appropriate platform for each student to demonstrate their prowess in different fields.

- Therefore, their view on their underlying potential is altered as the idea that they can improve their performance is reinforced.

- Moreover, the approach creates a platform that each of the students has an achievement in a given field.

- The creation of a similar atmosphere enhances the realization of growth mindset as they understand that they can contribute to the learning of other students.

The collaboration approach that is utilized in the approach is effectual in ensuring that the students are empowered to showcase their achievement in respective fields. The sense of achievement will ultimately affect their perception on their abilities.

HOW TEACHERS CAN EMPLOY COOPERATIVE LEARNING TO FOSTER GROWTH MINDSET

- The cooperative learning approach can be applied through the use of various approaches.

- The use of reciprocal teaching is an effective methodology that teachers can employ in their teaching endeavors.

- This approach is based on compelling the students to offer explanation on different terminologies and approaches that have been learnt.

- Additionally, the use of group discussion that has been divided into different tiers based on the level of understanding is an effectual approach of promoting growth mindset.

- The approach increases their sense of level of accomplishment while challenging their understanding capacity.

The application of cooperative learning can be undertaken by the employment of numerous strategies. Pointedly, the reciprocal teaching is effectual as it offers each student with an opportunity to demonstrate their achievements. The use of tiered group discussions is yet another crucial approach that can be effectual in increasing the level of engagement among the students.

ACTIVITY: TURN & TALK

- Turn to a partner and take moment to discuss the extent to which cooperative learning is used in your respective classes.

- Discuss why you believe cooperative learning supports a growth mindset.

- Talk about what you need to do as a teacher to promote/guide student toward a growth mindset while they are working cooperatively with their peers.

DEFINITION OF REFLECTION

- The concept of reflection is characterized by a wide range of approaches that can be used in the realization of reflection among the student.

- Therefore, it is defined as increasing the ability of students of becoming cognizant regarding their performance and the underlying factors that would be influencing given results (Ellis et al., 2014).

- Based on similar scenario, the student engages in self-evaluation where they endeavor to understand the underlying reasons that influence given results.

- The methodology is anchored on the enhancement of comprehending the undertakings that can be carried out to realize an improved performances.

Reflection is defined as the efforts of teacher on empowering the students to engage in self-evaluation regarding different academic undertakings as a platform of augmenting their overall performance.

REFLECTION
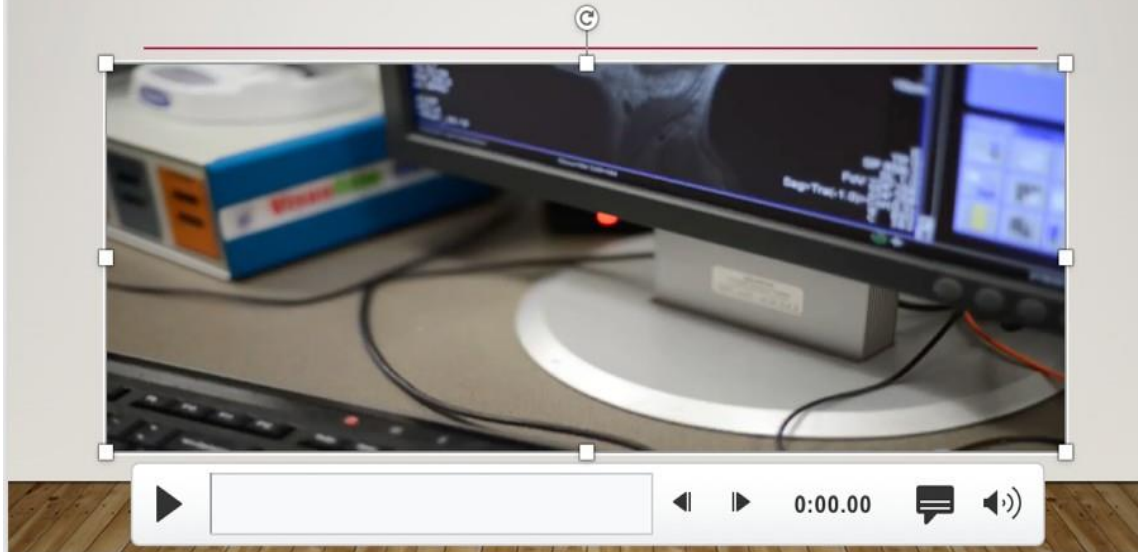
THE EFFECT OF REFLECTION ON GROWTH MINDSET

- The reflection carried out by the students has a significant impact on their mindset as it shifts from the fixed to growth.

- The major questions that are posited under reflection are "why" and "how". These questions will compel the student to mirror their performance academically.

- As their level of understanding on the areas they are not performing well and the factors influencing similar scenarios increases, they will be able to understand the appropriate measures they can undertake.

- As a result, the reflection widens the perspective of the students on their overall performance capacities.

The element of reflection encourages the students to understand the areas they have been performing poorly. As similar elements becomes apparent, the student is empowered to make the appropriate decisions concerning the areas that they can make necessary changes.

DEFINITION OF ASSESSMENTS AND PERFORMANCE TASKS

- The measurement of student's progress is realized through the use of multiple undertakings.

- In the realm of education, assessment is the use of systemic process and pragmatic data for gauging the levels of understanding concerning knowledge, attitude and skills as the grounds of enhancing the comprehension of areas that the student needs to improve.

- Performance tasks culminates the various activities that the student is required to complete as the basis of assessing their proficiency within given fields.

- Therefore, it evident that assessment and performance tasks are effective in assessing the progress of the student on the respective fields.

The assessment and performance tasks are undertakings that are structured to understand the aptitudes on knowledge and skills within the respective fields taught within the learning facility.

ASSESSMENT

FEEDBACK

0:00.00

THE EFFECT OF ASSESSMENTS ON GROWTH MINDSET

- Undertaking assessment among students is an effectual undertaking that would influence the realization of goals related to growth mindset.

- The valuation of the student's capacities on the respective subjects they are being taught is an effectual approach for them to understand the areas that they are not able to understand.

- As the comprehension on similar scope increases, the learners will be able to discern the defining characteristics of their knowledge on different aspects.

- The therefore, the assessment will empower them to engage in the relevant rectification efforts, which illustrates that these mindset will grow.

Through highlighting the multiple scope of strengths and weaknesses in the assessment, the student will be empowered to discern the areas that require improvement. Hence, their views on their performance is bound to increase significantly.

THE EFFECT OF PERFORMANCE TASKS ON GROWTH MINDSET

- Similar to the assessment, the performance tasks equally have a critical influence on growth mindset.

- Through the performance tasks, the student is empowered to discern the critical tasks that they are not enabled to perform effectively.

- As their level of understanding on similar areas increases, their capacity to undertake actions that would increase their performance escalates.

- As a result, their strive to enhance their operations on different fields implies that their growth mindset has been attained.

Through performance tasks, the highlighting of areas that require improvement will broaden the student's comprehension capabilities, which is integral for growth mindset.

HOW TEACHERS CAN EMPLOY ASSESSMENTS AND PERFORMANCE TASKS TO FOSTER GROWTH MINDSET

- Assessments can be employed through the use of random tests at the end of every chapter tackled in respective subjects.
- The assessment would reflect on the major areas that the students have learned with clear approach of assigning score being demonstrated.
- The employment of performance task is attainable by mandating the students to engage in the formulation of portfolios on the respective issues being represented.
- Through the portfolio, the student will be able to reflect on the areas that they require changes.
- As these two undertakings are improved, the capacity of the student to understand that their performance is not fixed but rather bound to grow increases.

Teachers can employ the assessments through the issuance of tests at the end of chapters as the basis of understanding the capacity of the student to learn the multiple issue demonstrated. The preparation of portfolio on respective issues learnt would be effectual for the performance tasks. The integration of these two undertakings would affect the way the student perceives their academic capacities within the multiple fields.

ACTIVITY: POPCORN SHARING

- Take a moment to consider a lesson that your students find difficult.
- How many assessment or performance tasks were involved in your lesson?
- Where the assessments more formative or summative?
- If you could redo your lesson, describe how you can improve your assessment strategies if any.
- Be ready to share.
- If the ball lands on you, share your thoughts with the whole group.

DEFINING TEACHER GUIDED LESSONS AND ACTIVITIES

- The teacher guided lessons and activities encompasses the multiple endeavors that the teacher will actively structure and coordinate, which are inclined towards honing the capacities of the students on different fields (Richardson, 2018).

- The developed lessons and activities will have distinct objectives and goals on the endeavor of ensuring that the students' learning capacities on various fields is improved.

- In the process of developing these efforts, it is imperative to take into consideration the defining characteristics of the class to ensure that the lessons that activities reflect on the underlying individualities.

The teacher guided lessons and activities are defined as the scope of endeavors that are structured and coordinated by the teacher with the essence of honing their understanding abilities in various fields.

TEACHER GUIDED LESSONS

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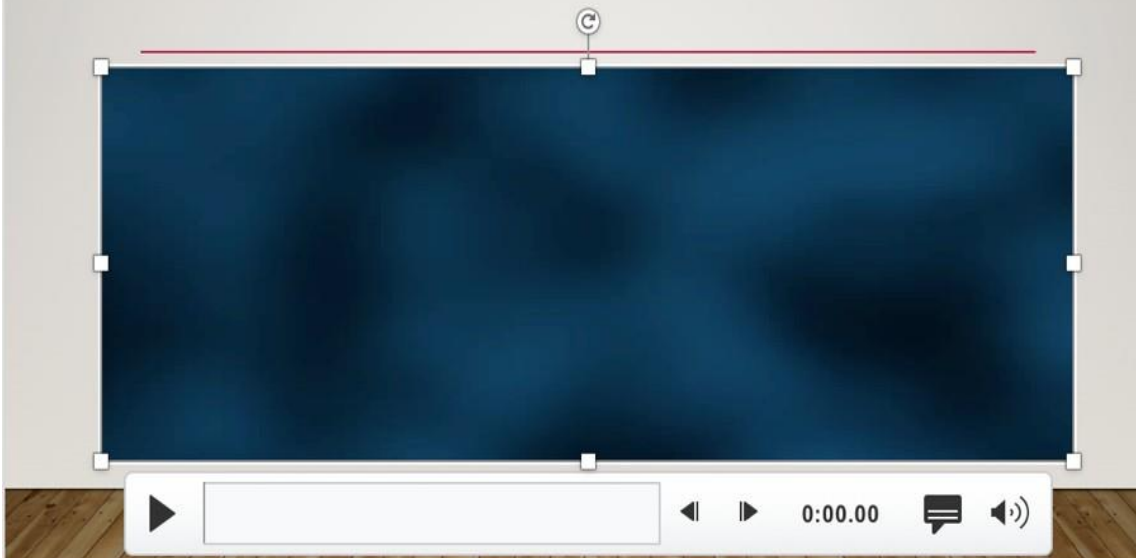
ELEMENTS OF AN EFFECTIVE GROWTH MINDSET LESSON PLANS

The factors that influence the realization of an effective growth mindset lesson plans is relatively wide to culminate the following attributes.

- The creation of clear objectives to be attained at the end of the lesson plans is an effectual undertaking that would influence the realization of effective growth mindset.

- Incorporating discussion within and among the students on the subjects being covered is a significant undertaking that would influence the realization of growth mindset lesson plans.

- Besides, the inclusion of performance tasks within the lesson would equally increase the way students understand their progress and achievement.

My LessonPlan

The scope of elements that affect the effective growth mindset are relatively wide. The development of precise and attainable objectives is critical in structuring the content of the lesson plan. The inclusion of discussion in the lesson plan will make sure that the students express their views on different issues related to the lesson plan. The performance tasks will ensure that the students reflect on areas that need improvement.

DEMONSTRATION OF THE PROCESSES OF EFFECTIVE GROWTH MINDSET LESSON PLANNING

- The process for an effective growth mindset lesson planning ought to reflect on the various critical underlying issues that would affect the realization of set objectives and goals.

- The establishment of the learning objective to be realized concerning the achievement of growth mindset is an effective starting point.

- Thereafter, selection of an appropriate medium of engaging the teaching plan is another critical process, which ought to reflect on the defining attributes of the students.

- The inclusion of a discussion forum for the students is another important part as this enhances the way the students perceive the learned approaches.

- Ultimately, the inclusion of effective evaluation, such as prompting the students to prepare a project of the learnt concepts is effectual in inculcating the ideal changes on growth mindset.
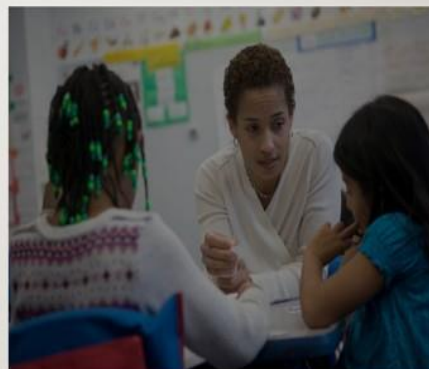
The development of a plan on an effective growth mindset lesson should ensure that the processes is defined by numerous aspects that would influence the realization of projected goals. These processes are structured to ensure that the goal of altering the mindset of the student is effectively achieved.

ACTIVITY: THE PERFECT LESSON PLAN

- In a group of 3, you will be creating the perfect lesson plan to introduce mindset to your students.

- Consider what you have learned today regarding the mindset concepts and strategies that promote a growth mindset, then begin drafting a plan.

- Identify the lesson planning graphic organizer, and use that to guide the content you create.

- Present your work to the larger group.

EVALUATION

- Find the evaluation sheets in your packet

- Take a few moments to review the questions and provide a rating.

- Add comments where appropriate.

Appendix B: The Instrument

RQ1: What knowledge and perceptions do teachers have regarding mindset

at the subject school?

1. To what extent are you familiar with the mindset concept and to what extent do you believe your colleagues and school administrator are familiar with the concept (Schmidt et al., 2015)?
2. Do you believe that your students' basic talents, intelligence, and abilities can be improved? What strategies do you believe can be used to achieve this?
3. Do you believe in the concept of mindset? How would you define this concept?
4. How do you help your students embrace their failures? How do you believe that student failures can improve their abilities (Yeager et al., 2016)?
5. What effect, if any, has the mindset concept had on your teaching and learning as a teacher?

RQ2: How do teachers at the subject school describe the use of mindset in their

practices?

1. Can you change a student's basic intelligence? Have you achieved this in your practice? If yes, How?
2. Do you believe that you can change student talents in specific areas (Orr & Kukner, 2015)? Have you achieved this, and if yes, how?
3. Do you believe that students can change their basic ability level by learning new things? If yes, how?
4. Do you believe that it is easier to teach students with perseverance and grit (Hochanadel & Finamore, 2015)? What are some of your experiences with such students?
5. Do you prefer teaching students with an innate ability in the topic or subject being studied?

RQ3: How do teachers at the subject school demonstrate the use of mindset in

their practices?

1. How do you create space in your classroom for students to pursue new ideas and try new approaches (Orr & Kukner, 2015)?
2. How do you help students build persistence in their schoolwork and also build excitement about their schoolwork?
3. Do you believe that fostering a positive mindset is part of your

responsibility and duty as a teacher? Please explain

4. How does the school administration support the development and application of the mindset concept in the classroom (Yan et al., 2014)?

5. How do you help or encourage students to attempt new strategies if they are having problems understanding a new classroom concept?

Appendix C: Letter of Cooperation from Research Site

Letter of Cooperation from the CNMI Public School System

Glenn Muna, M.Ed.   December 15,2017
Commissioner of Education,
CNMI Public School System
P.O. Box 501370 Saipan,
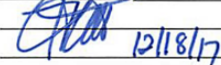MP96950

Dear Bobby Cruz,

Based on my review of your research proposal, I give you permission as the designated authority for the CNMI Public School System, to conduct your study entitled "A Qualitative Examination of Teacher's Knowledge, Perceptions, and Practices on Mindset in the Cornn1onwealth of Northern Mariana Islands (CNMI)" within the CNMI Public School System. The CNMI Public School System understands that you will also be undertaking a Student Researcher Role with Walden University that is separate from your role as the Director of Instructional Technology for the CNMI public school system. In your Student Researcher Role, I authorize you engage with administrators and classroom teachers at the identified subject school (Dandan Middle School), acknowledging that all teachers from the identified subject school will participate only on a voluntary basis and at their own discretion. As Commissioner of Education, I understand and allow you to enter the subject school and engage with the administration and teachers both digitally and face-to-face for the purpose of introducing your research as well as to gather a pool of participants, knowing that the qualitative data you will gather from the pool will qualitative data reflective of their experience as classroom teacher as it pertains to their knowledge, perceptions, and practices.

With this said, the CNMI Public School System does reserves the right to withdraw from participation in the study at any time if our circumstances change.

You will be responsible for complying with § 60-20-320 research policies and requirements, including:
(a) Obtaining a copy of the PSS's policies statement on research requests.
(b) Present a letter of introduction and authentication from the responsible official (i.e., department chairman or above) of an institution of higher education or a professional organization along with evidence of approval by the sponsoring institution's human subjects committee, institutional review board, or comparable committee.
(c) Submitting a copy of the research proposal to include an outline of the research design, copies of the instruments to be used, and an outline or summary of techniques and procedures to be used in the study, including an anticipated date the PSS can expect a report of the findings.
(d) Obtaining approval by the Commissioner/designee.
(e) If survey is to be used, a copy of the survey questions with an estimated time to complete the survey must be provided to the Commissioner's office.
(f) When appropriate, the researcher must agree to provide the Commissioner with a copy of the results of the research.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff withoutt permission from the Walden University IRB. I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

Approved by:
Printed Name: Glenn Muna,
Signature:
Date :
Contact Information: glenn.muna@cnmipss.org
Business Address: P.O. Box 505309 Saipan, MP96950

Appendix D: Mindset Lesson Plans

Lesson #1: Elementary School Mindset Lesson Plan
Lesson: #1
Unit: Self-Confidence and Academic Achievement
Title: Becoming Growth-Minded
**Grade Level:** K2 Duration: 30 Minutes Lesson Objectives:
- o To understand the meaning of growth mindset and fixed mindset.
- o To be able to differentiate between a growth-minded student and fixed-minded student

Learning Materials:
- o Peter Reynold's "The Dot."
- o The Book's document camera.

Learning Activities:
1. Write the word "Mindset" on the board and then create an environment for the pupils to guess its meaning.
2. Explain the concepts of "Growth Mindset" and "Fixed Mindset" to the pupils. Put the pupils in groups of 4s and give them five minutes to discuss the two concepts amongst themselves.
3. Give them examples of that person with fixed mindsets say, e.g.:
- "I can't manage this sum."
- "I'm not good at reading.
4. Give them examples of what people with growth mindset say, e.g.:
- "This sum is difficult to solve, but I'll keep trying."
- "I'm not good at reading, but I'm determined to learn how to read."
5. Discuss the power of the word "Yet."
Example: "You haven't done your best yet."
6. Using your left and right hands, model the sign of each mindset as shown below:
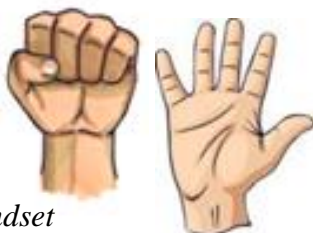
Fixed Mindset   *Open Mindset:*

7. Read Peter Reynold's "The Dot" and discuss each character's mindset.
8. At the end of the lesson, ask the pupils to what growth mindset and fixed mindset

are, and elicit responses.

Lesson #2: Middle School Mindset Lesson Plan
Lesson: #1
Unit: Human Intelligence
Title: Cultivating a Growth Mindset
Grade Level: K6 Duration: 30 Minutes
Lesson Objectives:
- o   To understand that intelligence can be developed.
- o   To understand that the human brain is malleable.
- o   To understand that undertaking challenging tasks is the best was to foster growth mindset.

Learning Materials:
- o   A projector
- o   A computer/Laptop, with an internet connection and YouTube access.
- o   Writing material for students
- o   A poster-sized paper.

Learning Activities:
1.   Access and watch the Khan Academy's video "Growing Your Mind" with the class.
2.   Discuss the video by asking the students following questions:
     - How do characters in the video improve their intelligence?
     - How would demonstrate the variations in the neurons at birth at age six years?
     - When do human brains experience the most growth?
3.   Share your personal story with the students of a challenge you faced in life, and how you worked hard to overcome it. Relate your story with the experience in the video. In your personal story and the video, highlight the value of the following:
     - Hard work
     - Challenges
     - Support from others
     - Plan/strategy
4.   Ask the students to write a story about a challenge they have encountered in the course of learning.

Lesson #3: Secondary School Mindset Lesson Plan
Lesson: #1
Unit: Human Intelligence

Title: Developing a Growth Mindset
Grade Level: K10 Duration: 60 Minutes
Lesson Objectives:
- o To understand the mindset concept.
- o To understand the impact of mindset on an individual's learning and performance.

Learning Materials:
- o Writing materials (e.g. pens and writing surfaces for the students).

Learning Activities:
1. Ask the students to identify their heroes. You can allow the students to discuss in pairs or groups.
2. Ask each student to answer the following questions about their heroes:
   - Why do you consider him/her a hero?
   - What did he/she do?
   - Why did they do what they did?
   - How did they do what they did?
   - What challenges do he/she face?
   - How did he/she overcome the challenge?
3. Using a 5-point Likert scale (i.e., 1=strongly Agree to 6=Strongly Disagree, ask the students to rate themselves based on the following statements:
   - Intelligence is innate and can't be changed.
   - There is something you can do to improve your intelligence regardless of who you are.
   - You can't change your intelligence, even if you can learn new things.
   - You are who you are and can do nothing to change that.
4. Ask the students to identify which of the following statements depict effective feedback:
   - "That was commendable Mary, keep it up."
   - "Next time, you need to make your answers clearer to the reader, Paul."
   - "Do not do this again, Betty."
   - "I liked the way you solved the sum, Martin."