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Gauging the Utility of a Learning Target Theory of Action to Address Perceived Obstacles to Teaching and Learning During the COVID-19 Pandemic

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GAUGING THE UTILITY OF A LEARNING TARGET THEORY OF ACTION TO ADDRESS PERCEIVED OBSTACLES TO TEACHING AND LEARNING DURING THE COVID-19 PANDEMIC

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ABSTRACT

GAUGING THE UTILITY OF A LEARNING TARGET THEORY OF ACTION TO ADDRESS PERCEIVED OBSTACLES TO TEACHING AND LEARNING DURING THE COVID-19 PANDEMIC

Brian Pohland

May 2022

Dissertation supervised by Dr. Connie Moss

This qualitative study was guided by the following research questions: What instructional challenges did teachers face related to designing and delivering lessons remotely during COVID-19? How did those challenges impact teacher perceptions of self-efficacy for providing meaningful lessons for their students? What is the utility of a learning target theory of action for addressing teachers instructional practice challenges and perceptions of self-efficacy?

Six participants were selected from a convenience sample and asked to complete a survey with ten open-ended prompts. Their responses were analyzed by individual participant and also across participants through close reading strategies. The analyses revealed six common challenges and seven themes within their responses. The six challenges were analyzed to reveal negative impacts on participant self-efficacy. Those challenges and impacts were further analyzed to test the utility of A Learning Target Theory of Action for aiding educators and educational leaders in overcoming teacher

perceived instructional challenges during the COVID-19 pandemic and that have promise for addressing instructional challenges in other teaching environments.

DEDICATION

This work is dedicated to my friends and family specifically: My mother Angela Blaner, my Brother Elton Ivanoff, Brian Blaner and Erica Simmons.

Mom—Thank you for a lifetime of support, encouragement, and love. While you would never take credit for anything I accomplish in life, at the end of the day you deserve credit for all of it. Thank you for your patience with me as we both know my younger years were not the easiest. Thank you for always being there to pick me up when I hit a roadblock that knocked me down. Thank you for the countless after work calls to listen to me vent. Most of all thank you for always believing in me, it's that belief that has given me the courage to be who I am and strive for more. I love you!

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Elton—Thank you for being my brother. Life has had its ups and downs, but you were always someone that I could count on. Thank you for the encouragement, support and at times tough love. I love you Bro!

Brian—While I still don't love that we share the same name, I am truly lucky that you came into my life. Thank you for treating me like one of your own and always being a call away!

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Chapter One

Statement of the Problem

Urban schools across the country, as well as the school where I practiced, are struggling with academic performance and discipline issues (Council of the Great City Schools, 2016). These conditions have been negatively impacted by the ongoing pandemic (Butcher, 2020; Cope and Kalantzis, 2020; Darling-Hammond, et.al, 2020; Huber & Helm, 2020; Lachlan, et al., 2020; Milman, 2020; Rogers Haverback, 2020; Sulisworo, et al, 2020; Vogels, 2020). One possible cause of these issues could be the deficiency of students' belief in themselves to succeed in their classes, along with limited strategies to succeed in the classroom. In my experience with this population, their lack of belief stems from negative learning experiences and learned helplessness that has been reinforced over their time as learners. The Learning Targets Theory of Action can provide a framework built around the formative learning cycle (Moss & Brookhart, 2012; 2015; 2019), that can aid students in learning to self-regulate and improve their self-efficacy beliefs to perform in the classroom. This framework could help students take control of their own learning and improve as learners. This study will implement the Learning Targets framework and measure student's ability to self-regulate and their self-efficacy beliefs about their ability to perform in the classroom.

Purpose of the Study

The purpose of this study is to gauge the utility of the Learning Targets theory of action (Moss & Brookhart, 2012) to address teacher perceived obstacles to student learning while online. Many educators struggle with teaching during the ongoing pandemic. The theory of action proposed by Moss and Brookhart (2012) might help educators adjust the way that they plan their lessons. Most lessons are planned from the teachers' instructional perspective rather

than engaging in planning from a student perspective focused on what the students will learn rather than what the teacher will teach. This change of view maybe helpful not only to the teacher but also to the students who are struggling as well (p.10-11).

The classroom system that this study will implement is the learning target framework that was created by Moss and Brookhart (2012; 2015; 2019). Specifically, this study will focus on the formative learning cycle that includes five steps: Model and Explain, Guided Practice, Performance of Understanding, Formative Feedback, and Improved Performance. Implementing a learning target, performance of understanding and look-fors (look-fors the success criteria; the stated characteristics of quality that students can look for in their work) (Moss & Brookhart, 2015) intentionally engages students in their own learning throughout this cycle. This cycle shares similarities of Zimmerman's Cyclical Phases Model of Self-Regulation (forethought, performance, and self-reflection) (2013). The three phases of Zimmerman's cyclical model easily connect to the formative learning cycle since the Moss and Brookhart framework (2012) builds from Zimmerman's work. Combining these frameworks could improve student self-efficacy which could then improve their performance and behavior and appears to hold promise for teachers who are struggling during the pandemic to build lessons that can help students learn and develop increased self-regulatory skills for increased expectations for working independently.

Significance of the Study

As a teacher and leader at a school within a western Pennsylvania school district, it is important to recognize the challenges we face. Currently, the school district is experiencing significant academic and discipline issues (Council of the Great City Schools, 2016). The district as a whole has continually performed below the state averages on state standardized tests such as

the PSSA/PASA and the Keystones (Pittsburgh Public Schools, 2017a). My school, which is a middle school in the district, has performed below the district averages on the state standardized tests. Adding to that, there is a gap in the discipline data between African American students and Caucasian students, with a higher percentage of African American students being suspended (A plus schools, 2017). It seems evident that without some sort of intervention, this school and school district will continue to underperform.

The classroom systems that implemented within my school prior to COVID-19 were contributing to low academic achievement and increased behavior issues. As a history teacher and a member of the team focused on discipline within my school, these issues fall within my sphere of influence. Behavior issues impact the learning in the classrooms and the overall environment of those classrooms. Due to this, our students were not succeeding on state standardized test, 13% are being suspended at least one day, and 26% of our students are chronically absent (A Plus Schools, 2017). As member of the behavior team, it is imperative that these issues are addressed, and the proper interventions are put in place to foster school improvement.

These issues on both the district and school level have not gone unnoticed. The current superintendent has set out to improve the school district and has constructed a strategic plan for improvement. Within this plan, there have been curriculum changes, common planning time and other initiatives to address the academic issues. Along with that, the district has started initiatives such as Positive Behavioral Interventions and Supports (PBIS), Restorative Circles, and other initiatives to address behavioral issues (Pittsburgh Public Schools, 2017b). Although a lot of the initiatives started are proven school improvement programs, the trainings and fidelity of implementation could be questionable.

With a district as large as this, district wide improvements may be cumbersome and not successful at all of its schools. In addition, the obstacles brought on by the pandemic have hindered most if not all improvement efforts. This is why this study focuses on the issues within my school. My seven years of teaching experience at the school and decade teaching in the district, have given me a great deal of knowledge of the local context and the issues facing the school. With all of that said, it is imperative that the obstacles to teaching and learning that were brought on by the pandemic are examined to see what solutions can be sought after to overcome them.

Research Question

This study is designed to address the issue of teacher self-efficacy and skill for advancing student learning during the pandemic. The study is guided by the following research question:

Research questions:

- *What instructional challenges did teachers face related to designing and delivering lessons remotely during COVID-19?*
- *How did those challenges impact teacher perceptions of self-efficacy for providing meaningful lessons for their students?*
- *What is the utility of a learning target theory of action for addressing teachers instructional practice challenges and perceptions of self-efficacy?*

The literature review that follows addresses the research questions by exploring each of the following topics in turn:

1. COVID-19 and its impacts on teaching, student learning, marginalized families and the districts and schools that serve them.
2. Critical Race Theory
3. Pedagogy of Poverty
4. Self-Regulation
5. Self-Efficacy and Teacher Self-Efficacy along with its impact on learning during COVID-19
6. Feedback
7. Formative Assessment
8. A Learning Target Theory of Action

Chapter Two: Review of Actionable Knowledge

COVID-19

The COVID-19 pandemic has had far reaching consequences for all of public life, especially for education. Schools all over the world have been forced to shut down and switch to online learning, in one capacity or another (Butcher, 2020; Cope and Kalantzis, 2020; Darling-Hammond, et.al, 2020; Huber & Helm, 2020; Lachlan, et al., 2020; Milman, 2020; Rogers Haverback, 2020; Sulisworo, et al, 2020; Vogels, 2020). In the United States, this meant an increase from 1 million students learning online, to more than 55 million students learning online (Butcher, 2020). School districts were faced with difficult decisions for implementing education that meets the needs of all of their students (Darling-Hammond et al., 2020). Compounding this, many countries like the United States had no prior experience with a pandemic or other global or national disaster that required most schools to shut down. There is a crucial need for new research about the impact of COVID-19 from multiple perspectives (Huber & Helm, 2020) especially for specific aspects of schools and schooling.

The enormous increase in the number of students in the United States who had to move to online learning due to ongoing pandemic was immediate and abrupt adjustment for teachers and their students (Sulisworo et al., 2020). Educators found themselves teaching in less-than-ideal conditions as they were hurriedly pushed into remote learning (Milman, 2020). Cope and Kalantzis (2020) note that "the job of a teacher [became] more and more content curation not just content delivery" (p. 3). It is not unusual for teachers to create some of their own content. However, with the lack of teacher experience with putting their entire curriculum online, it required a great amount of time and effort on the part of those teachers to create and implement

quality and engaging content for online learning (Milman, 2020). The expeditated change due the pandemic along with other contributing factors have seen many challenges arise in the education field that directly impacted the teaching force.

One of these issues, that is not new to the field of education, has been exacerbated by the ongoing pandemic—educators are still trying to teach the "same old way". The current system of education in the United States, created a century ago, has seen little change (Darling-Hammond et al., 2020). The emergency crisis brought about by COVID-19 has moved the U.S. educational system into what Milman (2020) calls "pandemic pedagogy" hurriedly switching what we've done, to doing it online. Cope and Kalantzis (2020) are quick to point out that this switch has been agonizing since many educators are trying to do what exactly they did in the classroom but do it online. They describe students in "Zoom sessions" having to listen to the teacher lecture, while only few of the students participate. They claim that the conditions are not only poor pedagogy, but the conditions are also leading to increased student isolation since it provides little interaction.

As we look at the consequences of the COVID-19 crisis on schools in the United States (Huber & Helm, 2020), along with outmoded pedagogy (Cope & Kalantzis, 2020), special attention must be paid to schools in low socioeconomic areas where already challenged conditions have been dramatically exacerbated. Vogels (2020) in his study using Pew research data points out that "59% of parents with lower income say their child may face digital obstacles in schoolwork". The author reports that almost 30% of lower income students will likely have to use their phone for their schoolwork. On top of that "21%" of students do not have access to a computer at home, and "22%" of students do not have reliable internet connection (Vogels, 2020).

While there are many issues facing educators due to this pandemic, some researchers see this as an opportunity to instill meaningful and lasting educational improvement (Cope & Kalantzis,2020; Darling-Hammond, 2020; Lachlan et al.,2020; Rogers Haverback, 2020). Darling-Hammond et al. (2020) claim that COVID-19 has promoted a "greater social commitment to equitable education" (p. 9). They propose that the pandemic gives educators an opportunity to discover and implement research policies and practices that can help "rethink" (p. 9) education in ways that can be helpful for all students and staff alike. Rogers Haverback (2020) builds on this by saying that lessons from the pandemic cannot only be used improve education now, but also help better prepare educators for the future. Amongst this optimism across the research surrounding education during the pandemic, certain educational theories, research, and strategies have surfaced as especially relevant to build upon, such as self-efficacy and self-regulation (Darling-Hammond et al., 2020; Huber &Helm, 2020; Rogers Haverback, 2020; Sulisworo et al., 2020). The purpose of this literature review is to look at this connecting learning target and self-efficacy noting how they impact each other and link to instructional challenges

COVID-19 has limited the teachers control over students learning time. Because of this, motivation and self-regulatory abilities have become even more important (Huber & Helm, 2020). Darling-Hammond et al. state that "many students need help managing work time and productivity" especially in this online environment (2020, p. 13). It has been found that students who have self-regulatory abilities, will better handle the change from in-person to online instruction (Sulisworo et al., 2020). Research states that the way teachers organize their online instruction could dramatically impact students' ability to self-regulate their learning (Darling-Hammond et al., 2020; Sulisworo et al., 2020). To accomplish this, Sulisworo et al. suggest "setting and informing explicitly the learning objectives" (p.728, 2020) to help learners know

what is expected of them and how they can accomplish the objective. Cope & Kalantzis (2020) suggest giving students rubrics so they can measure their work while completing it, allowing them to regulate their learning.

Along with self-regulation, self-efficacy has come into the forefront of education research during the COVID-19 pandemic. As previously mentioned, many teachers and students were unprepared for the unexpected changes brought on by the pandemic (Huber & Helm, 2020). The new and mostly unfamiliar environment for daily schooling has produced challenges that have had negative impacts on students' and teachers' self-efficacy beliefs. Before COVID-19, teachers who felt confident in their ability to teach in the classroom, now question their ability to promote student learning and achievement (Rogers Haverback, 2020). Teachers' lives as they knew it were disrupted and the lack of time, they had to adjust to their new setting along with very limited training, created a situation were "efficacious teachers may not feel efficacious now" (Rogers Haverback, 2020, p. 3). Nevertheless, research indicates that giving students and teachers alike opportunity to feel success in mastery experiences while in this virtual world, could positively impact their self-efficacy beliefs and improve their overall performance. That improvement could have positive implications post pandemic.

The Impact of the COVID-19 Pandemic on Teachers

The COVID-19 pandemic had tremendous impact on education. With that impact, the expectations and work for teachers drastically changed (Cope &Kalantzis, 2020; Lachlan et al., 2020; Milman, 2020; Rogers Haverback, 2020; Kaden, 2020; Kim & Asbury, 2020; Summers, 2020; Turner, Adame, & Nadworny, 2020). Educators who were interviewed expressed many feelings of uneasiness, with one educator noting that "Everything happened so quickly" (Turner, et al., 2020, p.2). One teacher in a study conducted by Kim and Asbury (2020) went as far to say

it was “like a rug had been pulled from under you” (p.1070). Even with the dramatic impact on teachers, much of the research has not been focused in that direction (Kim & Asbury, 2020). In reviewing the sparse research that exists on teachers during COVID-19, several themes emerge across the studies: the impact of the sudden change, the lack of preparedness, increased workload, and the impact on teacher identity and teacher self-efficacy (Cope & Kalantzis, 2020; Hebebci, Beritz, & Alan, 2020; Huber & Helm, 2020; Kaden, 2020; Kim & Asbury, 2020; Lachlan et al., 2020; Louis-Jean & Cenat, 2020; Milman, 2020; Rogers Haverback, 2020; Sulisworo, 2020; Summers, 2020).

As the pandemic caused a quick and sudden shift in education, it left many educators feeling ill prepared to deal with the sudden changes (Kaden, 2020; Kim & Asbury, 2020 Turner et al., 2020). As Summers (2020) notes “In many cases, educators were teaching exclusively online for the first time in their careers” (p.32). Teachers found themselves burdened with the task of reproducing the essentials of schools without actually being in school buildings (Turner et al., 2020). In a barometer survey done by Huber and Helm (2020), the researchers found that most school staff felt that teacher’s online education abilities were “mediocre” (p.252). Cope and Kalantzis (2020) support this finding by stating most teachers are “ill-prepared” (p.2) for the current situation and this can lead to a bad experience for all stakeholders. Based on the clear lack of experience in what it takes to successfully teach online through a pandemic (Huber & Helm, 2020), it seems paramount that teachers need to receive the necessary professional development to support them with their new instructional challenges.

As schools scrambled to move instruction online, the need for professional support was not met. As Rogers Haverback (2020) pointed out, due to the quickness of the transition to online instruction, many teachers were not given the necessary training. This dire situation left

many teachers with a feeling of "uncertainty" (Kim & Asbury, 2020, p.1071). This feeling of uncertainty is supported by studies done by Kim and Asbury (2020) and Turner et al. (2020) where they interviewed teachers. One teacher interviewed gave a great analogy about how teachers were feeling during the start of the COVID-19 pandemic and the move to online learning in March, 2019 "I guess it felt a bit like, you know, you're shown the diagram of how the parachute works and then you're pushed out of the plane" (Kim & Asbury, 2020, p.1070). Summers (2020, echoes this statement by pointing out school districts had to suddenly train all of their staff in online learning. Louis-Jean and Cenat (2020), described the professional development to prepare teachers as "limited" (p.1) and explained that the lack of training made the situation more challenging and led many teachers to struggle with their online learning platforms.

Because of the unprecedented situation and the lack of needed training, the pandemic has significantly impacted teachers' workload (Kaden, 2020; Kim & Asbury, 2020; Schaefer, Schamroth Abrams, Kurpis, & Abrams, 2020; Turner et al., 2020). Teachers stated that they underestimated the amount of work that went into online teaching (Kaden, 2020; Turner et al., 2020). Milan (2020) supports this by detailing that it takes an increased amount of time to create lessons that will be impactful and engaging while online. This harkens back to a point made earlier by Cope and Kalantzis (2020) describing that teachers were tasked with creating content more often than they were pre-pandemic. While overcoming the increased workload, teachers were also trying to prevent widening the inequity that already exists within our educational system (Kaden, 2020).

It is clear that there have been numerous changes to education during the pandemic. Because so many educators were trying to adapt to this unfamiliar and ever-changing

environment, there has been impacts to their identity as teachers, and their self-efficacy beliefs regarding their ability to teach effectively (Kim & Asbury, 2020; Rogers Haverback, 2020). The pandemic put teachers in unfamiliar positions. For example, teachers were not always able to connect with students like they did in previous years, which was difficult for them. Many teachers were accustomed to the structure and organization of the "normal" school day, and this was absent in the hasty switch to online education. Additionally, online learning brought "blurring boundaries between work and home" (Kim & Asbury, 2020, p. 1072). All of this had a resounding effect on teachers' professional identity. A perfect summation of this feeling is a quote from a teacher in an article by Turner et al. (2020), in which they state, "Teaching through a computer is not why I became a teacher" (p.2). As many teachers are struggled to adapt to this new way of teaching, the previous quote shows many of them are struggled with their sense of their professional identity. Kim and Asbury (2020) build on this to say that this was "alien to their core values (p.1077). That internal struggle also impacted teachers' self-efficacy beliefs since they might not have felt like they met their idea of an educator anymore (Kim & Asbury, 2020).

In the era of COVID-19 teachers' self-efficacy beliefs in their ability to effectively educate their students varied drastically from their beliefs prior to the pandemic (Rogers Haverback, 2020). Many teachers struggled in areas that were not as difficult for them in the brick-and-mortar setting. For example, a teacher reflecting on their struggles with teaching online put it this way "I can't respond to 33 kids in writing fast enough" (Turner et al., 2020, p.6). This was not only overwhelming for teachers but called for a "conceptual change" in the way that teachers functioned (Rogers Haverback, 2020, p.3). The pandemic created a situation

where educators were uncertain, ill-prepared, and overwhelmed and has resulted in teachers feeling less efficacious than they once did.

While we are describing the impacts of the COVID-19 pandemic, it would be short sighted to focus on teachers alone. All stakeholders in education felt the dire impacts of the pandemic. However, teachers are an especially essential part of education. They hold the system together and it is essential to protect their ability to properly educate their students (Kim & Asbury, 2020). Kaden (2020) builds on that sentiment by declaring "Caring for educators is an important part of the recovery and a sustainable educational model for the future" (p.2). While there has been research on how difficult the pandemic has been on teachers, there is a lack of research currently on the other aspects of teachers during the COVID-19 pandemic. Specifically, there is a lack of research regarding how to effectively support teachers to meet challenges COVID-19 presented and to minimize the overall impact of teachers' negative self-efficacy beliefs about their teaching in the unfamiliar educational environment. It is of the upmost importance to conduct research focused on ways to support teachers in meeting the challenges revealed during the pandemic, in order to aid them in delivering quality education to their students.

The Impact of COVID-19 Pandemic on Marginalized Families

The COVID-19 pandemic has had a tremendous impact on education and teachers. The ones who are impacted the most, however, are the students, especially the students of marginalized families (Asfaw, Guo, Jang, Komarivelli, Lewis, Sandler, & Mehdipanah, 2020; Atchison, 2020; Kaden, 2020; Kim & Bostwick, 2020; Louis-Jean & Cenat, 2020; McKinney, 2020; Summers, 2020; Turner et al., 2020). While there may have been students who made the switch to online learning without much issue, this is not the case for all students. The already

existing educational inequalities have made this transition very difficult for many students (Louis-Jean & Cenat, 2020). Summers (2020) goes so far as to say that the COVID-19 pandemic "exposed longstanding educational inequalities in teaching and learning practice" (p.32). Because of the systemic racism and other inequities within education that were exacerbated by the pandemic (Lachlan, et al., 2020; McKinney, 2020), it is essential to review the literature on the impact of the pandemic on students of marginalized families. This review is organized into two sections: impacts on the schools and the impacts on the students and their families and community.

Impacts on School Districts That Serve Marginalized Populations

Before discussing the impact of the COVID-19 pandemic on minority students and students who come from low socioeconomic backgrounds, it is necessary to look at the impact on the school districts that serve them. The pandemic had a devastating impact on many school districts, especially in terms of their budgets (Atchison, 2020; Center on Reinventing Public Education (CRPE), 2020; Louis-Jean & Cenat, 2020). In Atchison's (2020) research on education budgets in New York State, he found glaring inequities. The author found that schools serving a higher population of students who are economically disadvantaged, were set to receive on average "$230 less per student" (p.3) due to the economic conditions brought on by the pandemic. Whereas schools serving a lower population of students who are economically disadvantaged, were only going to receive "$30 to $40 less per student" (p.3). The effects of these budget restraints on school district are vast. Louis-Jean and Cenat (2020) say these inequities lead to reducing student access to the necessary technology and internet, along with limiting teacher training.

A common theme during the pandemic among districts serving marginalized students, was the struggle to provide the necessary technology (Atchison, 2020; Center on Reinventing Public Education (CRPE), 2020; Eddins, Comly, & Lapp, 2020). In Baltimore, after handing out "25,000 Chromebooks" schools faced the reality that "10,000 students" were still without the means to connect digitally (Center on Reinventing Public Education (CRPE), 2020, p.2). Relevant to the context of the current study, in Allegheny County Pennsylvania, many schools struggled to meet the technological demand (Eddins et al., 2020). Only 41% of school districts in Allegheny County were able to provide the necessary technology to all grade levels. Eddins et al. (2020) reviewed the continuity of education plans (CEP) from districts in the county. The researchers found that districts serving a higher number of students of color and low socioeconomic backgrounds, were forced to set a later start date after the initial closure of schools in the spring mainly due to the lack of technology in those districts. What's more districts with a higher number of students of color and students of low socioeconomic backgrounds, provided fewer learning opportunities in their CEPs.

Impacts on the Students In Marginalized Communities

As districts worked to overcome what some have called "pandemic cuts" (Atchison, 2020, p.5), it was the students who suffered. African American communities suffered disproportionately during the pandemic (Kim & Bostwick, 2020; Laster, 2020). Kim and Bostwick (2020) point out that there have been existing inequalities within the United States that were highlighted by the COVID-19 pandemic. Laster (2020) supports this by asserting "Racism and capitalism mutually construct harmful social conditions that fundamentally shape COVID-19 disease inequities" (p.504). These inequities have hindered fair access to technology and internet for African Americans (Soltan, 2020). Because of the inequities exacerbated by the pandemic

(Lachlan et al., 2020), many African American students have been left behind because their needs were not met by online learning (Education Trust-West, 2020).

On top of the racial inequities worsened by the COVID-19 pandemic, inequities based on socioeconomic backgrounds were intensified as well (Kaden, 2020; Kim & Bostwick, 2020; McKinney, 2020; Thomas, 2020). For students of low socioeconomic backgrounds, education is far from equitable, making the switch to online learning more difficult (Thomas, 2020). Soltan (2020) points out that children in low-income school districts have less access to technology. Along with that, it was found that household income can impact internet access at home (Louis-Jean & Cenat, 2020). Because of the limited access to technology and internet, there are questions about how much students with low socioeconomic backgrounds, were able to participate fully in online education (McKinney, 2020).

Sadly, access to technology is not the only hurdle for students of low socioeconomic backgrounds. Kaden (2020) points out that the environment low-income households provide students, may make learning at home more difficult. Many children in these households have siblings trying to learn at the same time and may have parents that cannot be home to support their learning during the school day. One teacher in the study stated, "some of my students have to provide childcare for younger siblings and help with their schooling" (p.9). Many parents through no fault of their own, have been caught off guard as the rapid switch to online education, left them with little time to prepare for at home education (McKinney, 2020).

Summarizing Impact

As discussed in this section, students of marginalized families have historically faced longstanding inequities in education that were exacerbated by the COVID-19 pandemic. In fact, the pandemic has raised the awareness of the lack of access to technology many people face. One

professor interviewed by Thomas (2020) asks the important question "Is digital access a civil right?" (p.3). What is clear, is that further research is needed into the impact of the COVID-19 on marginalized families, to help educators better prepare for the next pandemic. This need is echoed by Lachlan et al. (2020) who state "the need for great teachers and leaders is now greater than ever, particularly for students most affected by the crisis at hand" (p.2).

COVID-19 in my Context

Just like many of the schools included in the studies about the impacts of COVID-19, the school that serves as the context of the study has struggled to implement effective instruction while in this virtual pandemic world. This school is a part of an urban school district in Western Pennsylvania and just like most of the schools in the United States was faced with the sudden impact of the pandemic. Friday March 13th, 2020 was the last full in person instruction day the school district experienced.

Following that last day of in school instruction, the school district decided to postpone online instruction until after their normal Spring Break. Online instruction began on April 14, 2020th. To initiate the move to online learning, the school district supplemented instruction with packets that could be done digitally or delivered as printed hard copies. Teachers called parents to inform them of how to access the digital content or where to go to pick up the printed content. In some special cases, the printed packets were mailed to the homes. Not all packets for all subjects, however, were available at first. Packets for science, social studies, and world languages required additional time to complete and were delayed an extra two weeks.

At the start of online learning in April 2020, the district did not issue technology to students (even if they had one-to-one devices at their school), this is why the district printed and distributed work packets. Teachers worked with students during morning and afternoon hours

and were available on a meet link to help students that had questions. Most of the school district used Microsoft Teams to upload work and meet- with students by either video or call in to the team meet. Some schools used other programs for example, the school within this study was already using Google Classroom that school year, they were allowed to continue with it and met with students on Google Meets. For the remainder of the 2019-2020 school year, teachers were available in their respective meeting links to assist any students who entered the meeting with questions or challenges with their assigned work. No live instruction was permitted since many students did not have access to synchronous online learning.

In May 2020, the school district had gathered enough laptops to start issuing them to students. They first prioritized seniors and 8th graders, since they were moving on to new buildings. Eventually the district was able to provide laptops to students of all grades. Staff volunteered to help pass out laptops. However, this did not reach all of the students and many of them did not go and get a device.

Student engagement was low from the beginning of distance learning in April 2020 and continued to dwindle throughout the remainder of the 2019-2020 school year. As a teacher who has a caseload of close to 100 students, I spoke with less than half of my students during that time. On top of the dwindling teacher-student contact, the district established a policy stating that students could not receive anything lower than the grade they received for last report card issued for in class learning, and in addition, no student could receive a grade lower than a C. The policy may have contributed to the dwindling student-teacher contact because it could have reduced student motivation to complete the work. At the end of the year, families were expected to return the technology that they were issued.

During the summer of 2020, teachers were offered positions as curriculum writers to help take the curriculum the district was already using and adjust it for the anticipated hybrid teaching model for the 2020-2021 academic year. Curriculum writers gathered resources, edited and uploaded the curriculum, and worked with online resource companies to create curated curriculum for our students. Staff at all levels, reached out to families to inform them of how to sign up for either hybrid or full remote (online only) learning for the 2020-2021 school year. The district planned to again issue technology to all students for the start of the school year. Teachers were assigned to reach out to their homeroom students to inform parents of when and where they could get technology.

The rush to get technology, just weeks before the school year was set to begin, did not go smoothly. Many parents had to wait in long lines and sometimes had to come back another time because distribution sites ran out of laptops. It was around this time, that the school district decided to delay the start of their hybrid model and go full online learning for the first nine weeks grading period in Fall, 2020. Then, on the weekend before the first day of school, the district made an emergency decision to delay the start of school for students by one week because thousands of students had not received technology.

Once the school year began, students digitally attended their classes, following the same schedule they would have followed in person. Teachers and students used Microsoft teams to meet digitally, and *Schoology* was used to upload and share school materials. Along with this, teachers employed pedagogy specific online programs as they saw fit to enhance their lessons for online learning. Some school vacation days were transformed into asynchronous learning days for students, where teachers posted work in *Schoology* for students to complete, but students were not required to attend their classes for live instruction. There were also asynchronous half

days where students only attended classes for half of the day and completed asynchronous work for the remainder of the day.

Before the start of the second nine weeks grading period, the district planned to phase students back into in person instruction. The plan was to start with students most in need of in person instruction, focused mostly on students identified for the special education program. These students with special learning needs and all staff were brought back for the first week in the second grading period of 2020. However, the plan was interrupted after only one week and the district switched back to online learning only. This move back to online learning was due to building shutdowns due to COVID-19 exposures and the rise of cases in the community. The school board voted to delay the return to school until January 2021 and then voted again to delay the return to April 6th.

Many of the teachers and students have struggled with this new way of learning and all of the changes and challenges associated with them. Many teachers describe feeling burnt out and overwhelmed with the increased workload, new modes of teaching, and lack of student engagement. Many students have expressed the same feelings and have decreased their engagement more and more over time. Stakeholders at all levels, are looking for answers to improve the teaching and learning of the students they serve. Clearly, improvements must be made.

Critical Race Theory

Critical Race Theory (CRT) is an essential construct that has been a methodological tool to aid in the analyzation of historically underserved populations in education (Amiot, Mayer-Glenn, & Parker, 2020; Capper, 2015; Howard & Navarro, 2016; Ladson-Billings & Tate, 1995; Ledesma & Calderón, 2015; Milner, 2013). Race still has a significant influence on the inequity

of education (Howard & Navarro, 2015; Ladson-Billings & Tate, 1995). CRT has focused on more than just race, looking at the experience of many marginalized groups (African American, Asian American, Native, Latina/o, the poor, or women) (Howard & Navarro, 2016). Because of this, CRT serves as a "permanent fixture in the toolkit of education researchers seeking to critically examine educational opportunities, school climate, representation, and pedagogy, to name a few" (Ledesma & Calderón, 2015, p. 206). CRT is a vast field covering a variety of topics with key tenets (Capper, 2015; Howard & Navarro, 2016) however, even as the field of CRT has grown, so has the inequities in education (Howard & Navarro, 2016). This review will analyze CRT topics focused on schools and marginalized populations within schools.

Critical Race Theory in Education

When discussing CRT and schools it is imperative to look at the works of Ladson-Billings and Tate (1995) who argued for a critical race theoretical perspective in education. They stated that although CRT had a standing in legal scholarship, it had not been engaged at a systemic level to analyze the inequities in education. Ladson-Billings and Tate tied the inequities faced by many students to the idea that the U.S. society is "based on property rights" (p. 52), saying "those with "better" property are entitled to "better" schools (pp. 53-54). Even current studies find that inequities within schools, and their causes, have become part of the norm of schools (Amiot et al., 2020).

When speaking of inequities in education that have become the norm, the systemic causes of those inequities have become the norm as well (Amiot et al., 2020). Ladson-Billings and Tate (1995) echo this concern by asserting that racism is systemic because if it were not we would see more examples of success in education and equity. Ledesma and Calderón (2015) who underscore the assertion by saying "CRT in education highlights the persistence of racism across

education" (p. 207). The authors describe this persistence of racism and detail inequities that have been caused by it such as curriculum and school culture influenced by white supremacy, teacher attitude, and school policy.

Amiot et al. (2020) points out another systemic problem in education, the issue of inequity in student discipline. In their study they reported that school resource officers viewed students as "racial threats" (p. 215). This is also supported by Milner (2013) who likened schools and school discipline to prison. Amiot et al. (2020) connect racial bias in education back to the notions of control of bodies along with the underlying belief that students of color are a threat to whiteness and property. Clearly, whiteness and the ownership of property impact the beliefs and assumptions of those who control access to equitable education (Capper, 2015; Ladson-Billings & Tate, 1995; Ledesma & Calderón, 2015).

Majoritarian Narratives and Meritocracy

Another troubling theme that arose in the review of CRT research in schools was teacher perceptions of marginalized students and their families. Those negative perceptions tie into the ideas of majoritarian and meritocracy narratives with CRT (Amiot et al., 2020; Ladson-Billings, 2014; Ledesma & Calderón, 2015; Milner, 2013). Ladson-Billings and Tate (1995) discussed the negative narrative that poor students and their families do not see value in education. This is echoed in the more current studies done by Milner (2013) and Amiot et al. (2020) highlighting the reality that this theme has prevailed for decades. Amiot et al. (2020) in their work with school leaders and teachers found that teachers created a majoritarian narrative that shifted the blame for student failure from what the teachers and school do onto the students and their families. The teachers cited out-of-school factors such as "poverty, lack of parental involvement,

and refugee status" (p. 209), along with referring to students as unmotivated, as the basis for academic failures.

In addition to creating majoritarian narratives about marginalized students and their families, some educators feel students and their families have not earned a better place in society (Milner, 2013). This is known as Meritocracy and is a key construct in CRT research (Ledesma & Calderón, 2015; Milner, 2013). Meritocracy has been linked to white supremacy and can impact educators' ideologies about students and their families (Ledesma & Calderón, 2015). Milner (2013) points out that many educators believe they have earned their own success through hard work and making the correct choices; while believing that people who are not as well off owe their plight to their poor decision making and not working hard enough. Milner builds on this by asserting that those that accept the ideas of meritocracy, believe that if their students just work harder, they will improve their place in society. However, this ignores the unearned consequences passed down through generations and the systemic issues in our society. There are opportunity gaps for student of low-socioeconomic backgrounds socially, financially, politically, and in education. (Milner, 2013).

Along with the impacts of majoritarian narratives about students of marginalized families and biased beliefs of meritocracy, researchers conclude that students of color have also been negatively impacted by racial deficit thinking (Amiot et al., 2020; Milner, 2013). Amiot et al. (2020) describes racial deficit thinking as a situation where teachers do not believe certain students are able to achieve at elevated levels with rigorous curriculum. Racial deficit thinking leads teachers to lower the quality and rigor of their teaching to make it less challenging on their students. Educators also apply this educational mindset to students who come from low

socioeconomic backgrounds leading to it being termed a called the "pedagogy of poverty" (Haberman, 2010; Ladson-Billings, 2014; Milner, 2013).

The Pedagogy of Poverty

Ladson-Billings (2014) in her chapter on the Pedagogy of Poverty uses the famous "Nation at Risk" (p. 7) report on education as a way to set the stage. She argues that after that report America "went from a nation at risk to a place where only certain *children* were "at risk" (p. 7). Ladson-Billings noted that the phrase "at risk" became a moniker for immigrants, poor students, and students of color. Educators used this moniker to justify that students who were at risk were not able to receive new and challenging curricula, but rather must work only on basic skills with basic pedagogical styles (Haberman, 2010; Ladson-Billings, 2014; Milner, 2013). Haberman (1991;2010) in his foundational work on the Pedagogy of poverty describes this learning environment as one where students can be deemed successful without actually asserting much thoughtful effort.

Teachers and the Pedagogy of Poverty

Haberman (2010) builds on the notion of the pedagogy of poverty by saying that it enables teachers belief that they are only responsible for employing a limited set of behaviors that are referred to as "acts of teaching in urban schools" (p. 87). This assertion is also supported by Ladson-Billings (2010) who added that students in high-poverty urban schools are limited to learning just basic curriculum. The learning of these students is tightly regulated by education reforms and so-called innovations such as scripted curriculum (Ladson-Billings, 2014; Milner, 2013). In many schools who promote this deficit pedagogy, students are left with an education that is basic and upheld by low expectations for their potential (Ladson-Billings, 2014; Amiot et

al., 2020). Forcing both students and teachers of high-poverty schools into teaching and learning in these conditions continues to have negative impacts for all involved (Haberman, 2010; Ladson-Billings, 2014; Milner, 2013).

Haberman (2010) claims most teachers start their careers well-intentioned, but many are transformed into "directive authoritarians" (p. 83) so that they can function in this environment. Bridwell (2012) concludes that opportunities for teachers to grow professionally are foiled by the mandates in high-poverty schools. Sadly, the pedagogy of poverty is so ingrained in education of many high-poverty schools that students and their parents have grown to accept this way of learning. Compounding the situation even further, teachers who attempt to disregard this way of teaching by offering more challenging lessons and content face opposition from the students themselves. And, this perpetuates a lower level teacher pedagogical that translates into a limited curriculum and continued low expectations for students (Amiot, 2020 Ladson-Billings, 2014; Milner, 2013).

The Impact of the Pedagogy of Poverty on Students

Because of the limited curriculum and low expectation associated with the pedagogy of poverty (Dudley-Marling, 2014; Haberman, 2010), many students are hampered by teachers who feel they are sparing students the embarrassment of a more challenging learning environment (Amiot et al., 2020). Haberman (2010) gives the example of teachers reading to students to give them information instead of having the students read to find the information. Teachers rationalized this approach by stating "the students can't read for themselves" and/or "They enjoy being read to" (p. 82). Amiot et al. (2020) found a similar casual explanation from teachers included in that study who stated they did not want to hurt the self-esteem of their students and felt if pushed too hard, students would give up. Some teachers even felt that increasing the

difficulty of the work "would be unkind" (p. 211) to the students. The way students are taught in this system that rely on a pedagogy of poverty is dependent on deficit thinking and focuses on what students cannot do instead of what they can do. As Milner (2013) points out, many schools at the very least are "complicit" (p. 32) in continuing this system of teaching, which in turn is halting needed change.

It is important to note that the pedagogy of poverty is not backed by research nor is it a pedagogical tool but is rather the impact of a system of beliefs that is supported by majoritarian narratives such as poor children live disordered lives that need the strict structure of school; they don't work hard; and/or, they and their families don't value education (Ladson-Billings, 2014). Clearly the pedagogy of poverty belief system is also supported the ideas of meritocracy. Many educators feel that they themselves have earned their place in society. Not understanding the systemic inequities that have hindered their students and families, inequities they may not have faced because of their own privilege (Milner, 2013). Ladson-Billings (2014) said education allowed these unwarranted claims about students and their families to run rampant through America's urban school systems.

Howard and Navarro (2016) argued that "issues pertaining to racism, structural inequities and student disengagement remain entrenched in schools" (p. 267). Therefore, it is fair to presume the issues undercutting student learning and achievement in urban schools were exacerbated by the COVID-19 pandemic. Many high-poverty schools already had limited resources (Milner, 2013). Sadly, during the pandemic, many districts, especially ones serving students of marginalized families, struggled to supply students with what they would need like laptops, internet access, and materials (Atchison, 2020; Louis-Jean & Cenat, 2020). It may also be fair to speculate that teachers in these schools may have lowered the rigor of their teaching

even more as many were dealing with their own negative self-efficacy beliefs (Rogers Haverback, 2020). In addition, many teachers attempted to teach in unfamiliar ways (Huber & Helm, 2020). All of these factors and more make it critical to apply a critical CRT lens to examinations of education during the COVID-19 pandemic, and specifically the current study.

Self-Regulation

Self-regulation is a theory that many researchers have touted as important for improving student learning (Butler & Winne, 1995; Hattie, 2012; Moss & Brookhart, 2012; Sperling, Ramsay, Reeves, Follmer, & Richmond, 2016; Zimmerman & Schunk, 2011). This key theory can help students improve and plan their learning (Moss & Brookhart, 2012). If done the classrooms that support self-regulation, can prepare students to become "independent learners who can apply the skills they've learned to diverse settings" (Sperling et al., 2016). However, if done incorrectly self-regulation failure can take place leading to procrastination and disorganization (Cosnefroy, Fenouillet, Mazé, & Bonnefoy, 2018). Because of the negative impact of self-regulation failure, teacher regulation must come before student regulation (Peeters, De Backer, Romero Reina, Kindekens, Buffel, & Lombaerts, 2014). Before explaining self-regulation's place in the current framework, a discussion of the research behind this theory is necessary.

Self-regulation traces back to the work of Albert Bandura (1986), where he describes it as process where people create proximal guides and self-motivators to attain or achieve a goal. He builds on this to say that self-regulation "operates through a set of sub-functions that must be developed and mobilized for self-directed change" (p. 336). This is backed up today by the work of Zimmerman and Schunk (2011) which states that if students develop self-regulation processes, it can become an important source of achievement. They build on this by explaining

that students who know how to self-regulate can "personally activate and sustain cognitions, affects, and behaviors" (p.1), those learned skills will enable students to be more likely to achieve their goals.

Because of the positives of self-regulation for student achievement, researchers have developed several models of self-regulation. In Pandero's (2017) research on six different models of self-regulation, he states that the models of self-regulation provide a "integrative and coherent framework from which to conduct research, and on how students can be taught to be more strategic" (p. 1). In this article the models of Zimmerman, Boekaert, Winnie and Hadwin, Pintrich, and Efklides are analyzed and compared. This literature review will focus on the models of Zimmerman, as well as Winnie and Hadwin as they are the more well researched and fit the current framework. Along with that, Panadero (2017) concludes that a model like Zimmerman's would be effective for younger students which will be the focus of this dissertation.

Zimmerman (2000) defines self-regulation as learning that results from students' self-generated thoughts and behaviors that are systematically oriented toward the attainment of their learning goals. Zimmerman in his work with Schunk (2011) further explains his within the scope of learning and performance, to say that students develop skills towards achieving the attainment of a goal. Zimmerman furthered his study of self-regulation by creating his cyclical phases model (2002). This model contests that a student's learning processes and accompanying motivational beliefs fit into three self-regulatory phases, which are forethought, performance, and self-reflection (Zimmerman, 2013). In Panadero's (2017) analyzation of this model, he defines these phases of his cyclical model:

- Forethought Phase- Students analyze the task, set goals, plan how to complete the task as well as creating motivation and activating the appropriate learning strategies.
- Performance Phase- Students complete the task at hand while monitoring their work and use self-control strategies to keep themselves engaged cognitively and motivated.
- Self-Reflection Phase- Students analyze how they performed on that task and make judgements based on their performance.

This model is grounded in social cognitive theory and focuses on cognitive processes and influences (Panadero & Alonso-Tapia, 2014). The first phase forethought has two main processes, which are task analysis and self-motivational beliefs (Panadero & Alonso-Tapia, 2014; Zimmerman, 2002). In this phase, students analyze the task to see the difficulty and to understand what is needed to perform the task. Next, the students analyze the task to see what value it has for them. This part looks at the student's interest in completing the task, as well as their self-efficacy about the task. This is very important because it shows the link between self-regulation and self-efficacy. Self-efficacy can impact the motivation in this phase. It was found that if self-efficacy was high, motivation would be high as well (Panadero & Alonso-Tapia, 2014). It is also important to note that students that have expertise in self-regulation, are more likely to spend more time in this phase (Zimmerman, 2002).

When discussing the task analysis process of the forethought phase, Cleary, Callan, and Zimmerman (2012) further expanded on what is done. They stated that in this phase, students need to be thinking about the key strategies and processes they will need to complete the task. Pandero (2017), described the importance of this phase, by linking the process of planning before the task to motivation and to use of learning strategies. More importantly, they posit that since

the stages are thought to be interdependent, what happens in the forethought phase can impact what happens in the next two phases (Cleary, Callan, and Zimmerman, 2012).

Although Zimmerman has forethought as his first phase and lists the processes that are involved, he does not go into the metacognitive aspects that help students in this phase (Panadero, 2012). When comparing this self-regulation model to that of Winne, it becomes clearer how metacognitive actions play a larger role. When looking at the preparatory phases of his model, Winne has it broken down into two phases (Winne 2018). The first phase looks at just analyzing the task and what could influence their work. The second phase is more focused on goal formation. In this goal formation phase, Winne explains that goals can "consist of a set of standards learners use to metacognitively monitor progress as they work" (Winne, 2018, p. 11). Even with that further explanation of goals and self-regulation, these skills need to be taught. Unfortunately, Dignanth and Büttner (2018) found in their study that teachers spent little time teaching self-regulation strategies.

Zimmerman in his research of his cyclical phases model (2013) pushes the importance of task analysis for the planning with the correct strategies to complete a task. However, if students do not understand how to function in the forethought phase, or at the very least metacognitively prepare for a task, it could lead to less effective learning. Going on, it was found that when students "under-regulate" specifically in the forethought phase, it can lead to what is called self-regulation failure (Cosnefroy, Fenouillet, Mazé, & Bonnefoy, 2018). It was found that procrastination and disorganization are two forms of this failure and could result from "low quality forethought processes". If students were taught or guided how to function in this phase, they may be able to avoid these failures.

With the believed interdependence of the phases in the cyclical model (Cleary et al., 2012), forethought becomes even more important. Finding a system that could be applied to classroom to help guide students through this phase is imperative. Zimmerman (2013) found that modeling could be an effective strategy for getting students to use self-regulatory skills. A system that allows teachers to model the forethought phase for their students, could have an impact on all three phases the cyclical model.

The next phase of cyclical model, the performance phase, has two processes which are self-control and self-observation. In this phase, the student must use self-control to employ strategies thought of during the forethought phase and also make sure to stay on task (Zimmerman, 2002). During this phase, the student also employs self-observation. To do this the student must self-monitor to ensure that they are meeting the criteria that is set for the task. Students should also self-record their efforts to aid the self-reflection phase of the model (Panadero & Alonso-Tapia, 2014).

The last phase self-reflection involves the processes of self-judgment and self-reaction. Self-judgment or also referred to as self-evaluation, is where the student compares their observed performance against some type of standard, be that against another performance or a set criterion. Self-judgment also involves casual attribution, which refers to the student's beliefs as to the cause of their success or failure. The student's perceived casual attribution can impact their motivation for the next task. The last process in this phase is self-reaction, which involves feelings of self-satisfaction with one's performance. This process can lead to either adaptive or defensive responses. If the response is defensive, the student will withdraw from similar activities to protect their self-image. If the response is adaptive, the student will make

adjustments to improve future performances (Panadero & Alonso-Tapia, 2014; Zimmerman, 2002).

There is research that promotes the use of Zimmerman's cyclical model. It has been found that the more phases trained the better participants scored (Panadero, 2017). Also, Zimmerman himself states that these phases are teachable and can lead to increases in motivation and achievement (Zimmerman, 2002). However, there are critiques to this model as well. In Panadero and Alonso-Tapia review of Zimmerman's model (2014), they found multiple issues with it. First, the model does not cover the social influences that can impact each phase of the model. Social influences in self-regulation such as co-regulation (where someone helps another person adapt to a task) and socially shared regulation (where collaboratively a group adapts together to a task) (Hadwin, Järvelä, & Miller, 2011). Neither of those terms show up in Zimmerman's model. Second, although the model does an adequate job of explaining each phase in detail, it does not address how they are acquired. This is not an issue just limited to Zimmerman's model. Dignath and Büttner (2018) note, that though there is a great deal of research in self-regulation, there are still many questions on how to promote self-regulation strategies with students.

When discussing the importance of promoting self-regulation strategies among students, Peeters et al. (2014) discuss a connection between student self-regulation and teacher self-regulation. The authors argue that teacher self-regulation not only help them in their own self-learning but can also help students develop themselves as self-regulated learners. Peeters et al. (2014) build on this by stating that teachers can better understand how students develop these self-regulatory strategies by building up their own self-regulation skills. On top of that, teachers can help students to cope with struggles they may have in their development of self-regulation

strategies. In this way, teachers can model the necessary strategies and processes needed for self-regulation.

With the importance of students and teachers developing and using self-regulatory skills, it is imperative that a method be found to promote them in a classroom. Even with the critiques of Zimmerman's cyclical phases model of self-regulated learning, it could be adapted to aid students in a classroom. It could even be used to design interventions for each of the phases in the model (Panadero, 2017). Furthermore, Zimmerman (2013) detailed that helping students become "proactive learners" through the use of self-regulation strategies could improve their academic performance. When looking at how to implement this into a classroom one suggested method Zimmerman suggested was modeling. With that said, finding a framework that could structure the modeling of these skills in the classroom is crucial.

Measuring Self-Regulation

As noted in the previous section, self-regulation is a very important theory in education. With that said, many researchers have looked to find ways to measure student self-regulation. When studying self-regulation, it is important to understand and to be able to assess, the self-regulation of learners. This means determining what thinking processes and strategies students are implementing when engaged in a "cognitive task" (Mango, 2011). To measure self-regulation, a direct instrument that captures key functions of self-regulation is needed (Mango, 2011).

As there have been a number of studies into measuring and validating measures of self-regulation, there has been a trend developing on how to measure self-regulation. It has been stated that self-report questionnaires with Likert-type responses, have been the most commonly used measure for self-regulation (Berger & Karabenick, 2016; Cleary & Callan, 2014; Mango,

2011). In a study by Berger and Karabenick (2016), they note that self-report questionnaires are a type of measure that was easy to administer. Although self-report questionnaires are commonly used and easy to administer, they aren't without their issues. Cleary and Callan (2014) report that self-report questionnaires have been widely criticized because some feel students are not always reliable reporters.

This literature review will focus on self-report questionnaires because even with their issues, as mentioned before, these types of measures have been used prominently when measuring self-regulation. The first self-report questionnaire to be discussed is the Motivated strategies for Learning Questionnaire (MSLQ). This questionnaire was developed by Pintrich, Smith, Garcia, and McKeachie in 1991, to assess college students (Mango, 2011). The MSLQ looked to assess two aspects of students: their motivational orientation and use of different strategies. Along with that, the questionnaire is composed of two sections, motivation and learning strategy. The motivation section assesses "student values (intrinsic and extrinsic goal orientation and task value) expectancies (control of learning beliefs, self-efficacy for learning and performance), and affective beliefs (test anxiety)" (p.60) . The learning strategies section focuses on the students' "cognitive and metacognitive strategies (rehearsal, elaboration, organization, critical thinking, metacognitive, and self-regulation) and resource management strategies (time and study environment, effort regulation, peer and learning help seeking)" (Mango, 2011).

All of the items on the MSLQ are answered using a 7-point Liker scale "(from 1-not at all true to 7-very true of me)". It was found that if a student scores above a three on the questionnaire, then they are using effective learning strategies. Whereas they are not using effective strategies if they score below a three. The MSLQ was found to be reliable and to have a

"significant relationship with all the factors being measured" (Mango, 2011). These findings are backed up for the items that measure metacognitive self-regulation by Berger and Karabenick (2016). They found most of these items to be valid with the exception of the items based around planning. Those items had weak item validity and weak construct validity. The authors noted that students misinterpreted some of those items.

Another self-report questionnaire that has been linked to measuring self-regulation is the Learning and Studying Strategies Inventory (LASSI). This questionnaire was developed by Wienstein and Palmer and aimed to survey "students' awareness about and use of learning strategies" (Mango, 2011). The strategies that are measured in this questionnaire are skill, will, and self-regulation. As this current study is mostly looking at self-regulation, the first two strategies of the LASSI will not be discussed in this literature review. The self-regulation section includes "concentration, self-testing, study aids, and time management" (Mango, 2011).

The version of the LASSI that will be discussed here is the short version. This version measures the students' awareness about the use of learning and study strategies. As this study is only focusing on self-regulation, only that component will be discussed. The self-regulation component focuses on students' awareness on how they "manage, or self-regulate and control, the whole learning process through time management, maintaining concentration, checking learning demands, and using study aids" (Mango, 2011). The questionnaire asks the participants how often "they do the given case/scenario". The participants respond through the format of "not at all like me, not very much like me, somewhat like me, fairly much like me, and very much like me".

The last self-report questionnaire to be discussed is the Self-Regulation Strategy Inventory-Teacher Rating Scale (SRSI-TRS). This self-report questionnaire was developed based

off of the SRSI-Self Report (SRSI-SR), which was used for students to report their self-regulation. This was made because, as the authors noted, teachers spend so much time with students, they have time to observe their students as they learn. They may be able to provide significant information on student self-regulated learning processes (Cleary & Callan, 2014). This measure is made up of a 13-item scale which asked teachers to determine the frequency in which students engage in "various help-seeking behaviors, self-motivated tactics, and organizational behaviors". The items were designed as a 5-point Likert scale ranging from "1 (almost never) to 5 (almost always)". The authors found their measure to be an important self-regulated learning predictor of student achievement (Cleary & Callan, 2014).

Even though it was stated that self-report questionnaires have had some criticism, this will be the method for this study. This is because it seems to be the most feasible method to use. It is important to make sure that the items are clear and meet the reading level of the participants. The MSLQ appears to be the best option for this study as it has been used in many studies (Honicke & Broadbent, 2016; Mango, 2011). With that being said, some of the items will need to be adjusted to meet the sample for this study, as this was originally used with college students and this sample will be made up of middle school age students. It may also be worthwhile to administer the SRSI-TRS to compare the results of the teachers to the students.

Self-Efficacy

Self-efficacy like self-regulation comes from Bandura's social cognitive theory (Bandura, 2012). Bandura defines self-efficacy "as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave" (Bandura, 1994). He goes on to state that self-efficacy can produce diverse effects through four major

processes which are “cognitive, motivational, affective and selection processes”. With that said, it is easy to see why educational researchers study the self-efficacy of students.

Because self-efficacy beliefs have such impact on a person, it is important to understand what impacts this belief system. The self-efficacy belief system is dependent on four sources: mastery experiences, vicarious experiences, social (verbal) persuasion, and somatic and emotional states (Bandura, 1994; Rogers Haverback, 2020). Of those sources, mastery experiences are the most significant in building a strong sense of self-efficacy. Mastery experiences occur when one completes a task successfully, which positively impacts one’s self-efficacy beliefs. However, failures especially ones that occur before a strong sense of efficacy is developed, can negatively impact their beliefs. With that said, a resistant sense of efficacy requires experience in overcoming failures (Bandura, 1994).

Another source of self-efficacy beliefs are vicarious experiences. These occur when a person observes another person similar to them performing a task. If they observe this person being successful in their performance, it will increase their beliefs in their own ability to complete said task. This also has the same reverse effect if they deem the person, they observed to be unsuccessful in their completion of the task. This leads people to seek out social models of which they can aspire to and learn from. Learning from these perceived social models can also lead to a positive change in self-efficacy beliefs (Bandura, 1994).

A third source of self-efficacy beliefs are social persuasions. This occurs when someone who is deemed reliable, verbally convinces a person that they are capable of completing a task. Not only does this positively impact a person’s self-efficacy beliefs, but it can also increase the effort they put into the given task (Bandura, 1994; Rogers Haverback, 2020). Just as with the other sources, if the reliable person verbally convinces a person that they lack the skills or ability

to complete a task, this will negatively impact their beliefs. It should also be noted that social persuasion alone is not usually enough to positively impact a person's beliefs (Bandura, 1994).

The last source of self-efficacy beliefs are somatic and emotional states. How one feels about a certain situation or task can positively or negatively impact their self-efficacy (Bandura, 1994; Rogers Haverback, 2020). Physically people will use their stress, pain, sores, or other various physical indicators to judge their perceived ability. Along with that, a person's mood can impact their beliefs as well. If they are feeling positive, they are more likely to have positive self-efficacy beliefs about the given task, negative feelings can have the reverse effect. It is important to recognize that is not the intensity of the pain or emotion but the person's perception and interpretation of it that has the real impact, on their self-efficacy beliefs (Bandura, 1994).

Because self-efficacy beliefs have been found to have an impact on academic achievement, researchers have started looking into academic self-efficacy (ASE) (Alivernini & Lucidi, 2011). Minter and Pritzker (2017) say that ASE "beliefs predict youth's school engagement and levels of academic success". This is backed up by a review done by Honicke and Broadbent (2016), where they found a "wealth of literature" that supports the importance of ASE for learning and academic performance. Their own analyzation within that same study found a relationship between ASE and levels of academic performance. The authors found in that relationship, that "higher levels of ASE are more likely to result in higher levels of academic performance". Lastly Honicke and Broadbent (2016) explain that further research is needed to explore the connection between ASE and self-regulated learning.

Teacher Self-Efficacy

The COVID-19 pandemic had a major impact on education. Teachers especially felt this impact. Teachers were asked to tackle new and unfamiliar territories (Huber & Helm, 2020;

Rogers Haverback, 2020). Teachers who before the pandemic, had strong positive self-efficacy beliefs, no longer felt as efficacious while teaching in the unfamiliar environment (Rogers Haverback, 2020) and were asked to not only do more but also perform unaccustomed tasks and employ unfamiliar strategies (Cope & Kalantzis, 2020). Research reveals that teachers were lacking the mastery experiences needed to have strong self-efficacy beliefs about the new demands of their work (Rogers Haverback, 2020). It makes sense, then to explore ways to promote positive teacher self-efficacy for the conditions presented during both the beginning and the enduring nature of COVID-19.

Teacher Self-Efficacy Influences Teacher Effectiveness and Student Outcomes

Teacher self-efficacy is an established topic in educational research and has an extensive impact on teaching (Gibson & Dembo, 1984; Holzberger, Philipp, & Kunter, 2013; Klassen & Chiu, 2010; Klassen & Tze, 2014; Klassen, Tze, Betts, & Gordon, 2011; Miller, Ramirez, & Murdock, 2017; Zee & Koomen, 2016; Zee, de Jong, & Koomen, 2016). Skaalvik and Skaalvik (2010) defined the construct by stating "based on social cognitive theory teacher self-efficacy may be conceptualized as individual teachers' beliefs in their own ability to plan, organize, and carry out activities that are required to attain given educational goals" (p.1059). Klassen et al. (2011) builds on this definition by identifying that teacher self-efficacy is one's belief in their ability to impact student learning and effects teachers' "professional behaviors and student learning" (p.21). Because teachers' self-efficacy has been found to predict teacher practice (Poulou, Reddy, & Dudek, 2019) and improve education (Holzberger, Phillip, & Kunter, 2014), it is imperative to review previous research on this topic.

Teachers' self-efficacy beliefs that are positive have a tremendous impact on educational outcomes of students. (Holzberger et al., 2013; Holzberger, et al., 2014; Klassen et al., 2014;

Miller et al., 2017; Summers, 2020). The early research on teacher self-efficacy by Gibson and Dembo (1984), established it as a construct that can have positive impacts on students. This is confirmed by Holzberger et al. (2014) who concluded from their data that teacher self-efficacy predicted how educators instruct. They also found that the more positive the teacher's self-efficacy, the better quality of education. Along with that, Zee and Koomen (2016) point out that teachers with a positive sense of self-efficacy have better classroom management strategies and are less likely to view students as challenging or disregard them from their class.

Notably, Miller et al. (2017) found in their research that not only does teachers' self-efficacy impact the quality of education, but it was also effects "students' perceived teacher competence" (p.260). The authors go on to point out that when students are around teachers who have a high sense of efficacy in difficult subjects, those teachers serve as a vicarious experience impacting the self-efficacy of the students. This connects to the work of Bandura (1994 and Rogers Haverback (2020), while showing the value of teachers feeling efficacious in front of their students, as teachers being a model for students, can positively impact the self-efficacy of those students. Along with that, Summers (2020) describes that a positive sense of teacher self-efficacy can positively impact the motivation of teachers, which can improve the quality of education.

Teacher Self-Efficacy Influences Learning Both In and Out of the Classroom

Building on the positive impacts of teacher self-efficacy, Zee and Koomen (2016), focus on the positive changes to classroom strategies and environment. The authors state "its is reasonable to suggest that high TSE [teacher self-efficacy] leads to more student-centered, constructivist approaches to instruction" (p.995). The researchers continue to note that a higher sense of teacher self-efficacy also aids teachers in being more proactive in their behavior

management with students, leading to improved referral decisions and inclusive practices. This connection with quality classroom management strategies and teacher self-efficacy is supported by research done by Poulou et al. (2019) who found an alignment between the two.

As it is apparent that there are ways in which a teacher's self-efficacy can impact the classroom, there are many things that can impact a teacher's self-efficacy beliefs in and outside of the classroom (Holzberger et al., 2013; Holzberger 2014; Klassen & Chiu, 2010; Klassen et al., 2011; Poulou et al., 2019; Skaalvik & Skaalvik, 2010; Summers, 2020; Zee, de Jong, & Koomen, 2016). One of the biggest factors impacting a teacher's self-efficacy beliefs in their performance are the students. Holzberger et al. (2013), found that although teacher self-efficacy beliefs may impact student performance, student performance has a big impact on teacher self-efficacy. The authors go on to say that teachers' self-efficacy beliefs were tied to the quality of instruction in the classroom, along with the quality of classroom management. This is backed up by the later research done by Holzberger et al. (2014), where they connect teachers' self-efficacy beliefs to the intrinsic need construct of competence. The authors conclude that teachers perceiving themselves as capable, fills the intrinsic need for competence.

Clearly, when discussing teachers' performance and its impact on their self-efficacy beliefs, students must be a part of the conversation. In a multilevel investigation conducted by Zee et al. (2016), the authors claim that "students all bring idiosyncratic behaviors and characteristics to the classroom that may more or less impact teacher's self-efficacy" (p.1014). The authors build on this by saying students with "prosocial behaviors" (p.1018) can have a positive impact on teacher self-efficacy, whereas disruptive students will negatively impact teacher self-efficacy. Of note, the authors claim that teachers' perception of student behaviors impact their self-efficacy beliefs making the construct very individualized. These claims are

supported by the work of Miller et al. (2017), where they link impacts on teacher self-efficacy to teacher and student perceptions.

When connecting perceptions to impacts on teacher self-efficacy (Zee et al., 2016; Miller et al., 2017), perceptions of parents on teachers was shown to have a resounding impact as well (Skaalvik & Skaalvik, 2010). It was found that having a negative relationship with parent(s) of your student(s), has a huge increase on teachers' self-efficacy and can lead to anxiety and a need for self-preservation. This negative impact, can in turn, limit a teacher's belief in their ability to conduct their normal routines and activities. Parents serve as an imperative point of reference for teachers to evaluate themselves (Skaalvik & Skaalvik, 2010).

Continuing in the discussion of factors that impact teachers' self-efficacy beliefs, it is important to examine the workload and school building environment of a teacher or teachers. Klassen and Chiu (2010), found that teacher's stress can impact job satisfaction which in turn, can negatively impact a teacher's self-efficacy beliefs (Skaalvik & Skaalvik, 2010). Surprisingly, although an increased teacher workload showed a relationship with the amount of stress a teacher was feeling, workload had a positive association with teacher self-efficacy in relation to classroom management (Klassen & Chiu, 2010). While speaking of workload Miller et al. (2017), found that the academic level of an assigned class can impact a teacher's self-efficacy beliefs. The authors found that teachers that were assigned a "remedial course" had "statistically significant" negative self-efficacy beliefs associated with the students assigned to that class (pp.266-267). Unfortunately, these negative beliefs can impact the expectations the teacher has for the assigned students.

When looking at the environment of the school building and its' impact on teacher self-efficacy, collective efficacy has a significant role. Klassen et al. (2011), claim that when a

teacher has a negative experience in the building their beliefs can be impacted by the collective efficacy of the building. This is also found in work of Skaalvik and Skaalvik (2010) when they say, “it is reasonable to predict that perceived collective efficacy affects individual teacher self-efficacy” (p.1060). The impacts are shown by Nicholas, Nicolas and Rupley (2020), where they found in their study on teacher efficacy and implementation of tiered instructional frameworks, that collective efficacy has a clear impact on implementation. That confidence in the collective to accomplish change (such as implementation) can have a positive or negative impact on teachers’ self-efficacy beliefs (Klassen et al., 2011). This thought process is also supported by Holzberger et al. (2014) where they found that teachers who though they were capable also thought their building was capable.

Teacher Self-Efficacy is a Malleable Construct

While it is clear that teacher self-efficacy is an important educational construct that can be influenced by many factors, it is important to understand the malleability of the construct. Klassen and Chiu (2010) found that teachers’ self-efficacy is not a fixed construct and that it has an “ebb and flow” (p.742) over teachers’ careers. The authors found that teacher self-efficacy would increase with experience in teachers’ early and mid-career years climaxing around 23 years of experience. Once past the 23-year mark, self-efficacy along with using effective instructional strategies began to gradually decline. These findings are supported by the work of Holzberger et al. (2014) where they found that teacher self-efficacy during one school year, did not have an impact on student perception of instructional quality or the teacher’s self-efficacy the following school year. The authors add that teachers change their self-efficacy beliefs throughout the school year. This is also reflected in the research of Klassen et al. (2014), where they say “teachers are made not born” speaking to the malleability of self-efficacy beliefs (p.73).

Teacher Self-Efficacy and COVID-19

Majority of the research discussed in this section has implications on teaching during the COVID-19 pandemic. As previously discussed, the COVID-19 pandemic pushed much of education to be online. As Zee and Koomen (2016) proclaim in their research, that in order for technology use to progress in the classroom, teachers need to have positive self-efficacy beliefs about their use and implementation of technology. Many educators are hurriedly trying to learn how to understand technology and how to teach during the pandemic (Milman, 2020). Summers (2020) points out that just like students, teachers "need to feel psychologically safe to learn new skills" (p.33).

However, the pandemic may not offer such safe feelings, as the quick and suddenness of it has led to many teachers feeling uneasy (Turner et al., 2020). These environmental changes that were brought on suddenly by the COVID-19 pandemic, had negative impacts on teachers' self-efficacy beliefs. As Holzberger et al. (2014) notes, self-efficacy beliefs depend on environmental characteristics. As discussed in a previous section, Rogers Haverback (2020) stated teachers during the pandemic may not have positive self-efficacy beliefs, technology is not the only negative impact of these beliefs. Teachers that perceived themselves to not have the ability to teach effectively and support students, may pull away or lose their motivation "when the goings get tough" (Zee et al., 2016, p.1023). This is compounded by the findings that teachers' self-efficacy beliefs are not a fixed construct (Holzberger et al., 2013; Klassen, et al., 2014), which means teachers' self-efficacy is not supported by past mastery experiences.

It is clear that the COVID-19 pandemic has had a negative impact on teachers' self-efficacy beliefs (Rogers Haverback, 2020). Not to mention, the increased workload on teachers

during this time (Kaden, 2020) which has also shown to negatively impact teachers' self-efficacy beliefs (Klassen & Chiu, 2010). Those combined can negatively impact educational outcomes that occurred during the pandemic as teacher self-efficacy has been connected to educational outcomes (Holzberger, 2013). Along with that, the lack of positive teacher self-efficacy beliefs can lead to emotional exhaustion, lack of commitment to the job, and lower levels of satisfaction for teachers (Skaalvik & Skaalvik, 2010; Zee & Koomen, 2016). All of this shows the need for finding ways to support teachers' self-efficacy beliefs, especially during a pandemic.

Measures of Self-Efficacy

It is clear that self-efficacy is an important theory, based on the literature in the last section. In a review of literature on ASE done by Honicke and Broadbent (2016), they found over 100 articles on ASE. As with self-regulation, self-efficacy has mostly been measured with self-report questionnaires. Honicke and Broadbent (2016) reported that the following self-report questionnaires were used in their review of 59 relevant studies: the MSLQ, the Patterns of Adaptive Learning Survey (PALS), the College Self-Efficacy Inventory (CSEI), and the College Academic Self-Efficacy Survey (CASES). Of those, the MSLQ was used the most, it was administered in 21 of the 59 studies.

In a study looking at the validity of the Self-Efficacy Questionnaire for Children (SEQ-C), Minter and Pritzker (2017) noted long standing self-efficacy measures. The first measure that was discussed was the General Self-Efficacy Scale, which was created by Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, and Rogers in 1982. This scale was developed for young adults to measure their general self-efficacy. This measure does not look to focus on a specific domain of self-efficacy. The next measure discussed was the Perceived Self-Efficacy Scale

(PSES), which was developed by Lotyczewkis. This scale aimed to measure general self-efficacy. However, this scale was used with children ages 8-12 (Minter & Pritzker, 2017).

When measuring the validity of the SEQ-C, Minter and Pritzker (2017) looked at the development of the measure. It was created by Peter Muris and constructed of "three 8-item subscales: ASE, Social Self-Efficacy (SSE), and Emotional Self-Efficacy (ESE). The authors noted that this scale for ASE was "brief, readable, and easy to score". They found that the ASE subscale overall had good consistency. It was found to have good consistency, among all subgroups within their study as well (Minter & Pritzker, 2017).

When looking to determine which method would be best for measuring the self-efficacy of students who are taught self-regulation strategies, there are two measures that stand out. First, the SEQ-C seems to be a logical choice because it was designed for younger students, which would fit the proposed sample of this study. It was also said that this measure is "brief, readable, and easy to score" (Minter & Pritzker, 2017). That statement makes it appealing to use with middle school students and appealing to myself since I am doing my first study. However, it seems that the MSLQ has been used in a number of studies (Honicke & Broadbent, 2016). This coupled with the fact that it can also be used as a measure of self-regulation (another important theory in this study), makes it more appealing as well. Measuring the level of self-regulation of students along with their self-efficacy, maybe helpful for the overall study. At this time more research is still needed to make this decision.

Feedback

Feedback is a very powerful tool that is used in the classroom (Hattie, 2012; Hattie & Timperly, 2007). This is defined as "feedback is conceptualized as information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance

or understanding" (Hattie & Timperly, 2007, p. 81). Feedback can come from a variety of different areas, such as teachers, parents, an activity, experience and many more. Feedback in the end, is a "Consequence of performance" (p. 81). Meaning that it is a way to evaluate your performance (Hattie & Timperly, 2007). Gjerde, Padgett, & Skinner (2017) built on this idea by describing feedback as information that one can use to improve on future performances.

Hattie when discussing his research on feedback (2012, p. 130), found that average effect size on student achievement for feedback is 0.79. This is extremely significant when comparing to the average effect size that was found in his research 0.40. It has been found that feedback both impacts students' cognitive loads and their motivation. Effective feedback can show students where to go and give them the feeling of control over their learning (Brookhart, 2017, p. 2).

As stated, feedback is extremely important in education, however, to understand feedback one must understand the purpose or essential questions of feedback. In Hattie and Timperly's seminal study on feedback (2007), they described that effective feedback must answer three essential questions: "Where am I going? (What are the goals?), How am I going? (What progress is being made toward the goal?), and Where to next? (What activities need to be undertaken to make this better)". The first question is an imperative one due to the lack of skill students have in developing their goals. It has been found that students without guidance in goal creation, tend to focus on goals such as completing the task. Feedback that can answer the question of "Where am I going?" can help teachers communicate goals to students. Building on that, students will then be more likely to regulate their own learning based on said goals (Hattie, 2017, 131-132).

The next question that feedback needs to address according to Hattie and Timperly (2007), is "How am I going?". This feedback question looks at the progress of the student and

the feedback relative to the "expected standard, to prior performance, or to success or failure on a specific task" (Hattie, 2012, p.132). This feedback should be focused on clarifying or stating what the intended learning is or what success criteria is for the lesson. This feedback again can give students ownership over their learning and aids them in working together to achieve. The last question that feedback needs to address from Hattie and Timperly (2007) "Where to next?", can be very developmental for students to regulate their future learning. Feedback here can aide students in choosing the next, most "appropriate challenges". Along with that, students can further develop their self-regulatory skills as they will begin to be able to better assess what they do and do not understand (Hattie, 2012, p.132).

Moss and Brookhart (2015) in their work, analyzed feedback in a different way that shares similarities with Hattie and Timperly's questions. They analyzed feedback by breaking it down into different views: The micro view, the snapshot view, and the long view. The micro view is the deepest dive into feedback. Here this feedback is trying to describe the students' work instead of being critical. The aim here is to provide feedback that is timely, positive, clear, specific, and connects back to the learning target.

The snapshot view of feedback looks at "the evidence of learning contained in the feedback episode" (Moss & Brookhart, 2015, p. 139-141). When the authors speak about evidence of learning, they are not just referring to what the students learned, but also what did the teacher learn? Here the student should at least understand one thing they did well and one way they can improve upon a future performance. The teacher should learn the strengths and weaknesses of the lesson. This view of feedback seems to share some similarities with the "How I am going?" question from Hattie's work as they both seem to be looking for progress.

Lastly, the long view looks at what is next. This is where both the student and teacher look at the steps that need to be taken to use the feedback. Crucial in this view is giving students the chance to use the feedback that they were given. The authors stress that "feedback should work to help students on the formative journey" Again these shares similarities with the work of Hattie as it connects to the question of "Where to next". Both of these looks to plan the next steps. More importantly, these both look for students to have some control of the next steps which is a great progress towards becoming a self-regulating learner.

Along with planning and understanding the different views of feedback it is essential to understand the different types of feedback as well. This is because the effectiveness of feedback can vary so it must align with where the student is in their progress of the lesson. Hattie and Timperly (2007) identified the following as the different types of feedback they found in their metanalysis:

Figure 2.1 A Model of Feedback to Enhance Learning

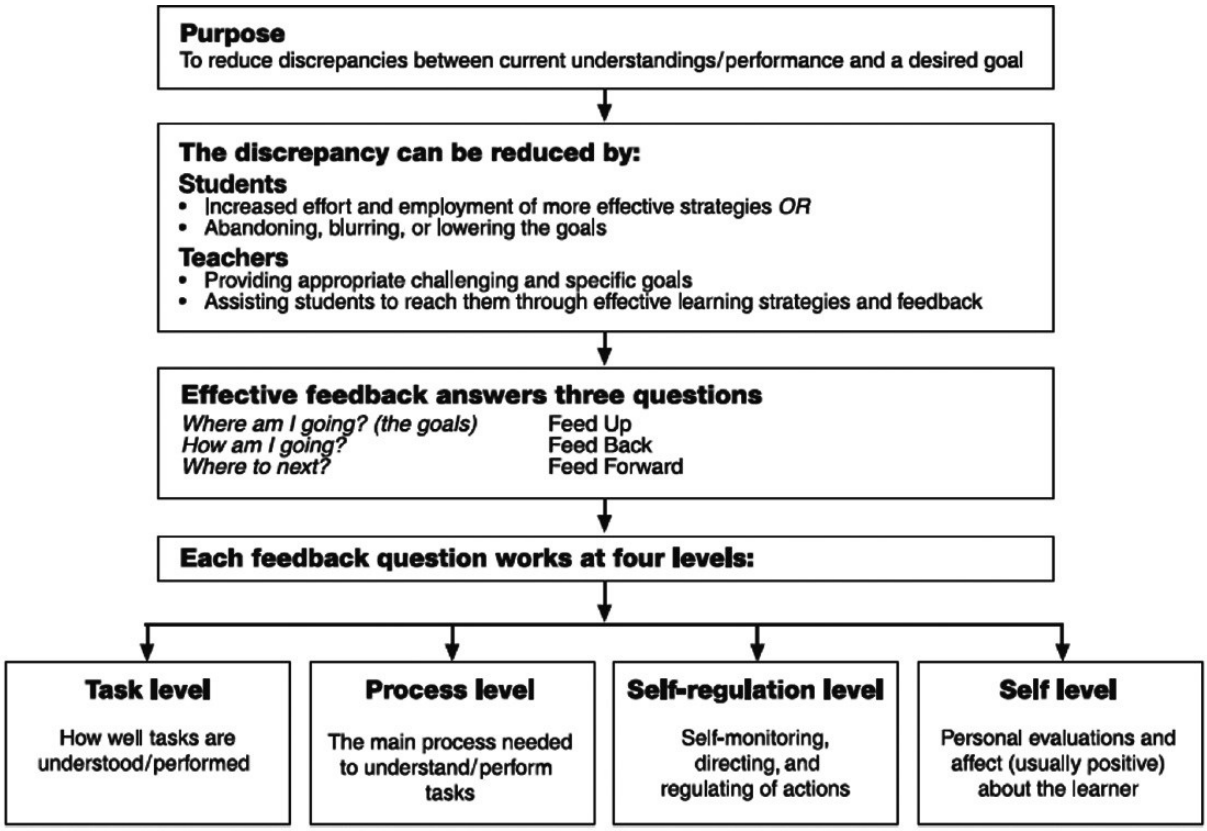


FIGURE 1. *A model of feedback to enhance learning.*

(Pavlov, 2016)

Task level feedback focuses on more surface level knowledge. This feedback looks to direct the student on a task such as correct or incorrect. This feedback will inform students on how well a task is being accomplished. Hattie in his book on feedback states that "Such feedback usually aims to help acquisition, storing, reproduction, and use of a skill" (Hattie, 2019, p. 76). At times feedback like this is necessary but lessons and feedback should aim to drive student thinking deeper. The next feedback level is the process level, which goes a bit deeper than the previous level. As the last level focused on the actual task, this one looks at the process to

complete the task. Feedback at this level can aid students in developing strategies such as "error detection, reassessment of approach, cueing to seek more effective information, and use of task strategies" (Hattie, 2019, p. 77). With the skills that could be developed at this feedback level, students' task confidence could improve along with their self-efficacy.

The third level of feedback from Hattie and Timperly's (2007) work is feedback at the self-regulation level. This feedback is aimed at students self-regulating their performance. By this Hattie states "This feedback increases the student's capability to create internal feedback and to self-assess, enhances the willingness to invest effort into seeking and dealing with feedback" (2019, p. 78). It was also stated that at this level the learner is given the most appropriate feedback, can develop their ability to self-assess and self-manage. Lastly, students will start to lean more on internal attributions and less on external attributions. Brookhart (2017) adds that "effective learners create internal routines" (p. 25). With that stated, it shows just how impactful feedback at this level can be.

The last level is feedback at the self-level, which is often about the person (Hattie & Timperly, 2007). Feedback in this level often comes as comments such as "great job" or "you're so smart". Feedback at this level is not helpful and does not improve the student's learning. Even worse, this can lead to the belief that intelligence is out of the student's control and there is nothing they can do about it. This dismisses the connection between effort and academic achievement (Brookhart, 2017, p. 25). Since this feedback is not useful in moving learning forward, it should not be used.

On top of those levels of feedback, Brown, Peterson, and Yao (2016) in their review of feedback literature discussed that there are also formative and summative types of feedback. Noting that summative which usually comes at the end is not as helpful, since it can't be used

like formative feedback which gives the student the chance to improve. This connects with the work of Moss and Brookhart as they stress that students must have the opportunity to use the feedback they have been given. Brookhart (2017) then discusses this further by addressing the need for feedback that is formative. In this, Brookhart looks to the Formative Learning Cycle (Moss & Brookhart, 2012) as to how to plan and give feedback that give students the opportunity to improve their performance. The Formative Learning Cycle will be discussed further in the next section as it shares similarities with Zimmerman's cyclical model of self-regulation.

In study done by Brown et al., it was found that there is a connection between student's self-regulatory habits as well as improved self-efficacy. Hattie and Clark (2019) discuss the connection between feedback and self-efficacy. They addressed that the level of self-efficacy can impact the way feedback is perceived. They identify those students that have high self-efficacy are more likely to be motivated by even negative feedback because they believe in their ability. Whereas students with low self-efficacy struggle with any type of feedback be it positive or negative. They will take positive feedback and apply it to a perceived deficiency that needed to be improved or that an external factor led to the positive feedback. Whereas negative feedback for the low efficacious students can be even more harmful sometimes leading to negative emotions. Hattie and Clark add to this by saying that one of the levels of trust a student teacher have, can impact the way they interpret the feedback.

As this current study looks to have a classroom system that support self-regulatory skills and improve student self-efficacy beliefs, it is important to use feedback that supports both. As previously discussed, there are four levels of feedback: task, process, self-regulation, and self (Hattie, 2012; Hattie & Clark, 2019; Hattie & Timperly, 2007). Of those levels, process and self-regulation would be the most beneficial types of feedback to use as they will help students

understand the classroom system and encourage self-regulatory skills. Continuing from there, when planning feedback, it would be most advantageous to follow along the views outlined in the work of Moss and Brookhart (2012; 2015; 2019) that suggests forward looking feedback from the micro view, snapshot view, and the long view. This effective approach aligns with their work on Learning Targets which will be discussed in a later section.

Formative Assessment

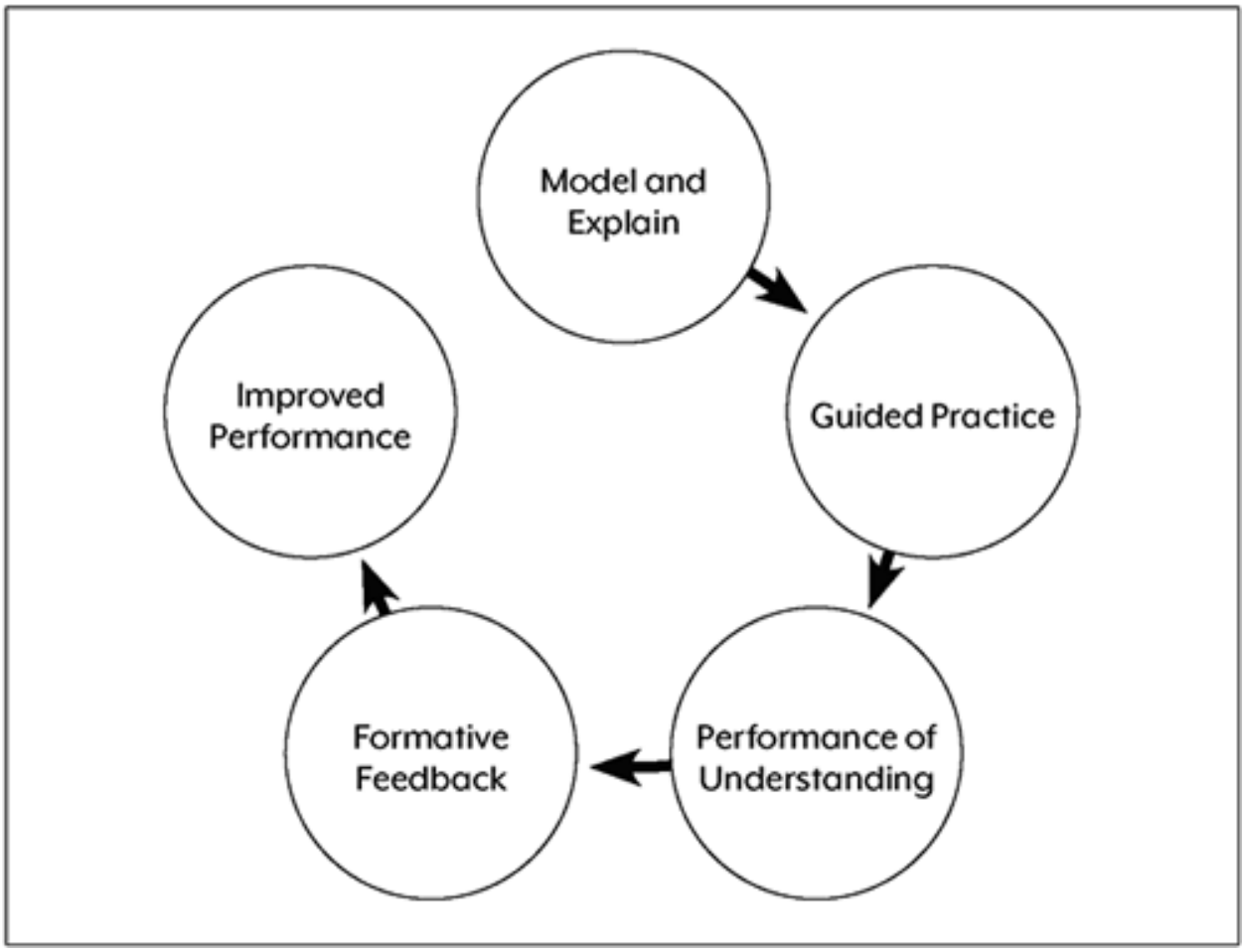
Feedback gives students and teachers necessary information to move learning forward and is an integral part of the formative assessment process. As defined by Moss and Brookhart (2009; 2019), "Formative assessment is an active and intentional learning process that partners the teacher and the students to continuously and systematically gather evidence of learning with the express goal of improving student achievement" (p.6) . Formative assessment has been found to be crucial in improving student achievement and motivation (Cauley & McMillan, 2010; Doubet, 2012; Roskos & Neuman, 2012). Roskos and Neuman (2012) describe formative assessment as "frequent interactive checks of student understanding and skills to identify learning needs and to adjust instruction" (p.534). They also differentiate formative from summative assessment by saying it takes place during the lesson and not after the lesson. Formative assessment can also improve the efficiency of instruction, the accuracy of the perceptions of students, and aids teachers in differentiating instruction (Doubet, 2012).

With the importance of formative assessment established, it becomes necessary to find ways to support this strategy in classrooms. In a study done by Cauley and McMillan (2010) they identified five practices to support formative assessment in the classroom: 1. Provide clear learning targets, 2. Offer feedback about progress toward meeting the learning target, 3. Attribute student success and mastery to moderate effort, 4. Encourage student self-assessment, and 5.

Help students set attainable goals for improvement. These key practices are echoed by Doubet (2012) when he describes that formative assessment can guide instruction while making it more efficient. Building on those practices of formative assessment, Roskos and Neuman (2012) call for a "feedback loop" to help inform the students' progress. They state, "the teacher creates a feedback loop that models, instructs, and pulls the learner forward to achieving a specific goal" (p.535).

With the need for formative assessment and a feedback loop to support it in a classroom established, the next question is how to implement these ideas in a structured format. Brookhart in her book on giving effective feedback (2017), identifies the formative learning cycle as a structure that allows students to experience three formative assessment questions "Where am I going? Where am I now? And How do I close the gap?" (p.3). The formative learning cycle is a 5-step process that helps guide students to a goal through modeling, practice, clear expectations, feedback, and a chance to use the feedback (Moss & Brookhart, 2015). It should also be noted that this shares similarities with the cycles of Zimmerman's cyclical phases model of self-regulation (Zimmerman, 2002). Moss and Brookhart (2012; 2015) build from the formative learning cycle to create a theory of action that supports formative assessment in the classroom, with their Learning Targets framework.

Figure 2.2 The Formative Learning Cycle



Learning Target

As discussed in the previous sections, self-regulation, self-efficacy, feedback, and formative assessment are all crucial theories in education, which are necessary inside of classrooms. Finding a system that facilitates all of those aspects could possibly raise student achievement and improve the overall culture of the classroom. One theory that seems to reach all of these is the Learning Target theory of action created by Moss and Brookhart (2012; 2015). The learning target itself "describes—using words, pictures, actions, or some combination of the three—exactly what students are going to learn in today's lesson, what they will do to

demonstrate that learning and how they are expected to learn and do it" (Moss & Brookhart, 2015, p. 72). However, this theory of action is not just about writing effective targets for students. A learning target is only effective, when both teachers and students can use it during the lesson. Teaching students how to use the target to grow, is extremely significant (Moss & Brookhart, 2012).

This theory of action connects back to the formative learning cycle. The authors state that "a learning target sets the formative learning cycle in motion" (Moss & Brookhart, 2015, p. 72). When a learning target is created and implemented correctly, it provides multiple forms a formative assessment (short-term formative assessment, rapid formative assessment, and in-the-moment formative assessment). This theory of action also aids students' ability to self-assess and guides their own learning. The learning targets tell students what is expected of them, guides them in how to complete their learning, and shows them what it means to "do good work in today's lesson" (p. 72). Connecting back to Zimmerman's cyclical phases of self-regulation, students can use the learning target to regulate their learning and improve. Specifically, this connects to the performance phase as this gives students the tools to regulate while learning (Zimmerman, 2013).

When looking to design an effective learning target, teachers should look to answer four questions from the student's point of view (Moss and Brookhart, 2015, p. 73):

- What will I be able to do at the end of today's lesson?
- What do I have to learn to be able to do it?
- How will I be asked to show that I can do it?
- How well will I be expected to do it?

To answer those questions, the authors designed four steps for creating a learning target: Step 1 Define the essential content for the lesson, Step 2 Define the reasoning processes essential for the lesson, Step 3 Design a strong performance of understanding, Step 4 State the Learning Target (Moss & Brookhart, 2012, pp. 30-32).

In step one, the teacher is deciphering the content to determine what are the most pivotal parts that they would need to impart to the students. Here they are looking for what content knowledge is the focus of the lesson, how does this build from previous lessons, how with this increase understanding, and does this lesson focus on a skill or will they learn a new skill. What the teacher deems as essential, should go beyond just facts and concepts that students should know. Next in step two, the teacher is thinking about the types of reasoning their students will need to use in the lesson. Asking the questions about how they can use thought provoking processes to allow their students to build on a previous lesson. Additionally, the teacher should be determining what kinds of thinking could promote deep understanding and skill development while complimenting the goal of the lesson (Moss & Brookhart, 2012, pp.30-31).

In step three, the teacher creates a performance of understanding to support the learning target. The performance of understanding can function as both an instructional purpose and a formative assessment. The authors describe the performance of understanding as something that "provides one of a number of ways in which students can learn and produce evidence of what they are learning in today's lesson" (Moss & Brookhart, 2012, p.31). There can be many different types of performances that could be used to meet an objective. However, it is important to design one that meets and supports the learning target. A successful performance of understanding makes what you are asking them to do bound to what they are intended to learn.

In step four, teachers state the learning target as what your students will learn and do in the lesson. The authors say that "An effective learning target must speak to students, express the essentials of the lesson, and provide students with a rationale for why what you are asking them to do is in fact a performance of understanding" (Moss & Brookhart, 2012, p. 32). When stating the learning target (which the authors state is a skill as well), it must be done in a way that students will understand, using student friendly language, and applicable illustrations. When using student friendly language, that means language that students can understand and, use words that enable the student to see themselves as "the agents of learning". The authors state that targets should start with "we" or "I", to display that the students will be conducting the learning. A strong performance of understanding can function as an illustration of the learning target. However, this doesn't always have to be the case, depending on the lesson (Moss & Brookhart, 2012, p. 33).

When discussing the Learning Targets Framework and connecting it to the current study, the performance of understanding stands out as a way to help students reach the designed target and regulate their learning. When students complete the performance of understanding, it provides the teacher the evidence of student understanding. Really, it serves a dual purpose for the lesson. First, it deepens the learning for the students by guiding them to engage in an activity or assignment that makes them prove their understanding. Teachers should look to determine: "What will your students learn by doing that?" (Moss & Brookhart, 2015, p. 102).

Second, the performance of understanding is a strategic way to formatively assess what your students have learned. Since the performance of understanding is designed to produce evidence, both the teacher and student can use it to assess where they are and what they need to do next (Moss & Brookhart, 2015, p. 102). However, it is imperative that teachers design a

performance of understanding that aligns with the learning target. If students are given a performance of understanding that doesn't connect to the learning target, then it will skew the formative assessment evidence and will impact what the teacher and students do next.

With the goal of having students meet the performance of understanding, including student look-fors may help to guide them. The authors define student look-fors as "descriptions of characteristics of quality that students can, literally look for in their work" (Moss & Brookhart, 2015, p. 119). They seem to function as steps or checkpoints that students can use to help them regulate their own learning. More importantly, this will also help with student goal setting and motivation. With quality look-fors, students will have an improved understanding of what good work looks like so they can plan and monitor their own work.

The opportunities created by having a quality learning target, that is supported by a focused performance of understanding are vast. According to the formative learning cycle, the performance of understanding occurs after model and explain and guided practice. The performance of understanding informs the feedback the teacher gives the students to feed them forward (Moss & Brookhart, 2015, p. 105). This connects to Hattie and Timperley's work on feedback as you would most likely want to give feedback that is self-regulatory (Hattie & Timperley, 2007) so the student can use the performance of understanding and student look-fors to guide their learning forward to meet the assigned target (Moss & Brookhart, 2015, p. 105).

Moss and Brookhart (2015) suggest that the best way to determine the quality of a learning target is to examine the whole target from the student's point of view. A quality target must answer four essential questions for the learner: "*1) What am I learning? What will I be able to do when I finish today's lesson? 2) What concepts and skills are important for me to learn and understand so I can use this information to do it? 3) How will I be asked to show that I can do it?*

4) How will I know I do this? How well do I have to do it?" (p. 74). Those essential questions are answered by the four components of the learning target framework: 1) the shared learning target, 2) lesson-sized chunk of content knowledge, skills, reasoning, 3) performance of understanding, and, 4) student look-fors (Moss & Brookhart, 2015, p. 74). The connection between the components and the essential student questions is illustrated in the Table 2.1 below.

Table 2.1 The Match Between the Learning Target Components and Essential Student Questions

The Match Between the Learning Target Components and Essential Student Questions	
Four Components of a Learning Target	**Essential Student Question**
1) Shared learning target statement	• *What am I learning? What will I be able to do when I finish today's lesson?*
2) Lesson-sized chunk of content knowledge, skills, reasoning.	• *What concepts and skills are important for me to learn and understand so I can use this information to do it?*
3) Performance of Understanding	• *How will I be asked to show that I can do it?*
4) Student look-fors	• *How will I know I can do this? How well do I have to do it?*

Lastly, the learning target framework shares a powerful connection with the self-regulation work of Zimmerman. With the performance of understanding and student look fors, students are now receiving tools and information to help them regulate their own learning. It is clear that this fits well with the cyclical phases model of self-regulation (forethought phase, performance phase, and the self-reflection phase) from Zimmerman's research (Zimmerman, 2013). Students can the performance of understanding and student look-fors to plan out what they want to do which ties into the forethought phase. Next, students will work on the performance of understanding which obviously aligns to the performance phase. Finally, students can gauge their work against the performance of understanding and determine their next

steps based on the comparison and teacher feedback which aligns to the self-reflection phase (Moss & Brookhart, 2015, pp.99-105); Zimmerman, 2013).

Based on the research discussed in this chapter, self-regulation is an impactful educational theory (Butler & Winne, 1995; Hattie, 2012; Moss & Brookhart, 2012; Sperling, Ramsay, Reeves, Follmer, & Richmond, 2016; Zimmerman & Schunk, 2011). It becomes even more impactful when teachers can support it with quality feedback and formative assessment measures that can be used by both the teacher and students. The learning target framework seems to bring those strategies together to help teachers better plan their lesson, while also giving students the tools to regulate their learning with the help of the teacher. Moss and Brookhart (2015, p. 105) state that "look-fors that guide the performance of understanding promote student goal-setting during the lesson and increase student motivation to learn". I believe that not only could it increase student motivation, but also if done correctly, it could improve students' self-efficacy beliefs about their ability to perform in that classroom.

Chapter Three: Methods

Introduction/Purpose

The COVID-19 pandemic had a dramatic impact on the world of education, leading to many schools shutting down and moving to online education (Butcher, 2020; Cope and Kalantzis, 2020; Darling-Hammond, et.al, 2020; Huber & Helm, 2020; Lachlan, et al., 2020; Milman, 2020; Rogers Haverback, 2020; Sulisworo, et al, 2020; Vogels, 2020). Many school districts were under prepared to meet the new changes and challenges brought on by the pandemic (Milman, 2020). To make matters worse, school districts serving students of marginalized families were impacted to a greater extent (Atchison, 2020; Louis-Jean & Cenat, 2020). Many teachers struggled to meet the new demands brought on by the pandemic, leaving many to feel unsure and ill prepared.

The purpose of this study is to gauge the utility of the Learning Targets theory of action (Moss & Brookhart, 2012) to address teacher perceived obstacles to student learning while online. Many educators struggled with teaching during the COVID-19 pandemic. The Learning Target Theory of Action (Moss and Brookhart (2012; 2015) may help educators refine the approach they take to planning their lessons around what students will learn during the lesson and enable them to better meet the needs of their students based on compelling evidence of student learning from the lesson itself. Most lessons are planned from the teachers' instructional perspective, rather than engaging in planning from a student perspective. Lessons planned from the student perspective focus on what the students will learn rather than what the teacher will teach. This change of view maybe helpful not only to the teacher, but also to the students who are struggling as well (Moss & Brookhart, 2012, p.10-11).

Surveying teachers regarding their experiences during COVID-19 will help to gauge the utility of the Learning Targets Theory of Action and will provide insight on multiple aspects of teaching and learning during the pandemic. The questions asked of the teachers in this study will provide a view into the obstacles they faced while teaching during the pandemic, insights on how they planned their lessons to meet the needs of their students online, how they were able to formatively assess their students, how they provided quality feedback to their students, how students regulated their learning, and the impact of the sudden changes on the teachers' self-efficacy beliefs. The teacher responses will be analyzed to determine if the Learning Target Theory of Action has particular utility to meet the needs expressed in their responses.

Research Question(s)

The methods proposed in this chapter are designed to address the following research question(s):

- *What instructional challenges did teachers face related to designing and delivering lessons remotely during COVID-19?*
- *How did those challenges impact teacher perceptions of self-efficacy for providing meaningful lessons for their students?*
- *What is the utility of a learning target theory of action for addressing teachers instructional practice challenges and perceptions of self-efficacy?*

Recruitment of Participants

This study employed a convenient sample of teachers from the school where the researcher currently worked. The Middle School is housed in a Western Pennsylvania urban district and serves grades six through eight. Six teachers were recruited from this school via

email and their participation was voluntary. Because I was their colleague and not their supervisor or principal there was minimal risk of quid pro quo. I recruited a variety of participants from differing demographic backgrounds who teach different subjects and grade levels within our school. Teachers who volunteered, received informed consent and had their rights explained to them. As teachers who taught through the COVID-19 pandemic their responses and outlook on teaching during this time were crucial to the study and provided rich data to analyze.

Data Collection

I gathered teacher data using a survey created on the Google Forms platform that the participants received through a link in their email. Google Forms was chosen because of its ease of use and its accessibility to simply share the survey with the participants. The survey contained ten open-ended questions that are specifically designed to address the proposed research questions. The open-ended questions, which will be described in the next section, are aligned to one of the three research questions.

Data Collection Instruments

Instrument one consisted of ten open-ended questions that align with the first two research questions. The proposed open-ended questions were:

> **Directions:** This survey asks you to think about your experiences teaching remotely during COVID-19. It explores non-technology obstacles that you faced in delivering meaningful lessons that increased student understanding. Please allow at least 45 minutes to complete these questions. Also please answer each question in a paragraph or two.

1. How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?
2. What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following:
    - Instruction
    - Student activities/assignments
    - Feedback
    - Student Understanding
    - Assessment Practices
3. How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.
4. What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?
5. During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.
6. If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?
7. Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

8. How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning? *
9. How well were you able to improve student understanding during remote learning? How does this compare to in person learning? *
10. How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?

*Adapted from the Teacher Sense of Efficacy scale (Tschannen-Moran & Woolfolk Hoy, 2001)

Instrument Two consisted of the Inquiry Learning Guides contained in Moss and Brookhart (2015) work on formative classroom walkthroughs. The inquiry guides contain specific success criteria for each component of a Learning Target Theory of Action. I propose to apply the various components: Lesson Quality, Shared Learning Target, Performance of Understanding, Success Criteria, Feedback, Student Self-Assessment, Student Questioning, to analyze the utility of the theory to address the challenges teachers identified.

Data Analyses Methods

The data from the survey was analyzed qualitatively. The demographic data was compiled to show frequency counts and to add context to the individual responses of the participants.

The responses to the open-ended questions went through three levels of analysis. For all levels of the analyses, I analyzed the responses through the general interpretive process of close

reading. The close reading process involves identifying patterns of thinking and acting in order to discover regularities and uncover anomalies (Miles, Huberman, & Saldaña 2014). During the first level of the analysis, I proposed to produce a case study of each participant to describe each individual's particular levels of challenge and levels of self-efficacy.

During the second level of analysis, I again employed close reading to compare and contrast the responses across the cases. Because of the nature of the text, this involved thematic coding categories that are analyzable by writing propositions about meaning. I proposed to take several passes through the data to test the trustworthiness of information. I proposed to identify the emerging themes (Gibbs, 2007) through constant comparative analysis to examine the similarities and differences contained in the responses and to produce a comprehensive account of the findings.

During the second level of analysis, I analyzed the data to identify if they align closely with the specific success criteria contained in the set of inquiry guides (Moss and Brookhart, 2015) to gauge the degree of utility for a Learning Target Theory of Action to help teachers meet challenging conditions like those connected to COVID-19 and determine next steps.

Chapter Four: Findings

The findings from the data analyses are presented according to the levels of analysis. First, the findings are organized by participant. What follows is the responses of each participant to the open ended prompts from the online survey. Each participant's responses are then summarized to present an individual portrait of each person's experiences and perceived obstacles.

Next the chapter reports the findings from comparison of participants' responses to the individual open ended questions contrasting and weighing each participant's response to the other participants responses to provide insight into similarities and differences.

Findings From the Analysis of Individual Participant Responses to the Open-Ended Prompts

In reading the responses from the participants in the study, it is important to note that lessons during remote COVID-19 instruction took place synchronously. All students in the class were present in real time with their teacher. Because of district policy to alleviate poor internet connections for individual teachers and students, as well as deal with privacy concerns, the teacher's camera was on during the lessons, but students were not required to have their cameras on during the lessons.

Participant 1

Participant One provided the following responses to the 10 prompts, The verbatim responses are italicized. Following the verbatim responses, there is a summary analysis of Participant One's report.

Prompt 1: How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?

Before COVID, I planned my lessons based on a roadmap provided by the district. I supplemented with worksheets and activities that I found online. My class typically consisted of a warmup, an example and mini lesson followed by practice problems and discussion. I was very confident in the process.

Prompt 2: What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices.

I tried to keep the delivery process the same when teaching online. I still had a warm up, an example, practice and discussion but it was definitely different. It takes much longer to deliver instruction online. A topic that would take one class period Pre-Covid takes two or three periods online. It was very challenging trying to adapt math work online. I had to find a program where my students could enter math symbols and equations. Schoology and Microsoft Word did not work too well. I was able to find a program where the students could write and draw as well as type. Everything takes longer online. Providing feedback is difficult and trying to assess understanding is often frustrating. Cameras were not required to be on so most of the time, I was looking at black squares. I had no idea if a student really understood the material. I did not know if they were actually behind the black square. This made providing feedback and assessment difficult. I used online assessments a lot more. I missed being able to look over the shoulder of students to see their work and to formatively assess their understanding.

Prompt 3: How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.

I used an agenda to communicate what students were supposed to learn daily. I created a daily page in Schoology that had 1. A funny meme about the day of the week or about math 2. The topic covered 3. A list of activities 4. Announcements

Prompt 4: What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?

I used a program called Classkick to see what students were working on. With Classkick, I could see the students work in real time. I could set it up so students could automatically see

if their answers were correct. I could also call out students who did not have the assignment open. This was extremely helpful. I could see firsthand what the students understood and address any misconceptions. I also used other online resources to check for understanding - Quizizz, NearPod, EdPuzzle, Kahoot and Blooket.

Prompt 5: During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.

I did provide strategies to self assess and self regulate. In Classkick, you can set up answer boxes. If the student's answer is correct, the box lights up green. I have the option to turn the answers on and off at any time. I can have students spend time completing the work and turn the answers on near the end of class or turn them on at the beginning. I turn the feature on more near the end of class.

Prompt 6: If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?

I think they were successful. If they got answers wrong, they were quick to ask for help. I realized that I had to have some type of finished product to get them to do work. Otherwise, they would just sit there.

Prompt 7: Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

I used Quizizz to formatively assess students. It was easy for me to find a 5-10 question quiz to see what students learned. Sometimes I would pick out the Quizizz beforehand and sometimes I did not.

Prompt 8: How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?

It was very difficult to answer difficult questions. It was difficult to determine who needed help. Students often did not know that they needed help or did not want to ask for help. In class I could look over the shoulders of kids in class. Even though I can see their work in Classkick, it takes a lot of time to go through all of the slides. It is so much easier to do this in person. I tried to take students into a breakout room. This was somewhat successful. I hated being away from the main group and often when I came back to the main room, someone else needed a breakout room. Just all around easier in person.

Prompt 9: How well were you able to improve student understanding during remote learning? How does this compare to in person learning?

I think I had to get used to remote learning. Once I realized the obstacles, I was able to come up with solutions. In person is still easier but that may be because I am used to it. I am confident that I really improved remote learning honestly.

Prompt 10: How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?

I was able to provide feedback in Classkick. There is feature where students can raise their hand. I can answer their question or another classmate can help them. I liked being able to provide instant feedback but it is very time consuming to go through all of the slides and write individual comments. The internet was always slow.

Summary Analysis of Responses from Participant One

Participant One described the lesson planning process prior to the impact of COVID-19 as following a curriculum roadmap provided by the school district. To improve the lessons further, Participant One mentioned supplementing the district's curriculum with activities not created by the district, along with websites related to the content. Prior to Covid-19 the lesson structure consisted of a warmup, an example, instruction, practice problems, and discussion.

During remote teaching, Participant One reported struggling to adapt the curriculum to function digitally. A major obstacle for this participant was finding an online program that allowed students to use the symbols and equations related to the content. The participant still designed lessons to follow the same structure as before but reported that this structure took much longer online to complete each task. Participant One also reported that providing feedback to students and trying to assess understanding was a challenge. Not being able to see the students heightened this challenge and Participant One put it this way, "*I was looking at black squares*", since the school district did not require students to keep their cameras on during instruction. This factor had a serious impact of this on Participant One who felt it diminished the capacity to

assess student learning: "*I missed being able to look over the shoulder of students to see their work and to formatively assess their understanding*".

In order to communicate with students daily about what students were supposed to learn, Participant One created a daily page that consisted of a funny meme, the topic to be covered, a list of activities, and announcements. For the majority of instruction, Participant One relied on the online program *Classkick*. The program enables instructors to assign work on its website and enables teachers to click on individual students to see their work. Participant One stated "*I could see firsthand what the students understood and address any misconceptions*". *Classkick* also featured an "answer box" that allowed students to see if their answer to a question was correct or incorrect. Participant One said that students used the answer box toward the end of the lesson, and that once students checked their responses with the answer boxes, they more readily sought teacher assistance.

To aid with formative assessment, Participant One assigned students short quizzes were found online and were designed by other teachers. Students' responses to the short quizzes, in Participant One's view, provided an opportunity to see what the students learned and was a convenient way to assess students. That convenience also included the fact that Participant One could search for premade quizzes rather than taking the time to create the quizzes.

A major obstacle perceived by Participant One was the difficulty involved in efficiently assisting individual students while meeting synchronously with the entire group of students online. "*Students often did not know that they needed help or did not want to ask for help. In class I could look over the shoulders of kids in class*". During online instruction, Participant One reported that in order to assist an individual student it was necessary to access that student's work online prior to assisting them. This process, in the end, became very time consuming.

Specifically, Participant One reported that when a student needed one-on-one assistance it was necessary to leave the whole group online meeting in order to call the student individually into a separate online meeting room. This process left the remaining students in the class unmonitored. It also meant that providing timely feedback to an individual student came at the expense of the others in the class. This was part of the rationale that Participant One gave for relying on *Classkick's* answer box feature for providing timely, individual feedback online.

Participant 2

Participant Two provided the following responses to the 10 prompts, The verbatim responses are italicized. Following the verbatim responses, there is a summary analysis of Participant Two's report.

Prompt 1. How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?

I would describe my lesson planning and delivery process as evolutionary. I would plan lessons and continually re-work them in ways I thought would increase understanding and growth as I encountered the unexpected during teaching. Many times I found myself either increasing or decreasing load based on unexpected outcomes: If students completed work sooner or than expected because it was too easy or struggled because it was too difficult/tedious, I modified and adjusted expectations for upcoming classes. I requested feedback and opinions from students (and colleagues) to try to tailor activities and instruction delivery in such a way as to maximize engagement and enjoyment while learning. Unfortunately, as time went on, the kids seemed less and less inclined to provide direct feedback rich enough to really modify and tailor it to their overall tastes, so I concentrated on trying to require work that touched on the 4 language skills--reading, writing, listening and speaking--while continuing to experiment with various online learning tools to continue to spark them. I tried to vary my lesson opening to be restorative or to launch lessons with energy and a "hook" but with mixed results. Silence and closed cameras deprived me of cues I often use to "read the room" and "shuffle the deck" effectively at times. It was like flying blind in some classes and declining participation often left me wondering how to do it better....always wanting to do better.

Prompt 2: What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices.

Challenges included creating differentiated lessons of interest that met all students where they were. While the work was too hard for some, it was too easy for others and correcting this issue effectively vexed me. My animated behavior and silly attention grabbers delighted some but likely struck others as juvenile. No requirement to keep cameras on was a killer: it just made it too easy for kids to join a class meeting without REALLY joining a class meeting. I always wanted the work to have a purpose and answer a question, but working within the limitations of some students' knowledge of the content and other students' near mastery of content produced a satisfied large group in the middle and frustrated groups at the extreme ends. I tried to figure out how to do it better on my own...I asked around, but I didn't ask the right questions because I never got the answers I was looking for. For example, I made attempts to explore and assign work in software programs that leveled the work based on a student placement test and student levels, but failed to commit to staying the course because it required the students to spend an inordinate amount of time on the screen and I couldn't justify requiring more screen time from them. In the end, I only used it sporadically and never quite figured out, despite repeated efforts and inquiries, how to use it effectively for the good of all. I feel like I failed in that particular case.

Prompt 3: How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.

Most of the time I told them directly, and opened my lessons with a daily agenda and set of objectives. I circled back to check for understanding and took to placing a step-by-step, modified agenda in the chat so kids could know what we did, what we were doing and what we were going to do throughout. I provided recorded examples of work I expected them to complete and gave ample time to complete and make up work. I tried to minimize the footprint of the work on their daily lives without oversimplifying the expectations. Students, for example, were required to interact in discussion assignments by posting thoughts, reading those of others and reacting to them positively. Students were required to meet in breakout rooms and work on joint assignments, asking questions of each other if and when the occasion arose. Students were required to share opinions of various topics and react to those of others in collaborative boards. Students were required to write and record spoken responses to prompts to demonstrate performance and/or mastery.

Prompt 4: What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?

I asked the students to say how they felt, expressing preferences around target vocabulary and/or topics. I asked the students to create a story about themselves, choose images they thought represented them and their preferences, survey those of others and react positively to those they liked/shared. I asked students to demonstrate where they were in the learning by offering multiple bites at the apple....Take 1's, Take 2's, before finally giving assessments to demonstrate learning. I asked students to communicate in the chat their judgements of various topics and vocabulary. I asked students to demonstrate reading and listening comprehension as well as speaking and writing performance.

Prompt 5: During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.

I often created vocabulary "Takes" to help students chart growth and work toward mastery. Take 1 would be their first exposure to new words, a pre-test of sorts usually given as a warmup. Take 2 would be given as an exit slip at the end of the lesson and they could see the results. At the end of the unit they would be given Takes 3-7, that is to say multiple opportunities to get a desired grade on the vocabulary. Only the highest score would be retained for grading purposes.

Prompt 6: If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?

The results were good overall, if somewhat tied to attendance. Those students who did not consistently attend could not actively chart their progress and were less inclined to monitor and/or be motivated by their progress. Better attendance could have helped as well as having the kids actively chart their own progress from Take 1 through entering their scores after every take.

Prompt 7: Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

Take 1's and 2's provided good formative assessment data, signaling how much more in-class time I should spend on a given topic or vocabulary set in each unit. Short, listening and speaking activities provided opportunities for the students to demonstrate progress through performance tasks. Some poorly attended classes were difficult to track. The onset of apathy at given moments, lack of camera presence in class and the resulting lack of participation and engagement were at times major impediments to my ability to assess the class formatively.

Prompt 8: How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?

I started each class with an agenda/objectives outlining the activities were going to complete to meet those objectives. I began posting numbered lists in the chat in our meeting, re-reading it from time to time and referring students to it to let them know what we had done, what we were currently working on and what we were going to do next. The questions about what we were doing seemed especially difficult after I THOUGHT I had explained and outlined things clearly. I found posting and re-posting our trajectory in the chat and referring to it in terms of what we had done and what we were going to do cut down on the "difficult" questions. In addition, I began posting videotaped examples of performance tasks in Schoology to demonstrate what I was expecting them to do....adding active discussions and sharing

responses of students by refreshing my and sharing my screen I believe also cut down on questions that would have otherwise emerged. In person, I would have circulated the classroom and checked for progress, perhaps stopping everyone from working to explain common issues that were emerging and providing clarification.

Prompt 9: How well were you able to improve student understanding during remote learning? How does this compare to in person learning?

At times I believe I was able to improve student understanding during remote learning by providing scaffolding of instructional steps and establishing routines for approaching and completing work that were consistent. It is much more difficult to determine whether I have improved understanding of the students online than it is in person because I rely so heavily on students' body language and facial expressions for purposes of monitoring and adjusting my instruction accordingly. So, I say I BELIEVE I was able to improve student understanding because over time there were fewer questions from students about what to do and how to do it as their familiarity with the flow of exercises unfolded and became clearer. Nonetheless, again, without immediate visual feedback from the students that they provide just by the way they react, it is difficult to determine their level of understanding. Doing short formative assessments helped so long as the students completed them in a timely manner, but as participation grew to be more sporadic and less universal throughout the school year, the lack information in a virtual world was a huge handicap compared to that of the in-person classroom.

Prompt 10: How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?

On a scale of 1 to 10, I would not rate myself in the top quartile when it comes to using feedback and feed forward to enhance the ability of my students to self-assess and self-regulate. Those that managed it well from the start, generally continued to manage it well whereas those who did not seemed always to struggle. Getting struggling students back for in-person instruction has begun to help considerably, but many of them were floundering online and would have continued to do so had they not returned to brick-and-mortar instruction. It is much easier to have face-to-face conversations and work toward goals of improving student self-assessment and self-regulation when the students HAVE to see you, look at you, and respond to you. Online instruction is overall a very poor substitute for in-person learning so teaching someone to do such challenging and difficult skills as self-regulation and self-assessment becomes an even bigger ask online. My own ability to teach certainly suffered as a result of aforementioned 'handicaps' of online instruction. My students have been remarkable in many ways in their adjustment to the new ways of online instruction and I try every day not to let my teaching suffer and not to let them them down. In-person instruction is better for all of us, students and teachers...it is hard to read how much worse it is online.

Summary of Responses from Participant 2

Prior to the impact of COVID-19 Participant Two described planning lessons using process that was "*evolutionary*". Participant Two normally evaluated the impact of each lesson based on classroom outcomes and then would adjust future lessons as needed to increase student understanding. Participant Two designed lessons to purposefully incorporate all the key skills within the lesson's content. Once the impacts of the COVID-19 pandemic took effect, Participant Two reported that it became a challenge to create properly differentiated lessons of interest that also met the needs of all the students and individual students. Participant Two reported that students differed by ability levels for the content in the lessons making the work too difficult for some students and unchallenging for others. This, in Participant Two's estimation contributed to a lack of student engagement.

To address this decrease in student engagement Participant Two decided to implement restorative practices and employed a "*hook*" with each lesson to increase engagement. The impact of this attempt to improve engagement for the students came with its own set of challenges. Participant Two noted that it was important to weigh the decision of how often to use online programs, because that decision resulted in students unnecessarily having to increase screen time. Participant Two summed up the frustration of being deprived of being in the room with students and stated a constant feeling of "*flying blind*", not being able to "*read the room*" or "*shuffle the deck*" to increase student engagement because students did not have their cameras on eliminating the opportunity to see their faces and reactions to the content. Participant Two reported that it was necessary to see the students to ensure they were engaged, and that the lesson was impactful.

To communicate daily learning expectations to the students, Participant Two shared a daily agenda. This daily agenda contained a set of instructional objectives that Participant Two

would refer to during instruction in order to check for student understanding. To improve student interaction, Participant Two assigned discussion board assignments. The assignments required students to post their thoughts to a prompt and also read and react positively to other student's posts. Majority of the assignments discussed by Participant Two were focused on vocabulary.

To assist students while they worked on their vocabulary assignments, Participant Two provided multiple opportunities for students to gain content mastery "*I asked students to demonstrate where they were in the learning by offering multiple bites at the apple*". Each of those chances or opportunities were called "*Takes*". Participant Two used those "*Takes*" to enable students to chart their growth. Participant 2 explained Takes 1-2 in this way, "*Take 1 served as a warmup or pre-test and Take 2 usually was an exit slip at the end of class*". At the end of the unit, students would be given Takes 3-7. Students received multiple opportunities to earn a desired grade on vocabulary assignments, with only the highest score counting towards the student's grade.

Having students chart their growth between takes was very valuable to Participant Two. First, Participant Two reported employing this strategy to promote student self-regulation and self-assessment between takes. Participant Two also used the student growth charts that resulted from the takes as a source of formative assessments to inform the adjustments Participant Two made to the amount of instructional time spent on certain topics. Yet, inconsistent student attendance, became an obstacle that hindered the use of the student growth charts making it difficult to consistently track growth and foster student motivation. While Participant Two did not discuss strategies for dealing with difficult questions from students, the participant did explain the types of questions students typically asked. Participant 2 explained that most questions were focused on how to approach and complete the activities assigned to the students

during the lesson. Attempting to be proactive, Participant 2 posted and reposted the tasks for that day, explaining that "I found posting and re-posting our trajectory in the chat and referring to it in terms of what we had done and what we were going to do cut down on the "*difficult questions*". Participant 2 felt that providing scaffolded instructional steps and establishing routines helped to improve student understanding.

The biggest obstacle perceived by Participant Two was not being able to see their students since it made it difficult to observe how much student understanding had improved. Participant Two described the need to see students by saying "*I rely so heavily on students' body language and facial expression for purposes of monitoring and adjusting my instructions accordingly*". Participant Two also reported that not being able to see students in person was an obstacle to other important instructional strategies that were designed to increase self-regulation and self-assessment explaining it is easier when "*students HAVE to see you*" when they are in the brick-and-mortar classroom.

Participant 3

Participant Three provided the following responses to the 10 prompts, The verbatim responses are italicized. Following the verbatim responses, there is a summary analysis of Participant Three's report.

Prompt 1: How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?

In ELA, I plan with the end goal/project in mind. Each unit culminates with a writing assignment that reflects the genre of text we study throughout the unit. I make sure that all the work we cover during the unit supports that end goal. Overall, my ELA curriculum in broken into three cycles for each unit. Every Unit beings with whole group learning. This is were most activities are teacher guided and a lot of whole group discussion takes place. Next, the units transitions to Small-Group instruction. This allows students time to work collaboratively on all areas of the text. Lessons generally begin with a teacher introduction to the task at hand followed but the small group work. Students collaborate and hold one another

accountable to the assignment(s). Each Unit ends with an Independent Instruction. During this time, students are able to self select text and activities while still aligning with the overall unit focus standard. Prior to COVID-19 my lesson planning consisted of sitting down with my ELA curriculum manual and pacing guide and mapping out the next week of instruction. Each unit has an overall focus standard and each text has a next tiered focus standard. I would make sure that whatever activities I selected aligned with and supported these standards. Everything was pretty predictable and routine. I was able to consistently accomplish each learning goal I had planned for daily and weekly. I was fairly confident in my weekly planning and knew I was addressing the differentiated standards my students needed. My delivery process prior to COVID-19 was pretty traditional of what you would expect to see in a classroom. We used the consumable curriculum manuals and students maintained a binder that the completed all classwork in. The learning cycle were were in for the unit (whole group, small group or independent) determined my role in the lesson. Leading up to departure of the classroom due to COVID-19, I was beginning to use my SmartBoard in my classroom more frequently to deliver activities in every lesson. Students were also able to utilize the SmartBoard as part of their learning process and engagement.

Prompt 2: What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices.

When the school year began, I began planning the way I had always done. I would try to fill my whole block of time with instruction and activities. I quickly came to learn that what I was doing in my traditional classroom was not going to work virtually. I tend to over plan as it is. However, I was only able to get through one item on my agenda when I was prepared with three or four. This led to me feeling defeated and that I was not meeting my students needs. If I was feeling overwhelmed, I was sure that they were too. It took me longer than I would have liked to come to the realization that when teaching virtually "less is more." A challenge that I faced in regards to student assignments and activities was that we were introduced to so many programs, websites, and resources and I wanted to or thought that I had to use them all. There was just so much. It was difficult to decide which resource would best lend itself to that particular lesson. As far as challenges facing feedback, I never really knew, or still know for that matter, if students even read the feedback I provide them on their assignments. This leads into the challenges of student understanding. It is difficult to sit one-on-one with a student virtually to really engage in a conversation about their learning. The times when I have attempted to conference with students in breakout rooms, I lost the engagement of the students who are still in the whole-group. Not being in a physical space withe my classes certainly put up a barrier in me truly determine their understanding

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Prompt 3: How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.

Every one of my lessons is set up with a PowerPoint lesson. At the beginning, there is a slide that outlines the learning goals of the day. We read these goals together and as we progress through the lesson, I address which goal the activity aligns to. In addition, I used a 'star' symbol on the slides that describes an activity that is graded so that students know that this is

something that must be done in order to receive that grade. Students have shared with me that they like when they see that 'star' because it indicates to them that it is a priority and they must focus. Also, each Friday I send out an ELA Newsletter to families that outlines our work for the following week. This newsletter is also posted in each of my Schoology pages for reference at any time. Last, each of my classes ends with a 'warm-up' and a 'cool-down." These both allow me to set the focus for the each lesson and determine what they learned at the close.

Prompt 4: What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?

The evidence of student learning varies from day to day. I use Schoology and Classkick as my primary tools for daily activities. ClassKick is a great tool for you to observe and monitor work/engagement in real-time. It is the closest I can get to replicating working one-on-one with a student. ClassKick also allows students to use active reading strategies. They are able to highlight and annotate just as we would in the consumable workbooks. ClassKick also allows students to work with one another in Breakout rooms and collaborate on assignments. I encourage my students daily to participate in discussions. Some classes are comfortable with being on camera on speaking with their mic. However, one class in particular, participates solely in the chat. While this is not what I prefer, they have been able to have highly engaged conversations all while typing in the chat. Also, my daily warm-ups and cool-downs are an effective and consistent way of them being able to produce evidence of their learning at the start and end of every class. I have the students complete at least one activity every day to monitor/track their understanding. It also keeps them accountable to the learning community.

Prompt 5: During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.

To assist students in self-assessment and self-regulation I enable the features that are available in both ClassKick and Schoology to promote this. In ClassKick, you are able to have assignments self-grade this allows students to receive immediate feedback. They can then choose to go back and correct, fix, or add on to responses to improve their score. In ClassKick, I set every assignment to allow at least two submissions. If it is an auto-corrected assignment they can see their score at submission. If they are not happy with their score they are able to make an additional attempt if they want. Or, if it is a submission that I provide feedback on, they are able to revise their work reflecting the feedback I provided.

Prompt 6: If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?

The same students consistently used the strategies available to self-assess and self-regulate. They would always take the opportunity to improve their score or feedback. However, I would

say that this was less than 50% of my students. To help them better manage this, I think I would set the "student completion" requirements available in Schoology. This would require that a student must receive a minimal score before it being submitted for a grade. They would be "forced" to redo an assignment until they earned the minimal score required.

Prompt 7: Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

While teaching remotely, we gave students the Unit formative assessment provided by the curriculum we use. This assessment is available through the curriculum website but it did not consistently work well for all students at home. It was difficult to explain to students how to trouble-shoot and navigate the website. This resulted in me having to recreate each of the assessments in Schoology so that they could still be formatively assessed without the frustration of the website. A huge obstacle in administering any formative assessment was time and validity. Time was an issue because some students would zip right through the test and not putting forth their best effort. They just clicked through to be done. On the other hand, some kids would get distracted and not focus on the test. While others would really focus on the test and take their time and needed several days to complete them. Without being able to provide an appropriate testing environment, assessment that should have taken no longer than a class period or two, it would take up to a week or more to get everyone completed. The obstacle of test validity also comes in the consideration. Without being properly monitored, students can look up any answers/terms to help them on the test. So, when we are analyze the date is it an accurate reflection of their learning or their Googling skills?

Prompt 8: How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?

One of the most significant benefits that came out of virtual learning was communication between me and my students. They knew that that had access to me basically 24/7. I had many students who would reach out to me through Teams or Schoology messages to ask for clarification or help on assignments. These are students who may not have asked during in person learning because of the fear or hesitation of asking in front of their peers. However, any questions or confusion they may have had could be addressed privately between them and I. On several occasions, I had one-on-one Meet calls with students who needed further help or may have missed a class or lesson. This is not something that always "fits" into the day during in person learning.

Prompt 9: How well were you able to improve student understanding during remote learning? How does this compare to in person learning?

I certainly have seen some growth in some students. However, it does not come close to what we could have accomplished to in person learning. I have said to both my students and parents several times throughout the year when they/we have experienced frustration, "I did

not sign up to be a virtual teacher and you did not sign up to be a virtual learner." I think we all did the best we could given the situation we were dealt with. However, I do think as the year went along I got better at it as did the students. As I stated earlier, with virtual learning "less is more."

Prompt 10: How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?

I learned that providing student choice when possible was essential to increasing self-regulation. When students had a 'say' in how they demonstrated their learning they were much more likely to engage and put forth good effort. Providing multiple opportunities also increased the likelihood that they would complete assignments. Also, giving clear expectations and deadlines, helped to hold them accountable. They know that I stick to my deadlines for assignments and if they miss a deadline, there is no extension. This is all much easier to do during in person learning because I can be more confident that students are even present to hear what is being delivered. I still have a lot to learn about teaching remotely but certainly plan to implement things I have done even when we full return to in person learning.

Summary of Responses from Participant Three

Prior to the impact of COVID-19 Participant 3 planned lessons "with *the end in mind*". To do this, Participant Three relied on the district curriculum manual and pacing guide to set the lesson plans for each week. Included with the district curriculum are unit assessments that address all topics covered in the units. Units are broken into three cycles, each beginning with whole group learning, then moving to small group instruction, and ending with independent instruction. Prior to COVID-19, Participant Three had students complete work from the district curriculum manual and was able to keep pace with it to accomplish daily and weekly learning goals.

Once the COVID-19 pandemic forced instruction online, Participant Three attempted to employ the same planning process used prior to the pandemic. However, Participant Three recognized it was no longer a feasible way to plan lessons, now that instruction had completely moved online. Participant Three noted that prior to online instruction, students were typically

students able to accomplish multiple tasks from a daily agenda and this was no longer possible. This had an enormous impact on Participant Three who reported "*This led to me feeling defeated and that I was not meeting my student's needs. I was feeling overwhelmed, I was sure that they [students] were too*". Another obstacle Participant Three mentioned was that teachers were introduced to a plethora of online programs and resources and this onslaught of new resources without experience with them made it difficult to decide which to use, "*it was difficult to decide which resource would best lend itself to that particular lesson*".

To enable students to understand what they were expected to learn each day, Participant Three provided students with a learning goal and connected the lesson's activities to the appropriate learning goal. This was communicated digitally via a PowerPoint presentation shared with the students. A star symbol placed on a PowerPoint slide indicated a graded activity in order to inform students which activities would impact their grade. Participant Three reported that many students liked this structure and information. This participant incorporated Warmups and cool-downs were in the lessons. Students were instructed to complete most assignments were completed using the online programs of *Classkick* and *Schoology*. Participant 3 noted that *Classkick* helped with the observation of student work and allowed students to use the active reading strategies of highlighting and annotating. Participant Three felt that being able to employ these strategies within *Classkick* was close to replicating in person instruction. Participant Three also mentioned being able to have highly engaged discussions using the meeting chat during the lesson.

To push students to self-assess and self-regulate, Participant Three employed the self-grade feature in *Classkick* since it allowed students to see what was incorrect and then gave students two attempts to turn in assignments. Participant Three reported that this enabled them to

provide immediate feedback on some students' work. This feedback was not possible for all students. Participant Three explained "*less than 50% of my students*" used the opportunity to improve their grade. Participant Three also used, *Schoology*, a program that has a student completion feature that forces students to meet a minimal score to be able to move on or submit an assignment.

To assess student progress, Participant Three relied on the "*Unit formative assessment*" provided by the district curriculum. The website that housed these assessments was not easy to use, and Participant Three reported having to recreate the assessments on the *Schoology* platform. Online assessments were challenging for Participant Three who stated, "*A huge obstacle in administering any formative assessment was time and validity*". Time was an issue because some students would hurry through the assessment and not put forth effort, while others would take days to complete it. The evidence those assessments rendered were troubling for Participant Three who questioned their validity because students were unmonitored while taking assessments and could possibly search for and copy answers online. In addition, Participant Three noted that it was difficult to determine student understanding since students were not in the classroom.

One benefit described by Participant Three was that now students had access to teachers "24/7" and that this created more opportunities for shy students to ask questions that they may not have asked in a normal class setting. In addition, students could ask questions at any time of the day, when before they were constrained by the normal school schedule.

Participant Three explained that there were instances of observable student growth but qualified it by saying "*I certainly have seen some growth in some students. However, it does not come close to what we could have accomplished to in person learning*". Participant Three

reported that the experience of remote teaching and learning was frustrating for students and teachers and found it necessary to explain the situation to students by telling them "*I did not sign up to be a virtual teacher and you did not sign up to be a virtual learner*" and that they "*all did the best we could give the situation*".

Regarding opportunities to improve student self-regulation, Participant Three explained that student choice, along with clear expectations and deadlines. helped hold students accountable but added "*this is all much easier to do during in person learning because I can be more confident that students are even present to hear what is being delivered*". Likewise, Participant Three also viewed the lack of in person contact as an obstacle for measuring student understanding.

Participant 4

Participant Four provided the following responses to the 10 prompts, The verbatim responses are italicized. Following the verbatim responses, there is a summary analysis of Participant Four's report.

Prompt 1: How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?

I, prior to the pandemic and in a normal classroom setting, am confident in my ability to plan effective instruction for all scholars. In a normal setting, I'd use ongoing data and assessments to plan, deliver and respond to scholars' needs in all aspects of their learning. Their growth was evidence that my planning and instruction was effective.

Prompt 2: What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices.

The challenges were numerous. At the very basic level, attendance alone hindered my ability to instruct effectively and assist scholars with their learning in this remote setting. Without knowing scholars and having relationships with them, without being able to properly assess where they were as they entered our class and their progress online, it became difficult to instruct the way I would within a normal classroom setting. I relied mostly on a website called Classkick which provided me a place to plan, assess, and provide feedback to scholars, but I

also felt very limited in what resources would actually work and be beneficial for the scholars. Again, just getting our scholars logged in and working was a challenge, so truly using data to inform instruction and responding to scholars' needs on a personal level became almost non-existent unless they were reaching out to us with questions/concerns.

Prompt 3: How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.

I used Classkick to instruct. The learning goals, standards, and essential questions were shared at the beginning of each task/lesson. Each task provided had these items included on their first and/or first and second slides.

Prompt 4: What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?

With respect to our Math classroom, scholars were instructed and then expected to implement Close Reading strategies of our word problems. They were to show their work using the Classkick tools (text boxes, audio clips, pen tools, etc.) to demonstrate their working through the problems.

Prompt 5: During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.

In the remote setting, we would come together as a group, or utilize breakout rooms to share out answers/responses. We also had a minimal data tool for their personal data. In the classroom, this would be much more extensive. Online, it was a challenge.

Prompt 6: If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?

I feel this is an area, had we been more prepared to teach online, that would have been drastically different. I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies were left behind.

Prompt 7: Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

I In a normal, non-pandemic year, I would use a variety of formative assessment strategies; the most frequently used strategy would be simply progress monitoring as scholars would work both independently and within small groups while completing their math tasks. I would also have used online resources such as Edmentum, Study Island, Quizizz, Kahoot and other online (quick) formative assessment sites. I would also use entry and exit slips to monitor

scholar learning. This year, the majority of the first few months of class was trying to get scholars attendance improved. The focus shifted from getting scholars learning, to literally messaging families during the usual "opening" just to get their child online due to being fully remote. Then, once attendance improved, I began to try and build better relationships with my scholars, which would have been more natural in an in-person setting. It felt as if the first months of school were dedicated to doing things that would have been very routine in a normal school year without instructional time lost. However, in this setting those logistical issues impeded learning. So, the tool I found to formatively assess my scholars was Classkick. This website allows me to create, monitor, and provide immediate written and or audio feedback to scholars as they work. It also provides me an easy way to view all scholar work in a class view – which makes it easy to see who is and is not accessing the work in real time. This has been extremely useful in both the full-remote and hybrid model.

Prompt 8: How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?

Being remote, it is much more challenging to support scholars with Math. Their access to reliable technology, calculator tools, and being available to only one scholar at a time for questions versus being able to move around a classroom was a challenge.

Prompt 9: How well were you able to improve student understanding during remote learning? How does this compare to in person learning?

My scholars' data is drastically different comparing online learning to that of a normal classroom setting. In normal years, the growth data of my scholars would be high, this year, their scores have remained steady, or decreased overall.

Prompt 10: How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?
Feedback overall became a challenge simply due to the nature of online learning. I was able to use feedback in Classkick, but I do not feel it was at all compared to what could have been provided in a normal classroom setting.

Summary of Responses from Participant Four

Prior to the impact of COVID-19, Participant Four planned lessons by using "*ongoing data and assessments to plan, deliver and respond to scholars' [students'] needs*". Participant Four found this to be a process that promoted positive student growth. Once the pandemic forced teaching online, Participant Four felt that attendance student became a big obstacle and

diminished the ability to properly assess students. Not being able to properly assess, made it difficult to instruct the way that was common for Participant Four prior to the pandemic.

Participant Four used the online program *Classkick* for a majority of instruction since it, enabled ways to *"plan, assess, and provide feedback to scholars [students]"*. Participant Four also used *Classkick* was also used to communicate *"learning goals, standards, and essential questions"* at the beginning of the lesson.

Participant Four instructed students to complete the majority of their assignments in *Classkick* since the program allowed students to show their work by *"using the Classkick tools (text boxes, audio clips, pen tools, etc.)"*. Students were expected to use close read strategies for any word problems they encountered.

Participant Four reported feeling ineffective in regard to promoting student self-assessment and self-regulation, *"I feel this is an area, had we been more prepared to teach online, that would have been drastically different. I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies were left behind"*. Participant Four attempted to enhance student self-assessment and self-regulation during times when students could gather as a whole group or break into smaller groups in separate online meetings to shared answers and responses. However, Participant Four noted that students had insufficient personal data to use to assess themselves because of the obstacles present in online learning and this diminished the impact of their group discussions and information sharing.

Participant Four explained during a normal year they would employ a variety of formative assessment strategies. However, due to the circumstances of online learning, Participant Four found it most appropriate to formatively assess students using progress

monitoring while they worked independently. Participant Four use several online programs along with *"entry and exit slips"* were to aid in formative assessment. Participant Four explained that formative assessment could be done through *Classkick* by giving the student immediate written and/or verbal feedback while the student was working. Participant Four identified time as a major obstacle to formatively assessing students since things that would be "routine" in a normal school year took a lot more time. For example, Participant Four noted that it took time away from the teaching learning process just to assist students with logging into class.

According to Participant Four feedback delivery quality feedback to students was a serious challenge due to unreliable technology: "*I was able to use feedback in Classkick, but I do not feel it was at all compared to what could have been provided in a normal classroom setting"*.

Finally, Participant Four concluded that typical student growth changed drastically during COVID=19 teaching and put it this way, *"In normal years, the growth data of my scholars would be high, this year, their scores have remained steady, or decreased overall."* Participant Four did not provide a causal explanation for the conclusion.

Participant 5

Participant Five provided the following responses to the 10 prompts, The verbatim responses are italicized. Following the verbatim responses, there is a summary analysis of Participant Five's report.

Prompt 1: How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?

Lesson planning has been an ever evolving process as I have moved along in my career. Previously, I had a grade level science partner that I would plan weekly lessons, quizzes, summatives and projects with. Currently, I have a pacing guide with district curriculum. However, I find myself using pieces of that and then supplementing based on student needs and understanding. I do a lot of reflection in lesson planning so that when I go to teach the lesson again I have notes to help guide changes or highlight student misconceptions etc. I also have the ability to talk with the 6th and 7th grade science teacher about ideas for lessons. Prior to COVID-19, I had a fairly high level of confidence in both my ability to plan and my delivery. As mentioned before, I would make changes as needed year to year, but also would tweak things in-between classes if needed. My instruction is data driven so having the ability to be flexible in my planning has always been key for me.

Prompt 2: What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices.

As far as instruction goes, it really felt as though I was starting from scratch. I had quite a few resources online, but they were all through google/ google classroom. I had to teach myself how to teach online, while at the same time, teach my students how to use their devices and various features as well as have them learn content. I also found myself teaching to a few faces, but mostly computer icons. Prior to this, I didn't realize how much non-verbal feedback I got just from looking at students (are they engaged in what I am saying, do they look confused, do they look as though they want to ask a question/ contribute to the discussion, are they awake?!?!?) I have come to rely on the chat feature of teams to try and help me in that regard. It has also been very challenging not being able to have labs in which the students are able to experience "science" in a hands-on way. I have used the simulations on GIZMO as often as possible- but building a circuit online isn't the same as building one in the classroom. As a result, I have found myself trying to find any and every way I can to try and help encourage engagement with the material. Assessments are one of the areas that hasn't really been impacted by COVID-19/ virtual learning. I still give a weekly quiz about what we have been learning that week in class. I have daily warm-ups and exit slips to give me real time data about how my students are doing with our daily lesson. I continue to chunk down our large units (currently in science, the way our curriculum is written students only have 3 summative unit tests) into more manageable unit summative assessments for my students.

Prompt 3: How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.

Every day students check in to class by putting their name in the chat for attendance and then start on the warm-up. About half-way through the second 9 weeks I started adding our "I can... " statement to the daily warm up to try and help students "see" what they would be learning that day. I also do an agenda in the chat as well as give a verbal agenda. I started out the school year with a daily powerpoint slide that outlined the agenda and I can, but I found as we progressed, that it took up too much time to go over the slide, then the warm-up and then get them started on the lesson.

Prompt 4: What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?

*One of the activities that I had the most success with online was having students do a written and illustrated unit dictionary. This activity had students write the definition of the vocab word, use it in a sentence to show context and create a unique illustration of the word. This vocab skill was also supported online using quizlet.com. I do a lot of writing in science usually, but being online and limited with what labs we could do, I found myself using a lot more writing based assignments. I have found that students are able to show mastery by writing what they know about a topic or can gain mastery when asked about a topic. I use the "RACE" writing strategy to help students organize their paragraphs as well as the "Say-Mean-Matter" organizer. *If you need more examples or for me to go more indepth- let me know!*

Prompt 5: During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.

I do give students strategies and time to self-assess their learning. My summative assessments and weekly quizzes are set up so that questions are aligned towards learning targets we have used during the unit. Once students take the assessment, they then self-reflect on how they did (survey) as well as what targets they need to go back and identify what areas challenged them. Students can then do a variety of re-teaching activities (based on that target) and can re-do the specific part of the assessment to show mastery. We do goal setting for their MAP tests as well. I also teach students to advocate for themselves. I establish routines and a classroom environment that make students feel they are able to ask questions. I use positive praise (excessively) when students ask questions at the beginning of the year to help facilitate this. I also teach students to rely on their peers for support first. However, in the virtual space I very seldom let students work in small groups/ breakout rooms because I was too afraid that misconceptions would occur (students would misinform each other and I wouldn't hear it to catch it in time etc). For students that are accelerated, I have additional learning opportunities for them to engage in. However, I have found that being online, even my most motivated students are not up for being online any longer than they have to. In the traditional classroom setting, I usually have students doing extra learning for the majority of lessons.

Prompt 6: If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?

Overall, I think I did a good job of letting my students self assess themselves. I think I do a better job when we are in the classroom, but that is mainly because of the amount of time everything takes online. For example, what is meant to be an engage activity in the traditional classroom setting that lasts for 15 minutes takes an entire class period in the virtual setting.

Prompt 7: Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

I am constantly using formative assessments in the classroom. Initially, when we switched to virtual learning, I had to take time to figure out what my strategies would look like in a digital setting. My students were all very comfortable using the chat (I would say that was their preferred method of communication) so instead of asking for oral responses, a lot of my formative checks became chat features. I would do "thumbs up", "thumbs down" in the chat if you understand. Occasionally I sub that out for emojis or numbers. I also have it set up that if students don't feel comfortable sharing in the class chat, they can send me their response to our 1 on 1 chat. I have warm-ups and exit slips to help me gauge their learning. I also use blooket, gimkit and quizziz to help me "see" what my students are learning and what they are struggling with. One obstacle I did encounter was not being able to see my students. I did not realize how much I used physical signals in my room to help me assess.

Prompt 8: How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?

I did not really encounter this specifically. What I did get occasionally was "why do I have to know this?" (in various iterations) I don't think my response changed for our online format except I tried to add some more humor. My response is pretty uniform, I circle back to how the lesson fits into the bigger picture of what we are learning about. If that doesn't appease them and they continue I add on "just in case you have children or nieces/nephews that ask you this question you can answer it. New to this year I have said "if we are ever in a pandemic again and you have middle school kids with questions, you'll be able to help them".

Prompt 9: How well were you able to improve student understanding during remote learning? How does this compare to in person learning?

*The remote setting and all of the obstacles we have faced enabled me to take a step back from the push to teach ALL of the curriculum to being able to teach most of the curriculum and do it well. When I say "well" I mean that I am able to take as much time as needed to have all my students achieve a 90% mastery of the material we are leaning about. For example; in our WAVES unit- instead of getting through everything in 8th grade science about waves I focused instead on the 2 main types, how they interact/ behave in our environment and the EM spectrum. *I will add to this once I have my MAP data if you think it would help*

Prompt 10: How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?

In the day to day, I think my use of feedback is stronger in person. I can look at exit slips and do a quick one on one re-teach with that student before they leave if I needed to. Online, there are times that it takes my students 10 minutes to turn in their exit slip or they turn it in after

they leave the meeting in which I can't address it immediately. In the bigger picture (quizzes/ summatives) I use the data I get class to class to drive what those look like which didn't change with the mode of learning.

Summary of Responses from Participant Five

Prior to the impact of COVID-19, Participant Five used a lesson planning process that was described as *"ever evolving process*" since it relied on self-reflection to make the necessary changes from year to year and "tweak" things in between classes. Participant Five employed the pacing guide along with supplementary materials provided with the district curriculum to enrich lesson planning. In addition, Participant Five reported meeting regularly with the other teachers of the same content to discuss and brainstorm ideas.

Once the pandemic forced classes online Participant Five said, *"it really felt as though I was starting from scratch…I had to teach myself how to teach online, while at the same time, teach my students how to use their devices and various features as well as have them learn content".* Participant Five described needing to see the students and mentioned the contribution of *"non-verbal"* feedback to monitor the success of a lesson. Participant Five was able to find an online program that allowed students to do online simulations such as building a circuit. However, Participant Five felt those did not rise to the same quality experience for students that was possible during in person learning.

Participant Five reported not having to change much in regard to assessing during online learning. The adaptation that worked for Participant Five was chunking larger unit assessments into more manageable units along with giving weekly quizzes.

To communicate to students what they were to learn each day, Participant Five provided *"I can statements*" but did not implement this strategy until the second nine weeks. Participant

Five did not provide a reason for implementing the "*I can statements*". Participant Five put a daily agenda in the meeting chat and read it verbally to students. However, Participant Five noted that going over the agenda during the lesson came to be too time consuming. One activity that Participant Five found to be successful, was having students complete a *"written and illustrated unit dictionary"* This allowed students to define words and create an illustration for those words. In Participant Five's estimation, writing assignments were the best way to allow students to show their mastery of a given topic in the online environment.

Participant Five employed weekly quizzes and summative assessments that were tied to the learning targets to assess student learning and understanding. Once students received their assessments results, students were required to self-reflect on their scores, determine which learning targets they needed to revisit, along with identifying areas that challenged them. Using their self-assessment, students were then required to complete a *"variety of re-teaching activities (based on the target)"*. Participant Five gave students multiple opportunities to complete assessments. Lastly, students were asked to set goals for a district wide assessment called the *MAP* test.

While discussing formative assessment, Participant Five reported constantly formatively assessing students. For example, Participant Five described a quick in the moment formative assessment that asked students put a *"thumbs up" or "thumbs down"* in the meeting chat as a way to check for student understanding. Furthermore, the participant used a variety of online programs that allowed the students to show their understanding, when playing games or taking quizzes. The participant described that when it came to assessment *"I did not realize how much I used physical signals in my room to help me assess"* again finding it difficult to evaluate students without seeing them.

Another obstacle discussed by Participant Five centered on the use of self-assessment and self-regulation strategies. Participant Five found that it was difficult to implement these effectively, due to time constraints and how much more time it took to do things online.

Lastly, Participant 5 mentioned two additional obstacles connected to teaching during COVID-19. First, the participant was unable to cover the entire curriculum, and instead began to aim for teaching most of it at a higher level of mastery for the students. And finally, Participant Five felt teaching online made delivering quality feedback more difficult, explaining that in person if a student made a mistake on an exit slip, Participant Five could quickly reteach. Doing this same thing online, however, means it took longer to receive assignments like exit slips, so it made timely reteaching much more difficult.

Participant 6

Participant Six provided the following responses to the 10 prompts, The verbatim responses are italicized. Following the verbatim responses, there is a summary analysis of Participant Six's report.

Prompt 1: How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?

When creating a lesson, I would look at the curriculum provided by the school district. I would then take the concept or idea and adapt it to the needs of my students. Ensure, that I differentiated instruction to students. I had students have their own binders that organized their work (warmups, worksheets, tests, etc.). At the beginning of each class, I gave a warm up question they would have to put into their binders. The warmups often had a question pertaining to a prior class or pertaining to the class that day. After going over the warmup, I would then give instruction that I try to change up often to help keep kids interested in lessons (using projector, hands-on instruction, science labs, technology use, etc.). I had great confidence in my ability to present any science related information to my students and I believed I had a process that both catered to my students as well as helped me be consistent as an educator.

Prompt 2: What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices.

There were many challenges to delivering remote lessons. During instruction it was extremely difficult to see if students understood or were paying attention at all. With their ability to turn off their cameras, it was very possible that students were not fully engaged in the lesson. I had check ins throughout, whether through websites or the Teams chat but it still did not guarantee they were 100% listening. Student assignments also had their challenges. It was not as easy to get students to ask questions about their work and understanding. When working on assignments, some websites we used did not always have access to the work while students were working to allow me to see the work myself until they submitted it. Student feedback was extremely difficult. There was the ability to add feedback on websites were most assignments were. However, it was hard to see if students had read the feedback. I could give the student advice on how to complete the assignment through Teams messenger but could not verify if or when they saw my comment. And I could call the students individually to help with specific questions but it was often a dragged out process to call them, have them answer, share the screen, then for me to give feedback in a reasonable amount of time. It was difficult to get students to participate and verify their understanding of the work in class. They can, at times, completely opt out and just not answer your question. And as a teacher virtually, it was impossible to tell if it was because they did not understand, were mad you called on them, their tech was bad, or they had walked away from the computer. During Assessments, it was extremely difficult to tell if students were actually getting their information from themselves or looking at google or other sources for help. I couldn't "lock" screens or have all students turn on cameras. And even if I was able to have them turn on cams, there was no reasonable way to tell if they were working on the assessment or searching online for the answer.

Prompt 3: How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples.

Every class I did a warm-up. Then after the warmup, I would always go over the day's lesson with the students. I would often share my screen to go over the different websites we were using, how to get to them, and then go over a little of the assignment. I would then have a power point with the instructions of what I had explained up on the shared screen for students to refer back to or refer to when they came back to their computer from a "break".

Prompt 4: What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?

I truly tried to find every different interactive website I could find to help deepen understanding and produce evidence. I had Nearpod which was a website that allowed for Powerpoints that had interactive slides that students could input answers to questions for instant feedback. There are websites for students to complete worksheets where I could watch their work in live time, like Teachermade, Classkick, and Onedrive. There were review websites that go the students interested in competition during their learning like Blooket, Quizziz, Gimkit, And Quizlet. All of these websites were often live time feeding you data on your students progress.

Prompt 5: During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not.

I have often allowed students to use the online resource from our curriculum. The students can access the textbook and use it to check answers and understanding. In the past, I often had students work together to self-assess and online learning was not conducive to that.

Prompt 6: If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?

They did not manage them very well. It was difficult for students to focus and complete their work. It was extreme hard to have them go back and correct or assess their own work. In-person, this was a lot easier to have that you could do on the fly and add as an extension to your work. However, online this was something that had to be additional, with an additional assignment or website to go to in order for me to even tell they self-regulated.

Prompt 7: Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess.

Yes, I was able to formatively assess my students through the schoology website. It provided the ability to set up assessments in many ways. However, it is extremely difficult to determine if students were coming up with their own answers or ones they search for online. I found myself trying to phrase questions different to disallow students to copy and paste them into google to find the answers.

Prompt 8: How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?

I did not think it was all too difficult to explain to students what they were suppose to be learning during a lesson. It was often very similar to what we were supposed to be learning in person. However, the "vehicle" to which I was presenting the information and how the students would be verifying their learning was astronomically different.

Prompt 9: How well were you able to improve student understanding during remote learning? How does this compare to in person learning?

I think I was able to improve student understanding well during remote learning. When considering it was during a pandemic, doing teaching virtually (which I nor the students had ever done), and using technology none of us had used very much, I believe I did a great job at improving student understanding. Now, in comparison to a normal school year in person? No, it was not the same. Some students thrived online and did better than they had ever done in

person. Many students did significantly worse online than in person. In the end, it is difficult to make a broad statement overall. However, I believe students improved their understanding better than I could have ever imagined virtually, but it still does not compare to in person.

Prompt 10: How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?

It was not as easy to provide feedback and feed forward than when in person. In person, I can walk around my room and provide individual feedback for each student on a one-on-one level. Online, I was able to see everyone's paper, but to then give instant feedback was not so instant. I would have to call the students virtually to talk one on one. I would have to wait for them to answer my call, then have them share their screen, then go over the work with them. It does not seem like much but in the scheme of things it took a long time to do and was very difficult to get through more than a couple of students before class was over. Where in class, I could point to questions and instantly start giving feedback in real time.

Summary of Responses from Participant Six

Prior to the impact of COVID-19, Participant Six used the district curriculum to guide the lesson planning process. Participant Six would both adapt the curriculum and use differentiation to meet the various needs and ability levels of the students. To maintain student engagement, Participant Six made sure to *"change it up"* using a variety of instructional techniques and had students keep their materials in a binder to aid with organization. Prior to COVID-19, Participant Six was highly confidence in their ability to teach their content in a way that helped students.

When the pandemic forced instruction online, Participant Six struggled to determine students' level of engagement explaining *"it was extremely difficult to see if students understood or were paying attention at all"* especially since many student cameras were off. *"It was not easy to get students to ask questions about their work and understanding".* Participant Six even tried embedding check-ins during lessons to gauge student engagement.

To communicate what students were to learn during the lesson, Participant Six would start with a warm-up, then describe the lesson, explain the websites the lesson would use, and explain some of the assignment. Participant Six provided students with access to a PowerPoint

that contained the directions that they could access during class if they needed to refer to the directions.

Providing quality feedback that students could use to move their learning forward became a challenge for Participant Six. While the participant did not view it as challenging to deliver feedback on assignments and over online programs, Participant Six did find it difficult to see the impact of the feedback. At times Participant Six was unsure if students even read the feedback. Giving individual feedback to students in the moment during class, proved to be even more difficult. *"I could call on students individually to help with specific questions but it was often dragged out process to call them, have them answer, share the screen, then for me to give feedback in a reasonable amount of time".* In addition, Participant Six noted students often chose not to participate or complete assignments and found it difficult at times to decipher the cause for these student actions.

When discussing student self-assessment, Participant Six explained that students were directed to use the textbook to check their work. Participant Six explained that in the past, students would work together to self-assess but said *"online learning was not conducive to that"*. Participant Six reported that students did not manage the process well and that trying to do use the group self-check became cumbersome. Participant Six felt that encouraging student self-regulation strategies would require another assignment or website.

Assessment was another crucial area found to be hindered by the move to online learning. Participant Six found that formative assessment could be done through the online program *Schoology*. However, with formative and other assessments, Participant Six was concerned about the validity of student answers.

In conclusion, while Participant Six reported doing a good job improving student understanding, considering the circumstances, that improvement was not the same as it was during in person learning. Yet, Participant Six mentioned that online instruction did benefit some students, but the majority of students did far worse. One reason given was that not having students in the classroom, made it more difficult to give feedback in the moment and monitor students.

Comparison of the participant responses by prompt

The second level of analysis compared the responses of individual participants by prompt. The analysis led to conclusions drawn from the comparisons. The findings of the comparisons are presented in order of the prompts in the tables that follow.

Table 4.1 presents each participant's responses to the first prompt.

Table 4.1: Responses of Participants to the prompt "How would you describe your lesson planning and delivery process, and your confidence in that process, prior to COVID-19?"

Participant	*Response*
P-1	*Before COVID, I planned my lessons based on a roadmap provided by the district. I supplemented with worksheets and activities that I found online.*
P-2	*I would describe my lesson planning and delivery process as evolutionary. I would plan lessons and continually re-work them in ways I thought would increase understanding and growth as I encountered the unexpected during teaching.*
P-3	*Prior to COVID-19 my lesson planning consisted of sitting down with my curriculum manual and pacing guide and mapping out the next week of instruction.*
P-4	*In a normal setting, I'd use ongoing data and assessments to plan, deliver and respond to scholars' needs in all aspects of their learning.*
P-5	*I have a pacing guide with district curriculum. However, I find myself using pieces of that and then supplementing based on student needs and understanding*

P-6	*When creating a lesson, I would look at the curriculum provided by the school district. I would then take the concept or idea and adapt it to the needs of my students.*

As Table 4.1 shows there were some similarities in the way the participants planned their lessons prior to COVID-19. Four of the participants (P-1, P-3, P-5, P-6) mentioned that they used the district curriculum in their planning. Four of the participants (P-2, P-4, P-5, P-6) mentioned adjusting their plans based on classroom outcomes or data. Only one participant (P-4) mentioned using ongoing data and assessments to plan their lessons. All participants reported a general ease with and confidence in their lesson planning as routine. None of the participants noted difficulties with or obstacles to the planning process prior to COVID-19.

Table 4.2 presents the responses of each participant to the second prompt.

Table 4.2: Responses of Participants to the prompt "What challenges did you face planning and delivery remote lessons during COVID-19? What challenges were specific to the following: Instruction, Student activities/assignments, Feedback, Student Understanding, Assessment Practices."

Participant	*Response*
P-1	*A topic that would take one class period Pre-Covid takes two or three periods online. It was very challenging trying to adapt math work online.*
P-2	*Challenges included creating differentiated lessons of interest that met all students where they were. While the work was too hard for some, it was too easy for others*
P-3	*I quickly came to learn that what I was doing in my traditional classroom was not going to work virtually. I tend to over plan as it is. However, I was only able to get through one item on my agenda when I was prepared with three or four.*
P-4	*Without knowing scholars and having relationships with them, without being able to properly assess where they were as they entered our class and their progress online, it became difficult to instruct the way I would within a normal classroom setting.*
P-5	*I had to teach myself how to teach online, while at the same time, teach my students how to use their devices and various features as well as have them learn content.*

P-6	*They* [students] *can, at times, completely opt out and just not answer your question. And as a teacher virtually, it was impossible to tell if it was because they did not understand, were mad you called on them, their tech was bad, or they had walked away from the computer.*

As table 4.2 shows all six participants shared a sense of unease regarding planning lessons during the move to remote learning during COVID-19. Two participants (P-1, P-3) spoke about their inability to accomplish as much as they were previously able to accomplish during face-to-face, in school lessons. Three participants (P-2, P-4, P-6) expressed uncertainty confidently identifying students' needs. P-4 explained that not being able to assess students to use ongoing data hampered planning efforts.

The statement from P-5 seems to sum up the position teachers found themselves in during their forced move to planning for online teaching. What P-5 shared was that in addition to planning there was a need to self-teach how to teach online. It is important to note that although the prompt asked participants to describe obstacles related to planning lessons, providing feedback, increasing student understanding and engaging in assessment of student learning, nearly all participants (P-1, P-2, P-3, P-6) focused their responses on challenges to instruction and student activities with a general consensus on the obstacles to student completion of activities.

Table 4.3 presents the responses of each participant to the third prompt.

Table 4.3: Responses of Participants to the prompt "How did you communicate what students were supposed to learn and be able to do during the lesson in a remote setting? Provide specific examples."

Participant	*Response*
P-1	*I used an agenda to communicate what students were supposed to learn daily. I created a daily page in Schoology that had 1. A funny meme about the day of the week or about math 2. The topic covered 3. A list of activities 4. Announcements*

P-2	*Most of the time I told them directly, and opened my lessons with a daily agenda and set of objectives. I circled back to check for understanding.*
P-3	*At the beginning, there is a slide that outlines the learning goals of the day. I address which goal the activity aligns to. In addition, I used a 'star' symbol on the slides that describes an activity that is graded*
P-4	*The learning goals, standards, and essential questions were shared at the beginning of each task/lesson. Each task provided had these items included on their first and/or first and second slides*
P-5	*About half-way through the second 9 weeks I started adding our "I can... "statement to the daily warm up to try and help students "see" what they would be learning that day. I also do an agenda in the chat as well as give a verbal agenda.*
P-6	*I would often share my screen to go over the different websites we were using, how to get to them, and then go over a little of the assignment. I would then have a power point with the instructions*

As Table 4.3 shows, half of the participants (P-1, P-2, P-5) created an agenda to try and communicate to students what students were to learn that day. Two participants (P-3, P-4) reported sharing students learning goals for each lesson. Unfortunately, none of the participants provided examples of the shared agendas or goal statements so it is impossible to draw conclusions regarding their quality. P-3 reported that during the communication of learning goals, the goal statements were labeled to indicate for students which lesson assignments/activities would be graded.

Lastly, P-5 explained that they started using "I can statements" during the second nine weeks as part of their communication with students about what students were supposed to learn. Again, since P-5 did not share an example of an "I can statement" it was impossible to conclude the quality of the communication that P-5 provided to students using that format.

Table 4.4 shows the responses of each participant to the fourth prompt.

Table 4.4: Responses of Participants to the prompt "What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?"

Participant	*Response*
P-1	*With Classkick, I could see the students work in real time. I could set it up so students could automatically see if their answers were correct.*
P-2	*I asked students to demonstrate where they were in the learning by offering multiple bites at the apple....Take 1's, Take 2's, before finally giving assessments to demonstrate learning.*
P-3	*ClassKick is a great tool for you to observe and monitor work/engagement in real-time. It is the closest I can get to replicating working one-on-one with a student.*
P-4	*They were to show their work using the Classkick tools (text boxes, audio clips, pen tools, etc.) to demonstrate their working through the problems.*
P-5	*I found myself using a lot more writing based assignments. I have found that students are able to show mastery by writing what they know about a topic or can gain mastery when asked about a topic.*
P-6	*I had Nearpod which was a website that allowed for Powerpoints that had interactive slides that students could input answers to questions for instant feedback.*

As Table 4.4 shows most participants focused their responses on how students were asked to show their work or the nature of the assignments they designed for their students. No participant described the connection between what they assigned to students and how that assignment gave students an opportunity to produce evidence of their understanding. Three of the participants (P-1, P-3, P-4) mentioned using *Classkick* as their way of collecting student answers and work. P-6 reported using the online program *Nearpod.* Participant P-2 talked about giving students multiple chances to learn before giving the students an assessment. Participant P-5 reported having students write to show their mastery because the participant felt it provided more information about student understanding if the student had to write about the topic.

As with other responses to prompts, the participants shared only minimal details to support their statements and provided no specifics about how what they assigned students to do, say, make, or write was designed to deepen student learning, nor did the participants make any

connections to need to differentiate what certain students were asked to produce and how that would deepen learning for those specific students.

In the majority of the responses to this prompt, participants focused on the mechanics of the assignments (how the assignments were given and how students completed the assignments), rather than on how those assignments were designed to deepen student learning of the lesson's content. Participants (P-1, P-3, P-4, P-6) reported on the ways they used the technology to assign student work; or where or in what way students completed their work (P-2, P-4). Even though the prompt asked specifically about the connection between the work students were to produce and how that work would deepen learning, none of the participants mentioned how what they asked student to do, say, make or write was designed to deepen student understanding or how the student work would provide evidence of student growth.

Table 4.5 shows the responses of each participant to the fifth prompt.

Table 4.5: Responses of Participants to the prompt "During the lesson, did you provide strategies for students to use to self-assess and self-regulate their own learning? Please explain what you provided. If you did not provide strategies for students to use to self-assess and self-regulate their own learning, explain why you did not."

Participant	*Response*
P-1	*In Classkick, you can set up answer boxes. If the student's answer is correct, the box lights up green. I have the option to turn the answers on and off at any time.*
P-2	*I often created vocabulary "Takes" to help students chart growth and work toward mastery*
P-3	*In ClassKick, you are able to have assignments self-grade this allows students to receive immediate feedback. They can then choose to go back and correct, fix, or add on to responses to improve their score.*
P-4	*In the remote setting, we would come together as a group, or utilize breakout rooms to share out answers/responses.*
P-5	*Once students take the assessment, they then self-reflect on how they did (survey) as well as what targets they need to go back and identify what areas challenged them. Students can then do a variety of re-teaching activities (based on that target) and can re-do the specific part of the assessment to show mastery.*

P-6	*The students can access the textbook and use it to check answers and understanding. In the past, I often had students work together to self-assess and online learning was not conducive to that.*

As Table 4.5 shows, participants varied in the strategies that they perceived as successful in promoting student self-regulation and self-assessment. The lone similarity or pattern of agreement in Table 4.5 is that two participants (P-1, P-3) mentioned that they employed *Classkick's* self-grade feature to show students which questions students answered incorrectly. One participant (P-6) stated that self-assessment was not a good strategy for online learning. Normally, when asking students to self-assess, the participant directed students to work together and this participant felt the online environment was not conducive to collaborative work. Two participants (P-3, P-5) stated that they took steps to build procedures for students to examine and think about their progress.

One participant (P-5) had the most accurate description of ways to promote student self-assessment and self-regulation. This participant reported that they required students to engage in a self-assessment cycle that included being asked to "*take the assessment…self-reflect on how they did, (survey) as well as what targets they need to go back and identify what areas challenged them…then do a variety of re-teaching activities (based on that target) and…re-do the specific part of the assessment to show mastery".* While the wording P-5 used inferred that this was more of a choice than a "must do" cycle, this participant provided students with opportunities to perform self-assessment and self-regulation. Once again, because no examples were provided it is hard to conclude the impact or quality of this process, but the fundamentals are there.

And while all participants described some process to have students self-assess only one participant P-5 stated a process that was connect to students recognizing their progress or lack

thereof and taking steps to deepen their understanding of the content. Finally, as with other responses to prompts, no participant provided examples or descriptions of specific student self-assessment and self-regulation strategies.

Table 4.6 shows the responses of each participant to the sixth prompt.

Table 4.6: Responses of Participants to the prompt "If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?"

Participant	*Response*
P-1	*I think they were successful. If they got answers wrong, they were quick to ask for help.*
P-2	*The results were good overall, if somewhat tied to attendance. Those students who did not consistently attend could not actively chart their progress and were less inclined to monitor and/or be motivated by their progress.*
P-3	*The same students consistently used the strategies available to self-assess and self-regulate. They would always take the opportunity to improve their score or feedback. However, I would say that this was less than 50% of my students.*
P-4	*I feel this is an area, had we been more prepared to teach online, that would have been drastically different. I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies were left behind.*
P-5	*Overall, I think I did a good job of letting my students self assess themselves. I think I do a better job when we are in the classroom, but that is mainly because of the amount of time everything takes online.*
P-6	*It was extreme hard to have them go back and correct or assess their own work. In-person, this was a lot easier to have that you could do on the fly and add as an extension to your work.*

As Table 4.6 shows, participants held differing views on what it means for students to successfully employ self-regulation and self-assessment and what evidence from what the students did could be used to support this success. Overall, half of the participants(P-1, P-2, P-5) stated that their students successfully used these critical thinking processes and half of the participants (P-3, P-4, P-6) stated their students were not successful. What follows is an analysis of those perspectives based on statements in Table 4.6 as well as statements from the participants

in previous tables. The analysis begins with the participants who reported student success with the processes.

Participant one reported using the *Classkick* program to assign students work and relied on the self-grade feature of the program to inform students when their answers were incorrect (See Table 4.4). Participant one based their conclusion regarding the success of their students with self-regulation and self-assessment on if students asked the teacher for help when the student discovered an answer was incorrect by using the self-grade feature of *Classkick*. Participant one put it this way "*If they got answers wrong, they were quick to ask for help".* The evidence P-1 used focuses heavily on the inclination of the student to seek the correct answer by contacting the teacher, an action that promotes regulation from the teacher rather than evidence that demonstrates student self-assessment and self-regulation of their own work.

Participant two also stated that students were successful in self-regulation and self-assessment strategies. Participant two gave students multiple opportunities to demonstrate their learning of which they described "*I asked students to demonstrate where they were in the learning by offering multiple bites at the apple…. Take 1's, Take 2's before finally giving assessments to demonstrate learning"* (See Table 4.4). To aid in student self-regulation and self-assessment, the participant (P-2) used the "*Takes"* as a way for students to chart their growth. Participant two felt that student attendance allowed them to engage in the "Takes" opportunities and those opportunities promoted quality student self-regulation and self-assessment. Participant two stated "*The results were good overall, if somewhat tied to attendance. Those students who did not consistently attend could not actively chart their progress and were less inclined to monitor and/or be motivated by their progress".* It is difficult to determine the quality of student self-assessment and self-regulation based solely on this evidence since Participant two

did not provide examples of the "Takes", what was meant by students charting growth, and what critical thinking processes students would have to employ to determine their progress.

Participant five was the final participant who concluded that their students demonstrated success with student self-assessment and student self-regulation. Of the three participants who stated their students were successful, Participant five demonstrated the deepest understanding of these critical thinking processes and provided the most detailed response to the prompt. Participant five directed students to go back and reflect on their outcome once they completed an assessment. Once they reflected, students were asked to select and complete re-teaching activities. Participant five described the process this way "*Once students take the assessment, they then self-reflect on how they did (survey) as well as what targets they need to go back and identify what areas challenged them. Students can then do a variety of re-teaching activities*" (See Table 4.5). Participant five also indicated that technology was an obstacle to student self-assessment and self-regulation since the process of student self-monitoring took much longer to complete online. Participant five described a process that required students to reflect on how they did and then use that self-assessment information to identify what they did not understand. Based on that self-assessment, students then were able to choose and complete the reteaching activities. While Participant five provided more details without an example of the resources provided (the assessment, what students used to reflect on their understanding, and the nature of the re-teaching activities) it is difficult to determine the quality of the actual self-assessment and self-regulation strategies that the students employed.

Participant three reported mixed results regarding students successfully using self-regulation and self-assessment strategies. Participant three had students complete work using

online programs such as *Classkick* and *Schoology*. Participant three stated using the *Classkick* self-grade feature to provide students with immediate feedback. And, Participant three stated that they allowed students multiple chances to use the feedback from the self-grading feature to improve their score. Participant three based student success on evidence of the number of students that used the information from the self-grading feature to improve their scores. "*The same students consistently used the strategies available to self-assess and self-regulate*". However, Participant three stated that less than half of their students used the extra opportunities. Without an example of the original activity and what kind of information was provided by the self-grading feature, it is impossible to conclude whether students were using quality criteria to monitor and improve their understanding or if they were more focused on fixing errors in their responses.

Finally, two participants (P-4, P-6) stated students did not experience success in student use self-regulation and self-assessment strategies. Both participants (P-4, P-6) assigned students work using on online programs such as *Classkick*. Participant four shared that in their brick and mortar classroom they normally had students come together and share answers as a way to self-assess and self-regulate. Along the same line, Participant six stated they normally relied on students using the textbook to enable self-assessment and self-regulation strategies. Both participants (P-4, P-6) faulted technology as an obstacle that limited students from engaging in these critical thinking processes. Participant four described trying to master new online resources "*I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies were left behind".* While participant six felt it was difficult to get students to self-regulate and self-assess while online "*It was extreme[ly] hard to have them go back and correct or assess their own work*". It is not surprising that these

participants were more focused on mastering the new technology resources. The reality of COVID-19 is that teachers found themselves thrust into online-teaching, faced with platforms and resources that were unfamiliar, and the time required to get up to speed with these foundational issues, resulted in many teachers leaving more sophisticated instructional strategies behind.

While all participant provided responses that were vague, incomplete, and that lacked specifics and examples, their responses showed a wide variance in teacher understanding of what it means for students to self-regulate and self-assess to take ownership of their own learning and get themselves to understanding. And while specifically asked in the prompt, none of the participants offered their ideas on how students could manage those strategies better.

Table 4.7 shows the responses of each participant to the seventh prompt.

Table 4.7: Responses of Participants to the prompt "Were you able to formatively assess your students while teaching remotely? Please describe what you did, or any obstacles you faced while trying to formatively assess."

Participant	*Response*
P-1	*It was easy for me to find a 5-10 question quiz to see what students learned. Sometimes I would pick out the Quizizz beforehand and sometimes I did not.*
P-2	*The onset of apathy at given moments, lack of camera presence in class and the resulting lack of participation and engagement were at times major impediments to my ability to assess the class formatively.*
P-3	*A huge obstacle in administering any formative assessment was time and validity*.
P-4	*So, the tool I found to formatively assess my scholars was Classkick. This website allows me to create, monitor, and provide immediate written and or audio feedback to scholars as they work.*
P-5	*One obstacle I did encounter was not being able to see my students. I did not realize how much I used physical signals in my room to help me assess*.
P-6	*Yes, I was able to formatively assess my students through the schoology website. It provided the ability to set up assessments in many ways. However, it is extremely difficult to determine if students were coming up with their own answers or ones they search for online.*

As Table 4.7 shows, only two of the participants (P-1, P-4) did not mention any obstacles to formative assessment in their responses. Of which, a participant (P-1) relied on an online program to find and use short quizzes. The reliance on tests and quizzes were evident in the responses of other participants (P-3, P-4, P-5, P-6). Only half of the participants (P-2, P-4, P-5) describe strategies outside of testing for formative assessment. Most of those other strategies revolved around exit slips and thumbs up and thumbs down in the meeting chat. There is little to no mention of in the moment formative assessment among the responses, meaning most of the data gained from the discussed formative assessment strategies, came after the lesson was already over.

When examining the obstacles faced, one participant (P-3) found that time and validity were obstacles of which, another participant (P-6) found trust worthiness of their assessments to be an issue in their formative assessment of their students. The participants (P-3, P-6) that mentioned validity were concerned with where students were getting the answers for their assessments. This is noteworthy as "*validity"* is never brought up for any other type of assignment. It is concerning that there was no discussion of the difficulty of creating formative assessments that gave them valid data in the moment.

Not being able to see students was an obstacle brought up by participant (P-2) who found that student apathy and a lack of students with their cameras on, hindered their assessment capabilities. This was also a sentiment that was shared by another participant (P-5) who explains that they relied on "*physical signals*" to assess their students. To be able to assess one's effort both teachers and students alike need specific criteria to measure their work against. (Moss & Brookhart, 2015). Because this was missing in the lesson design and instruction, teachers shifted

the blame to cursory items such that they have no control of such as not being able to see students.

Table 4.8 shows the responses of each participant to the eighth prompt.

Table 4.8: Responses of Participants to the prompt "How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?"

Participant	*Response*
P-1	*It was very difficult to answer difficult questions. It was difficult to determine who needed help. Students often did not know that they needed help or did not want to ask for help. In class I could look over the shoulders of kids in class.*
P-2	*The questions about what we were doing seemed especially difficult after I THOUGHT I had explained and outlined things clearly. I found posting and re-posting our trajectory in the chat and referring to it in terms of what we had done and what we were going to do cut down on the "difficult" questions.*
P-3	*They knew that that had access to me basically 24/7. I had many students who would reach out to me through Teams or Schoology messages to ask for clarification or help on assignments.*
P-4	*Their access to reliable technology, [content specific] tools, and being available to only one scholar at a time for questions versus being able to move around a classroom was a challenge.*
P-5	*I did not really encounter this specifically. What I did get occasionally was "why do I have to know this?" (in various iterations)*
P-6	*I did not think it was all too difficult to explain to students what they were suppose to be learning during a lesson. It was often very similar to what we were supposed to be learning in person.*

As Table 4.8 shows, half of the participants (P-1, P-2, P-4) found answering student questions to be difficult, while half (P-3, P-5, P-6) did not perceive responding to student questions as a challenge. Of note, most of the responses provided, did not include relevant answers to explain how the participants addressed difficult questions. There seemed to be a varied definition among the participants as to what constitutes a difficult question which can be seen in the following analysis of the responses to this prompt.

The participants differed on their interpretation of what it meant to respond to student questions. One participant (P-1) focused more on the needs of the students with the

content/assignment stating that at times students did not realize they needed help or and other times students did not want to ask questions. Another participant (P-2) stated that most student questions were focused on the learning trajectory of that day, of which he attempted to prevent by reposting the trajectory. One participant (P-4) found that a lack of reliable content specific technology limited student ability to ask difficult questions. Additionally, this participants being struggled to navigate around to each student during the class period to answer their questions. While two participants (P-5, P-6) explained they did not find this difficult and one of those participants (P-6) even states this was similar to in person learning. A participant (P-3) took a different view pointing out that now students had more access to teachers to ask them questions. Meaning, now students had the technology to reach out to teachers at any time, no longer being limited to having questions answered only during class time.

While there was little to no discussion of actual difficult questions, some of the participants (P-1, P-4,) included how being online made answering questions more difficult. It is also noteworthy that many participants did not describe their experience with difficult questions in previous years, with the exception of one participant (P-2), who mentioned circulating the room to address common issues. Another highlight was that none of the responses included statements that addressed student questions focused on what they were supposed to be learning. Based on the responses, participants seemed to think that students did not understand how to ask difficult questions of their work which led to the misinterpretation of the prompt by the participants.

Table 4.9 shows the responses of each participant to the ninth prompt.

Table 4.9: Responses of Participants to the prompt "How well were you able to improve student understanding during remote learning? How does this compare to in person learning?"

Participant	*Response*
P-1	*In person is still easier but that may be because I am used to it. I am confident that I really improved remote learning honestly.*
P-2	*So, I say I BELIEVE I was able to improve student understanding because over time there were fewer questions from students about what to do and how to do it as their familiarity with the flow of exercises unfolded and became clearer.*
P-3	*I certainly have seen some growth in some students. However, it does not come close to what we could have accomplished to in person learning.*
P-4	*In normal years, the growth data of my scholars would be high, this year, their scores have remained steady, or decreased overall.*
P-5	*The remote setting and all of the obstacles we have faced enabled me to take a step back from the push to teach ALL of the curriculum to being able to teach most of the curriculum and do it well.*
P-6	*I believe I did a great job at improving student understanding. Now, in comparison to a normal school year in person? No, it was not the same.*

As Table 4.9 shows, many of the participants (P-1, P-2, P-3, P-5, P-6) had positive responses to this prompt. Of those, some (P-3, P-6) noted while they were able to improve student understanding, it was not to the extent of previous years. Building on that, one participant (P-5) explains that although they did not teach all the curriculum, what they did teach was done "*well*". Interestingly, another participant (P-4) was the only one to find that student understanding either stayed stagnant or decreased and was the only participant to mention data.

Many of the participants in their comparison to in person learning for this prompt, only explained that it was easier to improve student understanding in person, or that they could cover more content. Missing was any discussion of their belief in their ability to improve student understanding before the pandemic. Without that information, it is difficult to compare their mostly overall positive beliefs about their ability to improve student understanding during the pandemic. Along with that there was also a lack of evidence to associate these overall positive feelings, only one of the participants spoke to any kind of data, when discussing their positive beliefs. When speaking to the overall positive belief, those findings run in stark contrast the prior research conducted on teacher self-efficacy during the COVID-19 pandemic (Rogers Haverback,

2020). With the lack of comparison to previous years and lack of data to support their positive beliefs, it is difficult to associate a reason behind these beliefs.

Table 4.10 shows the responses of each participant to the tenth prompt.

Table 4.10: Responses of Participants to the prompt "How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?"

Participant	*Response*
P-1	*I liked being able to provide instant feedback but it is very time consuming to go through all of the slides and write individual comments. The internet was always slow.*
P-2	*It is much easier to have face-to-face conversations and work toward goals of improving student self-assessment and self-regulation when the students HAVE to see you, look at you, and respond to you.*
P-3	*This is all much easier to do during in person learning because I can be more confident that students are even present to hear what is being delivered.*
P-4	*I was able to use feedback in Classkick, but I do not feel it was at all compared to what could have been provided in a normal classroom setting.*
P-5	*I think my use of feedback is stronger in person. I can look at exit slips and do a quick one on one re-teach with that student before they leave if I needed to. Online, there are times that it takes my students 10 minutes to turn in their exit slip or they turn it in after they leave the meeting in which I can't address it immediately.*
P-6	*In person, I can walk around my room and provide individual feedback for each student on a one-on-one level. Online, I was able to see everyone's paper, but to then give instant feedback was not so instant.*

As Table 4.10 shows, most participants were in agreeance finding providing feedback to enhance self-assessment and self-regulation to be an obstacle. One participant (P-1) enjoyed being able to provide instant feedback but still found it time consuming. While the rest of the participants (P-2, P-3, P-4, P-5, P-6) made note that this was much easier to do during in person learning. Two participants (P-2, P-3) had similar statements in their concern, they wanted to be sure that students were able to hear feedback. While two other participants (P-5, P-6) found that

they were not able to provide the necessary feedback online, as quickly as they would have been able to in the classroom.

Based on what was reported by the participants it seems all of them viewed themselves as the main source of feedback. Also, all participants noted obstacles in the delivery of feedback due to being online instead of in person. More importantly, majority of the responses were focused on the delivery of feedback. None of the responses linked feedback with self-assessment and self-regulation. This could connect to the misconceptions with self-regulation that appeared in previous prompts. It is difficult to determine if teachers saw feedback as a way to support self-regulation and self-assessment as there was no real comparison made outside of the increased difficulty of delivering feedback while online.

Findings from Thematic Analysis

The third level of analysis used the close reading process to discover common themes across the questions and participants. The following seven themes emerged:

1. Misconceptions of the role and purpose of formative assessment.
2. Technology is the obstacle to everything.
3. Technology is the answer to everything.
4. Teachers are the main source of feedback but there is not a shared definition of effective feedback.
5. Promoting student ownership through self-regulation and self-assessment was challenging to embed in the fabric of the lesson.
6. Positive Self-efficacy for improving student understanding.
7. Students are incapable of getting themselves to understanding by asking difficult questions.

Each theme is described in turn and the description is supported by a table displaying excerpts from participant's statements that represent the theme.

Theme 1: Misconceptions of the role and purpose of formative assessment.

As formative assessment is an integral part of quality instruction, participants were asked about their ability to formatively assess their students while teaching online (Table 4.7). Many of

the participants stated obstacles to engaging in formative assessment with technology being the most common obstacle since many participants stated the need to see their students in person in order to effectively assess them. Other participants reported no longer finding their assessments to be trustworthy. Based on the responses, it became clear that many participants saw formative assessment not as an intentional learning process but rather as a way to audit learning through quizzes and tests. Moreover, references to formative assessment in the participants' responses revealed the belief that classroom assessments are primarily designed to inform only the teachers of student progress. Table 4.11 illustrates the statements that fit into this theme across responses and participants.

Table 4.11: Responses that Illustrate the theme *Misconceptions of the role and purpose of formative assessment.*

- ✧ *I missed being able to look over the shoulder of students to see their work and to formatively assess their understanding (P-1).*
- ✧ *I used Quizizz to formatively assess students. It was easy for me to find a 5-10 question quiz to see what students learned (P-1).*
- ✧ *Take 1's and 2's provided good formative assessment data, signaling how much more in-class time I should spend on a given topic or vocabulary set in each unit (P-2).*
- ✧ *The onset of apathy at given moments, lack of camera presence in class and the resulting lack of participation and engagement were at times major impediments to my ability to assess the class formatively (P-2).*
- ✧ *While teaching remotely, we gave students the Unit formative assessment provided by the curriculum we use (P-3).*
- ✧ *A huge obstacle in administering any formative assessment was time and validity (P-3).*
- ✧ *the tool I found to formatively assess my scholars was Classkick. This website allows me to create, monitor, and provide immediate written and or audio feedback to scholars as they work (P-4).*
- ✧ *I would do "thumbs up", "thumbs down" in the chat if you understand (P-5).*
- ✧ *I have warm-ups and exit slips to help me gauge their learning. I also use blooket, gimkit and quizziz to help me "see" what my students are learning and what they are struggling with (P-5).*
- ✧ *I did not realize how much I used physical signals in my room to help me assess (P-5).*
- ✧ *All of these websites were often live time feeding you data on your students progress (P-6).*

✧ *Yes, I was able to formatively assess my students through the schoology website. It provided the ability to set up assessments in many ways (P-6).*

As Table 4.11 shows, participants share fundamental misconceptions regarding the role and function of formative assessment. The overarching misunderstanding is that formative assessment is a test, quiz, or assignment meant to audit student progress from the point of view of the teacher. As Moss and Brookhart describe, the formative assessment process is woven through the very fabric of a lesson, it happens "minute-by-minute" and is not a stand-alone event (2009). Effective formative assessment occurs during the lesson as an ongoing learning process that informs both the teacher and the students (Cauley & McMillan, 2010; Moss & Brookhart, 2015, 2019; Roskos & Neuman, 2012). To further reveal the contributing factors to this overarching misconception, the following analysis of participant comments that appear in Table 4.11 as well in previous tables, uses key components of a Learning Target Theory of Action (Moss & Brookhart, 2009; 2012; 2015, 2019) to reveal specific misconceptions about the formative assessment process.

The Formative Process Requires a Shared Learning Target.

The formative assessment process occurs throughout the lesson and depends on both members of the classroom learning team—the teacher and the students—understanding where they are headed in the lesson. Moss and Brookhart (2015) explain that students need to be "informed decision makers" (p. 27) who can self-assess and self-regulate their own learning. The authors promote the use of a shared learning target that allows teachers and students to be partners, while aiming for the target and gathering compelling evidence throughout the lesson in order to monitor, assess, and improve student understanding, during the lesson. Without a quality target neither the students, nor the teacher, can gather evidence of where students are during the

lesson and take steps to improve learning during the lesson. Moss and Brookhart (2015) state that a quality target should answer the following key questions of the formative learning process "What will I be able to do at the end of today's lesson? What do I have to learn to be able to do it? How will I be asked to show that I can do it? How well will I be expected to do it?" (p.73).

When asked how they communicated what students were supposed to learn and be able to do during the lesson in a remote setting, participant responses revealed gaps in understanding of how the formative learning process functions to improve student learning during the lesson. Most participants (P-1, P-2, P-3, P-5, P-6) relied on agendas and/or PowerPoint presentations to communicate what students were doing that day. Participant four, however, explained that students were provided with "*learning goals, standards, and essential questions … at the beginning of each task/lesson*" (Table 4.3). Similar to participant four, participant three used the term learning goals (P-3), while participant five used the terms "learning targets", and "I can statements". Since there were no examples provided to clarify what the participants meant by learning goals and learning targets, it was somewhat difficult to draw firm conclusions. It is possible, however, to draw conclusions by the way the lessons proceeded. As Moss and Brookhart (2015) remind us "it isn't a learning target unless students understand it and use it during today's lesson to regulate their own work' (pg. 73). A statement on a PowerPoint or agenda does not qualify as a learning target, nor does an instructional objective "with the phrase 'I can' tacked on the front" (pg. 73).

It is evident from the responses shared by the participants, that many focused their communication to students, not on what students should aim to learn, but rather on what activities they need to complete during that lesson and the ways students should go about completing them. Only communicating to students what they are to do, not what they are

expected to learn, does not put the formative assessment process into action for the students or the teacher. Without the teacher and the students knowing exactly what they are supposed to learn and how well they are supposed to learn it, it is difficult for the teacher and the students to partner with each other to continuously gather evidence of student learning during the formative assessment process and use it to improve student understanding during the lesson (Moss & Brookhart, 2019, Roskos & Neuman, 2012).

The Importance of a Performance of Understanding, Moss and Brookhart (2015) state it is important that what students are asked to do, translates the learning target into action for the students (pg.99), requires students to try it out, deepens student understanding and skills, and produces evidence of where students are in their journey toward mastery. The researchers draw attention to the difference between an activity and a "performance of understanding"—what students are asked to do, say, make, or write during the lesson that has both an instructional and assessment purpose (pg. 101).

Analyzing the responses of the participants brought to light similarities and differences in the activities used while teaching remotely. What became apparent in participant responses (Table 4.4) to prompt 4 (What did you ask students to do, say, make, or write during the lesson to deepen their understanding and produce evidence of their learning?), was that participants' statements focused heavily on how students showed their work, the design of the assignments, or the technology used.

The participants stated they used warm-ups and exit slips along with quizzes and other various assessments in their instruction. Three of the participants (P-1, P-3, P-4) relied on the online program *Classkick* to upload assignments and monitor student work. As participant three stated, "*ClassKick is a great tool for you to observe and monitor work/engagement in real-*

time. It is the closest I can get to replicating working one-on-one with a student" (Table 4.4). The focus is on the teacher monitoring the student work and little mention was given to how students could monitor their work as they were learning and working. Participant six used *Nearpod* since it allowed the students to work on interactive presentations. The participant (P-6) explained that this program allowed them to deliver instant feedback to the students. Consistent with the participants (P-1, P-3, P-4) who primarily used *Classkick*, participant six's responses are focused on students completing work and offering corrections rather than how the work connects to what the students are to learn. In addition, there is no mention of how students can monitor their own progress, only how they can receive corrections from the teacher. Students having the ability to monitor their own work is critical to the formative assessment process.

Two participants (P-2, P-5) did not refer to the technology they employed to assign work, but reported the types of assignments they predominately had students complete. Participant two mentioned giving students multiple opportunities to show their understanding of vocabulary. While participant five stated they relied on writing assignments to have students show mastery. In both instances the focus was on creating ways for the teacher to assess/grade student understanding, rather than to assign performances that fostered students self-assessment and self-regulation.

All the participants outlined which activities students completed and where or how they completed them. Very few of the participants discussed connecting activities back to what students were expected to learn. Participant three does show a semblance of connecting activities to what students are to learn "*I address which goal the activity aligns to*". However, it is difficult to determine the quality of the learning goal or its connection to the activity as Participant three did not provide examples of either.

Based on the participant responses, it is not clear that what teachers asked the students to do was connected to what the students were expected to learn, during the lesson. The connection between the target and the performance of understanding is vital to the formative assessment process (Moss &Brookhart, 2015). Students who are not informed partners, make producing evidence of learning, by completing the aforementioned activities, all the more difficult. Moss and Brookhart (2015) promote creating activities that deepen student understanding of the intended knowledge and produce evidence which aide in the formative assessment process. Consequently, those processes are not evident in the responses of the participants, hampering the formative assessment process.

Students need specific criteria to look for in their work so they can monitor and improve their work as they are learning and working.

For teachers and students to function as learning partners during the formative assessment process, the learning target must be shared in ways that help students understand what they were expected to learn, along with the criteria students must meet to demonstrate to themselves and the teacher that they learned it. They need success criteria for the performance of understanding (Moss & Brookhart, 2015). Moss and Brookhart (2015) refer to these criteria as "student look-fors", "descriptions of characteristics of quality that students can literally look for in their work" (p. 119). Student look-fors play an essential role in the formative assessment process, helping teachers and their students answer the questions of where students are currently in their understanding and what students can do to improve.

Within the responses of the participants, there is little mention of criteria shared with the students. When introducing or discussing the day's lesson most of the participants focused more

on directions for completing that day's activities. "*I created a daily page in Schoology that had 1. A funny meme about the day of the week or about math 2. The topic covered 3. A list of activities 4. Announcements"* (P-1) (Table 4.3). "*I would often share my screen to go over the different websites we were using, how to get them, and then go over a little of the assignment"* (P-6) (Table 4.3). One participant (P-5) went into further detail outlining they use of a writing strategy called "*RACE"* and organizer titled "*Say-Mean-Matter".* Nevertheless, while the information given in these three examples are important, students are still uninformed about what specific criteria they need to meet. This again leaves students out of the formative assessment process and decreases the teacher's chance of feeding learning forward (Moss & Brookhart, 2015, 2019). Without criteria to measure their work against, students are unable to improve their understanding by comparing what they did to specific statements of quality (student look-fors), and then decide what they need to do better and take steps to improve their work through self-regulation (Moss & Brookhart, 2015). Many of the participants stated that they used various online platforms so that students could check their work—compare their work to correct work—rather than check their understanding by comparing their work to indicators of quality. Without descriptions of what quality work looks like and the ability to compare their work to those success criteria, students are literally "flying blind" as they work and learn. What's more, by asking students to compare their final work to correct work students are employing process of "self-grading" not learning the process or reaping the benefits of self-assessing (Moss & Brookhart, 2015; 2019).

The formative assessment process requires that both parts of the classroom learning team, the teacher and the students, use the evidence produced from what students do, say, make

or write in order to make decisions about the best ways to improve student understanding during the lesson.

An integral part of the formative assessment process is the crucial role played by the evidence of understanding students produce during the lesson. Evidence allows teachers to provide targeted feedback that outlines what the student did well and how the students can improve their work, using specific strategies tied to specific success criteria. Evidence also allows students to compare their work to the student look-fors to monitor and improve their work during the lesson. If students only compare their work to a final complete "correct" answer key or product, they are not taking ownership of their learning but merely self-grading. Moss and Brookhart (2015) explain how teachers and students can gather quality evidence of student learning, in their discussion of the performance of understanding. From the teacher's point of view, a performance of understanding that is connected to a learning target and provides student look-fors shows the teacher where students are with their learning, which students get it, who is almost there, and who is struggling. From the student's point of view, the performance of understanding combined with the student look-fors, enables students to assess themselves by comparing their understanding and work to the specific success criteria set forth in the look-fors and then use that information to select strategies to regulate and improve their own work.

While analyzing what the participants described as evidence (See Table 4.4) common misconceptions were revealed. Four of the participants (P-2, P-3, P-4, P-5) stated they used warm-up and exit-slips (although some called them by other names). Those activities were used to help inform the teacher of how the lesson went and the adjustments the teacher needed to make. All of the participants stated they employed quizzes and tests (from their own creation, online programs, or from the district curriculum) to gather evidence and aide in formative

assessment of their students. It is important to note here that using results of quizzes and tests is only formative for the teacher since it occurs at the end of the learning event. And while teachers can use that type of evidence to make decisions about what to reteach and to which students in later lessons, it does little to foster student ownership of their own learning and does not provide students with information they can use during the lesson to improve their understanding. Even when students compare their answers on a quiz to the correct answers, they learn what they got wrong, without learning what to do to improve their understanding (Moss & Brookhart, 2019).

Participants also detailed other specific ways that they gathered evidence of student understanding. Participant 5 stated "*I would do "thumbs up", thumbs down" in the chat if you understand"*. This is a powerful strategy for engaging both halves of the classroom learning team in checking for understanding since it happens in the moment, engages the teacher and the students in assessing themselves regarding specific content, concepts, or skills. Based on the information gathered, the teacher is informed about misunderstandings and can make decisions about which concepts should be retaught right then and there and can ask follow up questions to discover the specific parts, concepts, and skills that are still fuzzy for students. What's more, this process is formative from the students' point of view since it engages students in assessing their own understanding in the moment and encourages them to ask clarifying questions to deepen their understanding in order to get themselves to the learning target. If these follow up actions happened, then this activity would qualify as a performance of understanding since it both deepens student understanding and provides evidence of where students are for both the teacher and the students to use during the lesson (Moss & Brookhart, 2019).

Participant two stated that they engaged their students in an ongoing series of "takes" (See Table 4.4, Table 4.5). "*Take 1's and 2's provided good formative assessment data, signaling how much more in-class time I should spend on a given topic or vocabulary set in each unit"*. Participant two describes *"Take 1"* as a pretest given to students as a warmup during the start of class and "*Take 2"* as an exit slip given at the end of class. "*Take 1"* informs the teacher and students at the start of the lesson of where students are with their understanding of the new content. On the other hand, this seems to only inform adjustments on the part of the teacher not the students. Participant two states that they adjust the lesson based on the first take, but does not discuss how students can use this information to improve their own understanding. Furthermore, "*Take 2"* occurs at the end of the lesson and therefore informs the teacher, but does not give the students a chance to monitor and adjust their understanding during the lesson.

While participants reported multiple ways that they used what students did during the lesson as evidence of student understanding, their descriptions revealed misconceptions about the crucial components of the formative assessment process. First, participants were unclear about the specifics that they communicated with their students about what students were expected to learn during the lesson. Their descriptions of how they informed their students about what students were supposed to learn tended to be descriptions of a one-time event (i.e., an agenda, PowerPoint slide) that was presented at the beginning of the lesson and was not a description of a learning goal that was woven throughout the lesson through activities that were specifically connected to what students were expected to learn. Without this strong connection, it is difficult to determine if the evidence students produced actually provided valuable information about student learning. A crucial question becomes, did the answers to the quizzes provide both the teacher and the students with specific information about where they were in their learning and

was that information used during the lesson to improve student understanding? (Moss & Brookhart, 2015).

What also becomes clear from the responses participants gave across several prompts was that the participants designed the activities so that the student evidence could be used to inform the teacher. There were little to no examples of how the assigned activities were designed to inform the students about where they were in their understanding. Students partnering with teachers in the formative assessment process is critical (Moss & Brookhart, 2015, 2019; Roskos & Neuman, 2012). Moss and Brookhart (2015) explain this in further detail "a performance of understanding serves a formative assessment purpose. It produces compelling evidence of what students understand or can do that both the teacher *and the students* can use to assess where students are, to feed their learning forward" (p. 102). As their responses show, the participants intentionally designed mostly summative assessments that informed the teacher of what to do or teach next, but did little to inform the students about where they were in their understanding of what they were expect students to learn, leaving students out of the process.

Lastly, the participants' responses revealed misconceptions about the nature and role of effective feedback, a fundamental part of the formative assessment process. Feedback, specifically feedback that is formative and feeds learning forward is the engine that drives formative assessment (Brookhart, 2017; Brown et al., 2016; Moss & Brookhart, 2015). Feedback should tie into what students were expected to learn, what they were expected to do and what criteria they were to look for in their work. Formative feedback moves student learning forward and is about learning, uses the language of the student look fors, and engages the students in the formative assessment process to increase student understanding and motivation to learn (Moss & Brookhart, 2015). Most importantly, forward feeding information happens during the lesson so

that students can use it to improve their understanding as they are working and learning. Feedback that is given without a timely opportunity to use, becomes "a waste of time and energy" (p. 142). In other words, the quality of feedback can be judged by asking a central question, "Do students have a clear idea of where their work is now and what to do next" (p.138).

Because of the importance of feedback to the formative assessment process, participants were asked about feedback in prompt ten (*How well were you able to use feedback and feed forward information to enhance self-assessment and self-regulation for your students. How did this compare to what you were able to do during in person learning?*). In their responses (Table 4.10) participants described the various ways they delivered feedback to their students. "*I was able to use feedback in Classkick, but I do not feel it was at all compared to what could have been provided in a normal classroom setting*" (P-4). Additionally, participants stated that providing feedback while online was cumbersome "*I liked being able to provide instant feedback, but it is very time consuming to go through all of the slides and write individual comments"* (P-1). *Online, I was able to see everyone's paper, but to then give instant feedback was not so instant* (P-6).

Two misconceptions regarding effective feedback emerged from the analysis of participant responses. First, some participants saw themselves as the main source of feedback for students. And second, several participants conceptualized feedback as providing students with corrections about student work. Again, without specific examples and based on vague statements, it is difficult to know if participants provided forward feeding information. Some participants (P-1, P-3, P-4, P-6) reported using programs like *Classkick* to provide their feedback to students either by posting comments themselves "*This website* [*Classkick] allows*

me to create, monitor, and provide immediate written and audio feedback to scholars as they work" (P-4) (Table 4.7). This strategy has the potential to provide students with valuable "in the moment information" but if the comments were simply evaluative like "good work" or "excellent" then the teacher is merely providing evaluative comments. Moss and Brookhart (2019) stress that for feedback to inform student learning it must be descriptive and give the students specific information about what is good so that the students can repeat those actions and what needs to improve and help students choose a specific strategy they can use to improve their understanding and work.

Participant six also described the value of various online programs in regard to feedback stating, "*There was the ability to add feedback on websites where most assignments were*". Again, this could potentially provide feed forward information, or it could simply record evaluative comments about what students did wrong or got right. Of special concern to several participants (P-3, P-6) who mentioned providing comments on students work, was that students may not be seeing or using the feedback. Participant three explains this concern "*I never really knew, or still know for that matter, if students even read the feedback I provide them on their assignments".* This concern is both legitimate and telling as it is supported by the research on the impact of the COVID-19 pandemic on teachers. The circumstances brought on by the pandemic left many teachers struggling to quickly adapt and severely impacted their professional identity (Turner et al., 2020). Kim and Asbury (2020), explain many educators felt that they were unable to connect to their students and this perception is echoed in the responses of these participants who mention their inability to monitor the impact of their comments on their students.

There are stark contrasts between the research on quality feedback and its purpose within the formative assessment process, when compared to the ways that the participants reported planning and delivering feedback, along with the way students were intended to use that feedback. Hattie and Timperly's (2007) seminal work defined feedback as "information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (p. 81). In other words, feedback can come from a variety of sources including the students themselves, not just the teacher. Feedback becomes formative when it is used to feed the learning forward and when students have an opportunity to use it (Brookhart, 2017; Brown et al., 2016; Moss & Brookhart, 2015). Both factors must exist for the teachers' statement to qualify as feedback and not merely a comment. That recognition of what counts as feedback and role of effective feedback for helping students improve their own work was not evident in the responses of the participants. The participants did not mention how their students were to use the teacher's feedback and this may indicate that participants view the teacher as the sole source of feedback information. Having a learning target to aim for, a performance of understanding to make that target visible and put it into action for the student, and providing student look-fors so that students can self-assess against them as they are working, all serve as sources of feed forward information that students can use to gauge their understanding. By planning lessons that include constant descriptive forward feeding information, teachers are better equipped to share information with their students that fosters self-assessment and self-regulation to increase student achievement and motivation to learn (Moss & Brookhart, 2015).

It can be inferred from the participants' responses that they viewed formative assessment as what they do to the students to "formatively assess them" and as a way to inform themselves

on student progress, allowing them to adjust their lessons accordingly. Participants also indicated that they were hampered in their ability to "formatively assess" their students, because they were unable to see their students expressions and faces, explaining, they needed to see students to gauge their understanding. In other words, it wasn't solely what the participants said but the words they used to say it, and the reasons they provided as rationales for their actions, that were especially telling. Overall, their collective and individual misconceptions of the role and purpose of formative assessment led them to make decisions and design opportunities that did not reflect effective formative assessment. As shown, there were misconceptions about the entire formative assessment process and its crucial components from the learning targets, activities that qualified as performances of understanding, descriptive success criteria for student work, evidence of student growth, feedback, and the opportunity to foster and teach students to assess and regulate their own learning and work during the lesson.

Theme 2: Technology is the obstacle to everything.

The directions that preceded the survey for the study directed participants to only discuss non-technology related obstacles to their planning and delivery of instruction. However, even with that stated caution, technology issues were very evident in their responses. While the prompts within the survey asked participants a variety of questions about specific aspects of planning and delivery of instruction, participants mentioned and faulted technology obstacles in their responses to many of the prompts. While the focus of the survey was meant on planning lessons and advancing student learning, it is not surprising that participants cited technology in responses to almost every prompt. Table 4.12 illustrates the statements that fit into this theme across responses and participants.

Table 4.12: Responses that Illustrate the theme *Technology is the obstacle to Everything*

- ✧ *The internet was always slow (P-1).*
- ✧ *I was looking at black squares. I had no idea if a student really understood the material (P-1).*
- ✧ *No requirement to keep cameras on was a killer: it just made it too easy for kids to join a class meeting without REALLY joining a class meeting (P-2).*
- ✧ *A challenge that I faced in regards to student assignments and activities was that we were introduced to so many programs, websites, and resources and I wanted to or thought that I had to use them all. There was just so much (P-3).*
- ✧ *This assessment is available through the curriculum website but it did not consistently work well for all students at home. It was difficult to explain to students how to trouble-shoot and navigate the website (P-3).*
- ✧ *just getting our scholars logged in and working was a challenge (P-4).*
- ✧ *Feedback overall became a challenge simply due to the nature of online learning (P-4).*
- ✧ *When working on assignments, some websites we used did not always have access to the work while students were working to allow me to see the work myself until they submitted it (P-6).*
- ✧ *During Assessments, it was extremely difficult to tell if students were actually getting their information from themselves or looking at google or other sources for help. I couldn't "lock" screens or have all students turn on cameras (P-6).*
- ✧ *In the past, I often had students work together to self-assess and online learning was not conducive to that (P-6).*

As Table 4.12 shows, participants faced many obstacles that were related to technology. This finding is consistent with what many teachers experienced during the COVID-19 pandemic (Cope & Kalantzis, 2020; Huber & Helm, 2020). Summers (2020) sheds light on this by stating "In many cases, educators were teaching exclusively online for the first time in their careers" (p. 32). Due to the pandemic many educators were tasked with recreating the classroom without actually being inside of school buildings (Turner et al., 2020). Because of these sudden changes many teachers struggled in areas that were not as difficult for them in the brick-and-mortar setting. The aforementioned changes and struggles of teachers during the pandemic could have had a negative impact on their self-efficacy beliefs to instruct effectively (Kim & Asbury, 2020).

Participant responses resonate these struggles and for them were especially connected to issues of technology.

Participant responses showed they found technology to be an obstacle to many key components of instruction. Several participants noted that technology was an obstacle to feedback. Participant one stated "*I liked being able to provide instant feedback but it is very time consuming to go through all of the slides* [referring to assignments in *Classkick*] *and write individual comments"* (Table 4.10). This sentiment is shared by participant six "*Online, I was able to see everyone's paper, but to then give instant feedback was not so instant"* (Table 4.10). Both participants stating that although students could see their feedback instantly using various online programs, it was difficult and time consuming to being able to provide feedback to every student, as they had to click through each student while in the lesson. These statements are consistent with research of Turner et al. (2020) who quoted a teacher whose statement is eerily similar "I can't respond to 33 kids in writing fast enough" (p. 6). Those statements make it clear that the participants were searching for a way to deliver feed forward information to their students that was more timely and less cumbersome.

Additionally, participants (P-3, P-4, P-5) felt that technology was an obstacle to the amount of class time they could devote to various activities. This finding can be seen in the response of participant three "*I quickly came to learn that what I was doing in my traditional classroom was not going to work virtually … I was only able to get through one item on my agenda when I was prepared with three or four".* This led participant four to express feelings of "*defeat"* and uncertainty especially when selecting the right program or technology to implement in their lessons. Those feeling of uncertainty are repeated in the findings of Huber and Helm (2020) who reported that many teachers felt pedestrian in their ability to teach

online. Cope and Kalantzis (2020) support this asserting many teachers were "ill-prepared" (p. 2) to teach online. Additionally, during the pandemic were not given adequate professional development to prepare them. Louis-Jean and Cenat (2020) described professional development training teachers for teaching during the pandemic as limited. Consequently, with many teachers feeling unprepared for teaching online along with limited professional development, there was a negative impact on teacher self-efficacy. Cope and Kalantzis (2020) push for better teacher training to mitigate obstacles faced by teachers during the pandemic specifically improving their skills in teaching online and content creation. Kaden (2020) reminds us that we need to care for educators in order to improve education.

Interestingly a commonality appeared across participants' responses when speaking to technology obstacles. When discussing ways to monitor student understanding, many of the participants stated they normally relied on actually seeing the students. This is evident in multiple statements across the participants *"I missed being able to look over the shoulder of students to see their work and to formatively assess their understanding"* (P-1) (Table 4.11). Participant two likewise mentions needing to see students "*I rely so heavily on students' body language and facial expressions for purposes of monitoring and adjusting my instruction accordingly".* Additionally, Participant five states a similar need "*I didn't realize how much non-verbal feedback I got just looking at students".* All of these statements speak to the participants missing the safety and security of the classroom where they could gather clues to where students were in their understanding by seeing the students during the lesson.

There may be a connection between these statements and the misconceptions highlighted in Theme 1 (Misconceptions of the role and purpose of formative assessment) (Table 4.11). Based on the responses they provided, participants described how they used student

body language in the classroom as evidence to measure student understanding. And while this may help teachers monitor what is going on during a lesson, it is not the sole way or an effective way to gather evidence of student understanding. As Moss and Brookhart (2012, 2015) point out it is important to have an activity (performance of understanding) that requires students to provide evidence of their understanding. In that way, teachers are reliant on evidence produced by students who are engaged in a performance that requires them to use their current levels of understanding to produce quality work that can be assessed against specific success criteria. Additionally, the teachers discussed their need to gauge student understanding, while never mentioning the obstacles that might exist for students to gauge their own understanding. This mindset does not recognize the that students are full partners with their teachers during the formative assessment process (Moss & Brookhart, 2015).

While it is important to point out the misconceptions regarding formative assessment related to this theme, a discussion of the circumstances faced by the participants is equally necessary. It is not surprising that many of the participants reported missing aspects of in person teaching that were no longer available to them teaching virtually. Teachers everywhere were dealing with impacts brought on by the COVID-19 pandemic such as sudden changes, lack of preparedness, and increased workload (Cope & Kalantzis, 2020; Huber & Helm, 2020; Kim & Asbury 2020). Even more impactful, teachers were tasked with more content creation while also trying to prevent already existing inequities that exist in a group of students. Because of this, the self-efficacy of many teachers was negatively impacted by the pandemic (Rogers Haverback, 2020). It is understandable that teachers would rely on practices in the classroom that were used prior to the pandemic. Those practices were once mastery experiences that had a positive impact on their teacher self-efficacy. With many teachers finding themselves in unfamiliar and

uncomfortable positions, it is not surprising they would rely on those practices that were mastery experiences prior to the pandemic. In this way educators could relive those mastery experiences in order to quell the negative impacts on their self-efficacy brought on by the pandemic. (Bandura, 1994; Rogers Haverback, 2020).

Theme 3: Technology is the answer to everything.

The participants in the study found themselves thrust into an unfamiliar landscape. They described many obstacles to good teaching (Table 4.2) that ranged from little experience to poor internet connections. It wasn't surprising that teachers tried to solve the issues by searching for ways to overcome those obstacles. Their go to solution as revealed in their responses was to search for applications, online formats, and even canned ideas from other teachers that existed online. Table 4.13 illustrates the statements that fit into this theme across responses and participants.

Table 4.13: Responses that Illustrate the theme *Technology is the Answer to Everything*

- ✧ *I used a program called Classkick to see what students were working on. With Classkick, I could see the students work in real time (P-1).*
- ✧ *I also used other online resources to check for understanding - Quizizz, NearPod, EdPuzzle, Kahoot and Blooket (P-1).*
- ✧ *To assist students in self-assessment and self-regulation I enable the features that are available in both ClassKick and Schoology to promote this (P-3).*
- ✧ *I relied mostly on a website called Classkick which provided me a place to plan, assess, and provide feedback to scholars(P-4).*
- ✧ *I would also have used online resources such as Edmentum, Study Island, Quizizz, Kahoot and other online (quick) formative assessment sites (P-4).*
- ✧ *There are websites for students to complete worksheets where I could watch their work in live time, like Teachermade, Classkick, and Onedrive. There were review websites that go the students interested in competition during their learning like Blooket, Quizziz, Gimkit, And Quizlet. All of these websites were often live time feeding you data on your students progress (P-6).*

- ✧ *However, online this was something that had to be additional, with an additional assignment or website to go to in order for me to even tell they self-regulated (P-6).*

As Table 4.13 shows, the participants relied on technology to meet the many challenges and obstacles faced while teaching virtually for the first time. This is consistent with the research on teaching during COVID-19. Milman (2020) states that many teachers were tasked with increased content creation and that this content needed to not only be engaging and but must be quality content that could be conducted virtually. This quick and immediate switch has not been a smooth or simple transition for many teachers and students. Cope and Kalantzis (2020) argue that this switch has been agonizing since many educators tried to simply replicate what they did in the classroom, which then hindered student engagement. What becomes evident from the responses of the participants is that an inability to use the formative assessment process to guide their decisions due to misconceptions (See Theme 1, Misconceptions of the role and purpose of formative assessment, Table 4.11), may have led teachers to search out technology that could quickly address said obstacles for them while online.

Specifically, when comparing the participant responses using key components of the formative assessment process outlined in Learning Target Theory of Action (Moss & Brookhart, 2009; 2012; 2015, 2019) it becomes clear that participants saw formative assessment as an event, not an ongoing process built into the lesson. And, guided by the gap in their understanding, many participants looked for online programs to conduct those formative assessment events.

A statement from participant four exemplifies this thought process "*I would also have used online resources such as Edmentum, Study Island, Quizizz, Kahoot and other online (quick) formative assessment sites".* In other words, participant four saw formative assessment as something extra to the lesson that needed to be added on and did not require

collecting ongoing evidence during the lesson. This same line of thinking is evident in other participant responses that described relying on technology to provide ways to deliver quizzes and tests. Participant one explains *"I used Quizizz to formatively assess students. It was easy for me to find a 5-10 question quiz to see what students learned"* (Table 4.11). Again, it is clear that this participant felt could rely on extra technology in order to formatively assess their students. However, this extra technology while convenient, is not a way to engage in the formative assessment process that is an ongoing pursuit of moment by moment evidence during the lesson by the teacher and the students in order to improve student understanding (Moss & Brookhart, 2009, p.6).

Misconceptions about specific parts of the formative assessment process (see Theme 1) also led the participants to search out new technology programs to assist their lessons. In particular, student self-regulation and self-assessment were strategies that participants felt required additional online programs. Two participants (P-1, P-2) stated they relied on *Classkick* because they were able to use a self-grade feature that informed students when an answer was wrong. Although it is important to inform students when they answered a question incorrectly, the self-grade feature only informs students of their correctness not how to improve and therefore does not represent these metacognitive processes.

Participant six questioned the plausibility of self-regulation happening during the lesson explaining "*However, online this was something that had to be additional, with an additional assignment or website to go to in order for me to even tell they self-regulated".* In a similar manner, Participant six viewed self-regulation as additional, believing students could not use it during the lesson but that it required even more technology or an extra assignment. The participants' need for technology to assist in their students self-assessment and self-

regulation is a misconception in its own as the extra technology is unnecessary, as these skills can be encouraged through the design of the lesson. As discussed in Moss & Brookhart's research on a Learning Target Theory of Action (2009; 2012; 2015, 2019), self-regulation and self-assessment must be built into the lesson, with a shared learning target, strong performance of understanding and student look-fors. Having those important aspects allows for students to self-assess their own work in the moment and create a plan to improve their understanding. When discussing online education during the pandemic, planning lessons in this way is supported by Cope and Kalantzis (2020) and Sulisworo et al. (2020) who both suggest ways for students to measure their work while completing it.

It is clear that many of the participants became over reliant on technology in their aim to quickly reproduce their brick and mortar classrooms online. It is crucial to consider this in the context of the circumstantial impacts brought on by the pandemic, that contributed to their search for technology that would alleviate their challenges. As discussed, many teachers were now burdened with more content creation without the proper preparation (Cope & Kalantzis, 2020; Louis-Jean & Cenat, 2020). Prior research shows that many teachers, due to their lack of training, struggled with online learning platforms (Louis-Jean & Cenat, 2020). It is not surprising that the participants not only struggled with technology, but also with the amount of technology they needed implement and deciphering which technological programs or websites would be the most beneficial for their students. This struggle can be seen in the response of participant three "*A challenge that I faced in regards to student assignments and activities was that we were introduced to so many programs, websites, and resources and I wanted to or thought that I had to use them all.* It is apparent that the lack of preparation for online teaching and content creation along with an onslaught of unfamiliar resources made an already dire situation even more

difficult for many educators. Given the circumstances of the COVID-19, the lack of training and experience, and their misconceptions about the formative assessment process, it is not surprising the participants relied so heavily on technology in an effort to quickly address to the needs brought on by the pandemic.

Theme 4: Teachers are the main source of feedback but there is not a shared definition of effective feedback.

Feedback is an essential element of quality teaching, of which participants discussed in prompts two and ten (Tables 4.2, 4.10). Now that education was being delivered at a distance due to the ongoing pandemic, quality feedback became even more important to student learning. Participants found it more difficult to deliver timely and quality feedback to their students while teaching online. Many of the participants only discussed themselves or a program that self-graded student answers, as the main sources of feedback. Table 4.15 illustrates the statements that fit into this theme across responses and participants.

Table 4.14: Responses that Illustrate the theme *Teachers are the main source of feedback but there is not a shared definition of effective feedback.*

- *I was able to provide feedback in Classkick (P-1).*
- *I liked being able to provide instant feedback but it is very time consuming to go through all of the slides and write individual comments (P-1).*
- *I would not rate myself in the top quartile when it comes to using feedback and feed forward to enhance the ability of my students to self-assess and self-regulate (P-2).*
- *As far as challenges facing feedback, I never really knew, or still know for that matter, if students even read the feedback I provide them on their assignments (P-3)*
- *So, the tool I found to formatively assess my scholars was Classkick. This website allows me to create, monitor, and provide immediate written and or audio feedback to scholars as they work (P-4).*
- *I think my use of feedback is stronger in person. I can look at exit slips and do a quick one on one re-teach with that student before they leave if I needed to. Online, there are times that it takes my students 10 minutes to turn in their exit slip or they turn it in after they leave the meeting in which I can't address it immediately (P-5).*

- *It was not as easy to provide feedback and feed forward than when in person. In person, I can walk around my room and provide individual feedback for each student on a one-on-one level. Online, I was able to see everyone's paper, but to then give instant feedback was not so instant (P-6).*

As Table 4.14 shows, there are two overarching misconceptions when it comes to the participants understanding and use of feedback. First, the participants primarily viewed themselves as the main source of feedback for the students. Second, based on the responses, there is a misconception surrounding the definition of feedback as many reports show feedback from the participants was usually delivered as corrections or comments. Because of these misconceptions, there was little discussion of how students were to use the feedback and little reported student success with the feedback that was given. Interestingly, many of the participants (P-1, P-3, P-4, P-6) stated that feedback was much more difficult to deliver online which may share connections to the misconceptions that will be further analyzed in the discussion of this theme.

When guiding students forward with effective feedback, Moss and Brookhart (2015) state that "Effective formative feedback is feedback that feeds student learning forward, and that means feedback that a student finds meaningful and useful—and actually uses to improve and further learning" (p. 138). Furthermore, Hattie and Timperly (2007) in their seminal work on feedback, identify that feedback can come from a variety of sources (teachers, parents, an activity, experience, and many more). Going further the authors explain that feedback is a "Consequence of performance" (p. 81), meaning that when students complete any task there will be feedback, it is on the teacher to ensure the feedback that students receive is information that will move the student forward and clear up misconceptions.

Moss and Brookhart (2015) analyze feedback further by breaking it down into three views "the micro view", "the snapshot view", and "the long view" (pp. 139-142). The micro

view focuses on the characteristics of the feedback (e.g., is it descriptive, timely, the amount of information contained, and/or parts of the work or process described within it). In this view the authors explain that "feedback should be positive, clear, and specific" (p. 140). Analyzing feedback from the snapshot view, feedback is analyzed as a whole to show what the student and teacher learned from the feedback. Within this view the student should learn what they did well and what they can improve, and the teacher learns about the impact of the lesson. Lastly, the long view focuses on the formative learning process. The authors describe this view of feedback by explaining it should help students answer the following questions "Where am I going? How am I doing? How can I close the gap?" (p. 142). To further analyze the impact of these overarching misconceptions, the following examination of participants' comments (see Table 4.14 as well in previous tables) uses key components of a Learning Target Theory of Action (Moss & Brookhart, 2009; 2012; 2015, 2019) to reveal specific gaps in participants understanding about feedback.

When discussing the first overarching misconception related to feedback, it quickly becomes evident in the responses of the participants when addressing their use of feedback. Many of the participants (P-1, P-3, P-4, P-5, P-6) when implementing feedback relied on themselves as the main source of feedback. A few of the participants (P-1, P-3, P-4) delivered their feedback via online programs such as *Classkick*. Participant one describes this process "*I liked being able to provide instant feedback but it is very time consuming to go through all of the slides and write individual comments"* (Table 4.10). Participant four had a similar reply relying on *Classkick* to provide written feedback to students along with audio feedback as well. Some of the participants (P-1, P-3, P-4) stated they relied on *Classkick's* self-grade feature to provide feedback as it would show students that their answers were correct. Participant six who reported

using the online program *Nearpod* mentioned being able to include written feedback to students on interactive PowerPoint slides.

It is clear that most of the participants saw themselves as the main source of feedback for their students. Participants provided feedback through comments made either in class meetings, through direct messages, leaving comments via online programs, or employing a self-grade feature. Only participant one mentioned a feedback source outside of themselves "*There is a feature* [in *Classkick*] *where students can raise their hand. I can answer their question or another classmate can help them".* Admittedly, feedback from the teacher is critical to students learning and growing within classrooms. However, as Hattie and Timperly (2007) state, feedback should come from a variety of sources. The authors identify that students can even become a source of feedback for themselves through developing "error detection skills" (p. 86). Consequently, as the teachers were the main source of feedback, lessons were set up for the students to look primarily to the teacher for feedback. Participant one provides a clear example of this "*If they got the answer wrong, they were quick to ask for help"* (Table 4.6). In this described instance students only need to reach out to the teacher instead of fixing their error.

The second overarching misconception regarding feedback is focused on the definition of feedback. Many of the participants viewed feedback as comments or corrections given to students about their work. Two of the participants (P-1, P-3) spoke to relying on *Classkick*'s self-grade feature "*In ClassKick, you are able to have assignments self-grade this allows students to receive immediate feedback"* (Table 4.5). Many participants (P-1, P-3, P-4, P-6) left comments directly on students' work through the use of online programs (*Classkick* and *Nearpod).* None of the participants provided an example of feedback left on student work. However, based on the responses it is possible to discern that much of the feedback given to students were comments

and corrections. This is especially true for those who employed the self-grade feature in *Classkick*, as its main purpose was to inform the students if they were correct or not. Furthermore, with the exception of one participant (P-3), there was never a discussion of students using the feedback.

When feedback is focused on simply correcting it does not fully help the student to improve their understanding (Moss & Brookhart, 2015). When analyzing feedback using the three questions within the long view of feedback ("Where am I going?", "How am I doing?" and "How can I close the gap?") (p. 142) simple corrections only answer one of the questions "How am I doing". Corrective feedback only informs the student on that one assignment and does not help them move forward in their understanding. Quality feedback should position students as active learners who can use the feedback given to improve their understanding. Moss and Brookhart (2015) when describing formative feedback explain "At a minimum, a student should learn one thing she did well and one thing that could be improved with some idea of how she might accomplish that improvement" (p. 141). Nevertheless, with the feedback that was reported by the participants, it is clear that students were not learning what they did well or how they can improve.

Along with corrections, participants (P-1, P-3, P-4, P-6) relied on leaving comments on student work as a source of feedback. Participant four described using both written and/or audio feedback to students within *Classkick.* While the immediacy of this feedback is a helpful innovation, what is missing is a discussion of how and when students are to use those comments left to them. It is vital that students have a chance to use the feedback within the lesson. Teachers must design lessons to ensure that students have time and reason to use the feedback that was delivered to them. Only participant three mentions giving students time to use the feedback

provided "*If they are not happy with their score they are able to make an additional attempt if they want. Or, if it is a submission that I provide feedback on, they are able to revise their work reflecting the feedback I provide.".* It is positive to see that there was time given to students to use the feedback; however, the participant noted less than half of their students fixed their assignments.

On the other hand, other participants (P-1, P-4, P-6) did not report giving students time to use the comments during the lesson. One participant (P-6) explained they were unsure if students even used the feedback they gave saying "*However, it was hard to see if students had read the feedback".* Without planned out time to use the feedback given or onus on the student to use it, it is not surprising that a teacher would be unsure if the student even saw or used the feedback they provided.

The misconceptions regarding feedback discussed in this section can be connected to the misconceptions regarding formative assessment (See Theme 1, Misconceptions of the role and purpose of formative assessment, Table 4.11). With many of the participants sharing the common misconception about the role of the formative assessment process within their lessons, it is not surprising that most were limited to corrections or comments when delivering feedback. As was noted in theme one, a communicated learning target and criteria for students to measure their work against (student look-fors), were missing from many of the participant responses. For feedback to be effective it must connect to what the teacher intended for students to learn and what the teacher and students need to look for in the work (Moss & Brookhart, 2015).

It is established that participants largely did not have a target to aim for and criteria for students to look for in their work, already embedded into the design of the lesson. It is not surprising that teachers were the main source of feedback, due to the fact that the lessons were

designed that way. Without those key elements of the lesson, it is more difficult to allow students use metacognitive strategies (Moss & Brookhart, 2015) and develop their "error detection skills" leading to improved self-feedback (Hattie & Timperly, 2007, p. 86). Therefore, based on the responses of the participants it seems the most available source of feedback for students was to look to the teacher. Keeping in mind the circumstances that participants were teaching in, it is understandable that participants relied on feedback such as corrections and comments as they were hurriedly tried to adapt to teaching virtually.

Theme 5: Promoting student ownership through self-regulation and self-assessment was challenging to embed in the fabric of the lesson.

Participants were asked to discuss self-regulation and self-assessment on prompts 5 (Table 4.5), 6 (Table 4.6), and 10 (Table 4.10). Many of the participants stated strategies they employed to allow for what they viewed as student self-assessment. However, examples and strategies of student self-regulation were less common in the responses of the participants. What became apparent was that opportunities for student ownership over their own learning through the use of self-regulation and self-assessment, were not embedded into the design of the lessons. Table 4.15 contains statements that illustrate the responses that fit into this theme across prompts and participants.

Table 4.15: Responses that Illustrate the theme *Promoting student ownership through self-regulation and self-assessment was challenging to embed in the fabric of the lesson.*

- ✧ *I did provide strategies to self assess and self regulate. In Classkick, you can set up answer boxes. If the student's answer is correct, the box lights up green (P-1).*
- ✧ *I think they were successful [referring to self-regulation and self-assessment]. If they got answers wrong, they were quick to ask for help (P-1).*

- ✧ *Online instruction is overall a very poor substitute for in-person learning so teaching someone to do such challenging and difficult skills as self-regulation and self-assessment becomes an even bigger ask online (P-2).*
- ✧ *To assist students in self-assessment and self-regulation I enable the features that are available in both Classkick and Schoology to promote this. In Classkick, you are able to have assignments self-grade this allows students to receive immediate feedback (P-3).*
- ✧ *I learned that providing student choice when possible was essential to increasing self-regulation. When students had a 'say' in how they demonstrated their learning they were much more likely to engage and put forth good effort (P-3).*
- ✧ *I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies [self-regulation and self-assessment] were left behind (P-4).*
- ✧ *Once students take the assessment, they then self-reflect on how they did (survey) as well as what targets they need to go back and identify what areas challenged them. Students can then do a variety of reteaching activities (P-5).*
- ✧ *It was extreme[ly] hard to have them go back and correct or assess their work (P-6).*
- ✧ *However, online this was something that had to be additional, with an additional assignment or website to go to in order for me to even tell they self-regulated (P-6).*

As Table 4.15 shows participants shared an overarching misconception about the ways they embedded student self-regulation and self-assessment into their lessons. Based on the participants' reports, it seems they viewed such strategies as additions to their lessons—separate activities and tasks—instead of critical thinking processes that were embedded into the lesson. Because of this fundamental misconception, there were no intentionally designed opportunities that promoted or taught student self-regulation and self-assessment because there was no place in the lesson for students to plan, monitor, assess and adjust what they were doing to direct their progress.

When it comes to promoting and teaching students to self-regulate, Moss and Brookhart (2015) point out that self-regulation starts from the beginning of the lesson. Students need a target to aim for in order to begin to monitor and adjust what their learning focus is and what they do to learn, in order to get themselves to that target. Without a target they understand and can aim for, students are simply "complying" with the teacher's directions about what they are

supposed to do (p. 159). In other words, self-regulation begins from the start of the lesson with proper communication of what you want students to learn in the form of a shared learning target, along with support from the performance of understanding (how you want them to deepen their understanding and show they've learned), guided by specific success criteria, and energize with forward feeding information. Darling-Hammond et al. (2020) add urgency to the need for students with the ability to self-regulate during the pandemic saying, "many students need help managing work time and productivity" (p. 13). To further analyze the impact of this overarching misconception, the following examination of participants' comments (see Table 4.15 as well in previous tables) uses key components of a Learning Target Theory of Action (Moss & Brookhart, 2009; 2012; 2015, 2019) to reveal specific gaps in participants 'understanding about student self-regulation and self-assessment.

Effective Self-Regulation and Self-Assessment Require a Shared Learning Target and Student Look-Fors.

Self-regulation and self-assessment are critical thinking skills entrenched in the formative assessment process, and enhanced by a shared learning target. If students do not understand what the teacher wants them to learn (the learning target) and what criteria they need to meet (look-fors), they will struggle to self-assess and self-regulate during the lesson. Moss and Brookhart (2015) outline the outcome of not having a shared learning target "The teacher uses his energy trying to get students to the point of understanding in the lesson. Students spend their energy figuring out what the teacher wants them to do and complying with it" (p. 164). Having a shared learning target increases student clarity and allows students to begin to plan, which is a vital part of the self-regulatory process. With a clear target to aim for, and criteria to look for in their

learning and their work, students can learn to monitor their thinking and work, while assessing their progress.

As discussed in Theme 1 (Misconceptions of the role and purpose of formative assessment) (Table 4.11), a majority of the participants (P-1, P-2, P-3, P-5, P-6) used PowerPoints and/or agendas to communicate what students were supposed to be doing that day. Two participants (P-3, P-4) in their communication, used the term learning goals and another participant (P-5) described communicating "learning targets" using "I can statements". As was pointed out in the analysis of Theme 1, teacher communication was more focused on directions for what students needed to complete instead of describing the quality of understanding the students should aim for. If students are not clear on what they are supposed to learn and how well they are supposed to learn it, they cannot not monitor and adjust their learning and work using self-regulation to hit the lesson's learning target. Instead, they will simply comply with the teacher directions and move through the lesson as teacher regulated rather than self-regulated.

While having a shared learning target informing student of the day's learning is crucial to student self-regulation and self-assessment, that alone will fall short without the communication of descriptive success criteria for students to look for in their work (Moss and Brookhart, 2015). Having student look-fors helps feed student learning forward and gives students more opportunities to assess their work. Students who become more "assessment capable" (p. 163) are able to check their progress toward the intended learning target by continuously comparing their work to the criteria which in turn allows students to self-assess and readjust their efforts to hit the intended learning target.

The responses of the participants provide little evidence of activities or communicated criteria that might promote student self-assessment and self-regulation. Instead of providing

specific criteria for students to use to monitor the quality of their work, some participants provided strategies for corrections. For example, participant one stated "*I did provide strategies to self assess and self regulate. In Classkick, you can set up answer boxes. If the student's answer is correct, the box lights up green".* Participant three also had a similar response *"To assist students in self-assessment and self-regulation I enable the features that are available in both Classkick and Schoology to promote this. In Classkick, you are able to have assignments self-grade this allows students to receive immediate feedback".* Simply setting up assignments to provide a way for students to view "correct work" and compare their work to it, falls short of the basic premise of formative assessment, which is to inform learning, not audit or grade it (Moss & Brookhart, 2019).

Lacking a shared learning target that contains student look-fors, students have no way of feeding their own learning forward towards improvement. Alternately, they are forced to keep trying their best with no way to assess their current strategy. In addition, they are hard pressed to ask the teacher for help by crafting effective questions by using the language of the look-fors. Notably, participant one stated, "*If they got answers wrong, they were quick to ask for help"* (Table 4.6). This focus on correcting is not the same as encouraging students to ask clarifying questions that help the students decide where and how to improve their understanding and their work. Asking the teacher for help because the student has verified an incorrect response, keeps ownership of the learning in the hands of the teacher not the student. Moss and Brookhart (2015) point out that "it isn't learning unless the students do it" (p. 159).

Student Self-Regulation and Self-Assessment Promote Student Ownership of their Learning.

Student planning is an important piece of the self-regulatory process (Moss & Brookhart, 2015; Zimmerman & Schunk 2011), and it is important to promote and teach student ownership of their learning as part of the formative assessment process. While a few participants described general aspects of promoting student ownership in their responses, nevertheless most participants did not mention the role of descriptive criteria to clarify the learning target by making it visible to the students and aiding students in their self-regulation. Having criteria that students can look for allows for continuous monitoring and assessing of their strategies (Moss & Brookhart, 2015). An analysis follows of the participants whose responses described general processes that promoted basic student ownership.

Participant two stated "*I often created vocabulary "Takes" to help students chart growth and work toward mastery"* (Table 4.5). Participant two explains "takes" as multiple steps and activities. Take 1would involve new material using a "*pre-test"* usually given as a "*warmup"*. The second take was explained as a check at the end of a lesson in the form of an "*exit slip"*. Following those are Takes 3-7 which are described as "*multiple opportunities to get the desired grade on vocabulary"*. While students charting their performance does inform them how they did on the various takes, it does not give them the descriptive information they need to deepen their understanding of specific concepts and skills in order to feed themselves forward and improve their understanding. And while the participant may have provided such information, their statement did not indicate that they did. What the statements do describe is a series of steps that help students improve their grade, rather than a process that focuses students on improving their understanding. So, instead of aiming for a shared learning target, students are aiming for a certain grade. What is missing is a target to aim for that is about improving their understanding, along with criteria to look for within their work to uncover

gaps in their understanding. Without that criteria the student charting during the "takes" is more geared towards compliance and focused on achieving a better grade rather than towards discovering gaps in their understanding and choosing what to do next to close those gaps.

Participant five's response to prompt 6 (If you gave students strategies to use to self-assess and self-regulate their own learning? How well did they manage to do that? What could have helped them better manage to do that?) demonstrated a more sophisticated understanding of self-regulation. Participant five described directing students to reflect on the outcome of an assessment and complete reteaching activities. While this general response lacked examples and specifics about the information the assessment provided to help students choose which activities might address their specific learning needs, it holds potential for promoting self-assessment and self-regulation. It is difficult to draw conclusions however, since there were not descriptions of a true target for students to aim for that contained success criteria against which students could measure their efforts and learning. And, based on the words participant five used in the statement, it seems that the goal was for students to have several chances to improve their score on the assessment, instead of improving their overall understanding. Additionally, those opportunities were described as happening after the lesson was over rather than being part of the lesson itself. This contrast with a Learning Target Theory of Action (Moss & Brookhart, 2012; 2015) that positions self-regulation and self-assessment as a continuous process, not an end measure.

Self-Regulation and Self-Assessment should be Embedded into the Lesson.

Viewing self-regulation and self-assessment as something that happens after or in addition to the lesson being taught, is a misconception shared by many of the participants. They described efforts toward self-regulation and self-assessment through an online program

that self-grades (P-1, P-3), students charting their growth (P-2), reflection and reteaching activities (P-5). Nowhere is this more evident than in the response of participant six who states "*However, online this was something that had to be additional, with an additional assignment or website to go to in order for me to even tell they self-regulated".* The misconception here lies within the design of the lesson. When designing a lesson and how to communicate the outcomes of the lesson to students, the design should include opportunities and resources that foster students as assessment capable owners of their own learning, which is a key element in self-regulation (Moss & Brookhart, 2015).

The Impact of the COVID-19 Pandemic on Self-Regulation and Self-Assessment.

It is clear that many of the participants had misconceptions dealing with self-regulation and self-assessment. Conversely, while it is important to examine the misconceptions surrounding this important formative learning process, it is equally important to examine those misconceptions in light the impact of the specific circumstances in which the participants found themselves. With the sudden shift to online learning caused by the COVID-19 pandemic, many teachers were instructing online for the first time (Summers, 2020). Teachers found themselves burdened with the task of reproducing the essentials of schools remotely (Turner at al., 2020). This is echoed in the responses of some of the participants *"I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies [self-regulation and self-assessment] were left behind"* (P-4) (Table 4.6). Participant two outlines a similar feeling about self-regulation and self-assessment by saying "*teaching someone to do such challenging and difficult skills as self-regulation and self-assessment becomes an even bigger ask online".* And participant six put it this way, "*It was extreme[ly] hard to have them go back and correct or assess their work"* (Table 4.6). Without the proper training and guided practice

for online instruction (Rogers Haverback, 2020), it is not surprising that such sophisticated educational strategies seemed to be difficult if not impossible for the participant to include in the lesson's design and delivery.

Self-regulation has been shown to impact student understanding in important ways (Moss & Brookhart, 2015; Zimmerman & Schunk, 2011). Focused on a shared learning target, engaged in a performance of understanding and equipped with student look-fors that describe the quality of their learning and work, students can regulate their way to the intended learning outcome for the specific lesson (Moss & Brookhart, 2015). In this way, self-regulation and self-assessment are built into the lesson in ways that teach and encourage students to take ownership over their own learning. As the analyses show, it was clear that participants were unable to take advantage of self-regulation and self-assessment and reported that instead of weaving these strategies into the fabric of the lesson, they viewed them something additional that needed to be added on often at the end of the lesson. This view, however, was exacerbated by the challenges of COVID-19.

Theme 6: Over confidence in teachers' ability to improve student understanding given the reported set of obstacles to student learning identified.

During the start of COVID 19 many teachers were tasked with teaching online for the first time, leading to feelings of unease (Milman, 2020). Considering this general impact on teachers and teaching, it was surprising that the participants reported positively regarding their ability to improve student understanding while teaching online. Even participants who reported that they had been more successful teaching in their brick and mortar classrooms in previous years, still spoke positively about their ability to improve student understanding during the pandemic. Given that the participants reported on the many challenges and changes they were

experiencing it is somewhat surprising that they reported feeling effective in promoting student understanding during online instruction. Table 4.17 illustrates the statements that fit into this theme across responses and participants.

Table 4.16: Responses that Illustrate the theme *Over confidence in teacher ability to improve student understanding given the reported set of obstacles identified to student learning.*

- ✧ *I am confident that I really improved remote learning honestly (P-1).*
- ✧ *At times I believe I was able to improve student understanding during remote learning by providing scaffolding of instructional steps and establishing routines for approaching and completing work that were consistent (P-2)*
- ✧ *I certainly have seen some growth in some students. However, it does not come close to what we could have accomplished to in person learning (P-3).*
- ✧ *The remote setting and all of the obstacles we have faced enabled me to take a step back from the push to teach ALL of the curriculum to being able to teach most of the curriculum and do it well. When I say "well" I mean that I am able to take as much time as needed to have all my students achieve a 90% mastery of the material we are leaning about (P-5).*
- ✧ *When considering it was during a pandemic, doing teaching virtually (which I nor the students had ever done), and using technology none of us had used very much, I believe I did a great job at improving student understanding (P-6).*

As Table 4.16 shows, five of the participants (P-1, P-2, P-3, P-5, & P-6) shared positive reports. Three participants (P-2, P-3, P-6) qualified their positive statements by claiming they did well for the given situation. This is clearly seen in the response from Participant 3 who noted growth but claims it did not match up with previous year. Participant 6's statement while positive, mentions their inexperience along with the students' inexperience. While Participant 5 also made a positive statement explaining that even though they did not cover every topic, students were able to achieve 90% mastery.

The current theme is noteworthy since it does not align with research findings. Specifically, Rogers Haverback (2020) found that the COVID-19 pandemic had a negative impact on teacher self-efficacy. While this study did not measure the self-efficacy of the

participants it would be logical to assume, based on their reported challenges and struggles, that their self-efficacy for increasing student understanding would be negatively impacted. Instead, the participants reported a positive sense of self-efficacy to improve student understanding based on the responses given.

One conclusion that can be drawn from this finding is that while participants reported positive results, their positive self-efficacy was not based on compelling evidence. Gravill, Compeau, and Marcolin (2002) found that "low levels of metacognition and misaligned self-assessments" (p. 1056) can seriously impact individual performance and limit their ability to understand what skills they have mastered and which they have not. The authors go further to say the larger the gap between the individual perceived understanding and demonstrated understanding the less accurate they are in their own self-assessment. This finding is supported by Moores and Chang (2009) who found a negative relationship between self-efficacy (based off an initial performance) and the success of a performance later on. Applying these findings to the current study helps to explain that since participants struggled with setting specific success criteria and using criteria to assess student understanding, they developed a false sense of positive self-efficacy for their ability to teach virtually, without evidence to support that claim. These findings are similar to previous research in student assessment. Moss (2014) in her review of studies on summative assessment, found that "many teachers are underprepared and insufficiently skilled. This leads to summative judgments that are often inaccurate and unreliable" (p. 251). Without the understanding to properly assess their students virtually, participants inaccurately saw their efforts as successful.

Theme 7: Students are incapable of getting themselves to understanding by asking difficult questions.

While analyzing the participants' responses regarding the ability of their students to ask difficult questions (Table 4.8) the findings revealed that most of the participants did not discuss their ability to answer difficult questions from their students. Some participants tied their responses to the difficulties inherent in in responding to students' questions in the online environment or other obstacles. Others responded that their students were not capable of asking difficult questions. Table 4.17 illustrates the statements that fit into this theme across responses and participants.

Table 4.17: Responses that Illustrate the theme *Students are incapable of getting themselves to understanding by asking difficult questions.*

- ✧ *It was very difficult to answer difficult questions. It was difficult to determine who needed help. Students often did not know that they needed help or did not want to ask for help (P-1).*
- ✧ *I found posting and re-posting our trajectory in the chat and referring to it in terms of what we had done and what we were going to do cut down on the "difficult" questions (P-2).*
- ✧ *One of the most significant benefits that came out of virtual learning was communication between me and my students. They knew that that had access to me basically 24/7 (P-3).*
- ✧ *Their access to reliable technology, tools, and being available to only one scholar at a time for questions versus being able to move around a classroom was a challenge (P-4).*
- ✧ *I did not really encounter this specifically. What I did get occasionally was "why do I have to know this?" (P-5).*
- ✧ *It was not as easy to get students to ask questions about their work and understanding (P-6).*
- ✧ *I did not think it was all too difficult to explain to students what they were suppose to be learning during a lesson (P-6).*

As Table 4.17 illustrates, the participants had various interpretations of the question. What is interesting to note is that student questioning as a form of critical thinking, or a way to get themselves to understanding was absent as evidenced by the differing rationales inherent in the participants responses. Participant 1 states that it was challenging to answer difficult

questions but then shifts to highlighting that their students do not actually recognize when they need help. Participant 2 interpreted the question to mean that student questioning pertains to class activities, what to do and what to do next, and focused on strategies that they used in their class to prevent questions about that. Participant 4 talked about student access and challenges to answering questions from multiple students. Other participants (P-5, P-6) reported that they did not experience difficult questions from their students. Interestingly, Participant 3 stated that due to the online environment, students could reach teachers in more convenient ways.

It was clear that the participants overall misinterpreted the word "difficult" in prompt eight (How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?), with many participants (P-2, P-3, P-4, P-5, P-6) interpreting difficult to be the number of questions asked about the process or directions. However, Participant 6 discusses this question while answering a different prompt saying, "*It was not as easy to get students to ask questions about their work and understanding"*. This participant identified it as a challenge earlier in their responses but does not discuss it when responding to prompt eight.

One explanation for this theme connects to design of the participants' lessons. As previously discussed in the first theme (*Misconceptions of the role and purpose of formative assessment)* the way participants designed their lessons did not allow for students to be "informed decision makers" (Moss & Brookhart, 2015, p.27). This was due to the lack of a shared learning target which inhibits students ability to self-assess and self-regulate. Without that shared learning target, it is difficult for students to ask difficult questions about their work and understanding as they do not have an effective strategy to assess their learning. Moss and Brookhart (2015) explain that when determining the effectiveness of student questions, that their

questions need to be concentrated on thinking congruent with the learning target. With the lack of a shared learning target, it is clear why the participants saw student questioning as a challenge but misinterpreted the cause.

Chapter Five: Discussion of Findings and Recommended Actions

Introduction

The drastic impacts on education brought on by the COVID-19 pandemic forced school districts into dramatic changes as many were educating their students for the first time virtually (Butcher, 2020; Cope & Kalantzis, 2020; Darling-Hammond et al., 2020; Huber & Helm, 2020; Lachlan, et al., 2020; Milman, 2020; Rogers Haverback, 2020; Sulisworo, et al., 2020; Vogels, 2020). With this sudden and drastic need for change to adapt to the ongoing pandemic, many school districts needed to move quickly. This left many involved under prepared for the challenges that would be faced in order to provide students with a quality education (Milman, 2020). Even with the mounting issues brought on by the pandemic, some researchers have viewed this time as an opportunity for necessary change in education (Cope & Kalantzis, 2020; Darling-Hammond et al., 2020; Lachlan et al., 2020; Rogers Haverback, 2020). In particular, Rogers Haverback (2020) advocates that what is learned from teaching during the pandemic can be used to improve education currently and better prepare educators for the future.

With the mindset of finding opportunity within the dire circumstances brought on by the COVID-19 pandemic, this study searched for ways to improve teaching strategies and support teachers. The purpose of this study is to gauge the utility of the Learning Target Theory of Action (Moss & Brookhart, 2012; 2015) to address teacher perceived obstacles to student learning while online. This theory of action can assist teachers in the planning of their lessons in order to switch the focus from what students will do during that time, to what will the students learn from this lesson. Instead of looking at lessons from the teachers' instructional perspective, the view is shifted to the student perspective in order to better meet the needs of students. The

Learning Targets Theory of Action allows teachers to formatively assess their students while supporting student self-regulation (Moss & Brookhart, 2012; 2015) with student self-regulation being identified as a need during the pandemic (Darling-Hammond et al., 2020).

To gauge the utility of the Learning Targets Theory of Action (Moss & Brookhart, 2012; 2015), this study surveyed six urban middle school teachers on the obstacles faced while teaching online during the pandemic. To gather participants for this survey an email was sent out to the staff at an urban Western Pennsylvania middle school inviting teachers to volunteer to participate in the study. Eight teachers volunteered to be a part of the study and were sent a consent form to sign. Participants were sent a ten question survey via link through their personal email, the link took the participants to the survey which was created on the Google Forms platform. When participants received the survey it was accompanied with directions to completing the survey such as the length of their answers (one or two paragraphs), the time it would approximately take to complete the survey (45 minutes) and asking participants to focus their responses to avoid technology issues, as this was not the focus of the study. Participants were given two weeks to complete the survey and were sent an email reminder to complete the survey at the halfway point.

Of those participants, one participant did not return the survey and another participant turned in an incomplete survey. With those omissions, six participants fully completed the survey and turned it in within two weeks. The questions asked of the participants, were designed to provide a view into the obstacles they faced while teaching during the pandemic, insights on how they planned their lessons to meet the needs of their students online, how they were able to formatively assess their students, how they provided quality feedback to their students, and how students self-regulated their learning. The responses of the participants were analyzed three ways

first, they were analyzed individually and summarized. Second, they were analyzed by a prompt examining similarities and differences between participant responses to each prompt. Third, from the second analysis, seven themes were developed to further explore participant responses and reveal deeper meaning.

The following seven themes emerged from the analysis of the participants' responses

1. Misconceptions of the role and purpose of formative assessment.
2. Technology is the obstacle to everything.
3. Technology is the answer to everything.
4. Teachers are the main source of feedback but there is not a shared definition of effective feedback.
5. Promoting student ownership through self-regulation and self-assessment was challenging to embed in the fabric of the lesson.
6. Positive Self-efficacy for improving student understanding.
7. Students are incapable of getting themselves to understanding by asking difficult questions.

brought to light obstacles that were faced by the participants along with misconceptions that hindered student understanding and growth during online learning. While some of the themes were tied to technology, many of the themes tied directly to the strategies promoted by the Learning Targets Theory of Action (Moss & Brookhart, 2012; 2015). Specifically, the formative assessment process, feedback, student self-regulation, student self-assessment, and student questioning were identified as either obstacles or misconceptions within the participant responses. These findings and their connection to the Learning Target Theory of Action (Moss & Brookhart, 2012; 2015) will be discussed further in their relation to each of the three research questions.

Discussion of the Findings

This section will outline the findings from the analysis of the participant responses and the themes that emerged and organize them by the three research questions.

- *What instructional challenges did teachers face related to designing and delivering lessons remotely during COVID-19?*
- *How did those challenges impact teacher perceptions of self-efficacy for providing meaningful lessons for their students?*
- *What is the utility of a learning target theory of action for addressing teachers instructional practice challenges and perceptions of self-efficacy?*

The discussion that follows connects each research question to illustrative participant responses, the themes that emerged from the findings, and relevant research to further explore how the findings addressed the questions that framed the study.

Research Question 1: *What instructional challenges did teachers face related to designing and delivering lessons remotely during COVID-19?*

To explore the first research question, prompt two of the survey (see Table 4.2) asked participants to discuss the challenges they faced in the planning and delivery of their lessons while online. In their responses, all participants mentioned a feeling of unease about planning and delivering lessons in this unfamiliar territory, brand new to all of them. Participant five sums up the feelings of many of the participants in their response: "*I had to teach myself how to teach online, while at the same time, teach my students how to use their devices and various features as well as have them learn content"* (Table 4.2).

While the participants faced a variety of challenges, the findings shed light on the similar patterns that emerged that included creating worthwhile lessons, struggling with the concept of formative assessment and how to use it, delivering quality feedback, difficulty promoting student self-regulation and self-assessment, and selecting technology to promote student understanding. Each of the findings will be discussed.

Creating Worthwhile Lessons

Each participant provided insights into the design of their lessons across their responses. To determine if the lessons they described in their responses met the criteria of a worthwhile lesson, I compared them to the criteria established by Moss and Brookhart (2015) that states that a worthwhile lesson must "(1) [meet] national/state standards and district curriculum goals, (2) [focus on] important concepts or skills in the content for the specific lesson, and (3) [meet] the specific needs of the students" [with that content and skills] (p. 50). The need for lessons that met the criteria of a worthwhile lesson was heightened by the COVID-19 pandemic since teachers were tasked with more content creation than they were prior to the pandemic (Cope & Kalantzis, 2020). While creating some content was not unfamiliar territory for most teachers, what was new to them was the amount of content they were creating along delivering it in a way that it functioned online and was engaging for students (Milman, 2020). Because of this new and unfamiliar territory along with teachers trying to simply recreate their classrooms online instead of adapting them (Cope & Kalantzis, 2020), it is not surprising that challenges arose in the development of meaningful content that engaged students with online learning during the pandemic.

Comparing the lessons described by the participants to the effective strategies for designing a worthwhile lesson (Moss & Brookhart, 2015) reveals the challenges participants experienced. Moss and Brookhart detail a three step process to plan a worthwhile lesson: "(1) designing the potential learning trajectory that will meet national/state standards and curricular goals, (2) selecting important concepts or skills in the content for the specific lesson, and (3) meeting specific students' needs with the content and lesson goals" (p. 53).

First, to be considered worthwhile, a lesson must be a part of a potential learning trajectory. A learning trajectory is a series of lessons that form an intentionally planned sequence

to take students toward increasing levels of understanding of the content and skills that are part of each lesson. In this way the lessons are designed to build on one another and advance students' understanding, increasing overtime until they reach "expert levels" (Moss & Brookhart, 2015, p. 52). The term "potential" reminds teachers that even when carefully planning a worthwhile lesson as part of a meaningful learning trajectory, the trajectory and the lessons within it should be monitored and adapted based on formative evidence gathered during each lesson. With that said, creating a potential learning trajectory as the first step in planning worthwhile lessons provides the teacher with a coherently organized set of lessons that helps to ensure that each individual lesson builds on the lesson before it, provides the students with a next level of work that get them ready for the challenges of the next lesson, and leads to meaningful curricular standards and objectives.

The focus of any worthwhile lesson and worthwhile learning trajectory should be centered around what will students learn. However, Moss and Brookhart (2015) caution that many educators focus their lessons and trajectories on activities—what students will do. By focusing on doing instead of learning students put their energies toward completing that activity rather than on mastering the skills and content in a way enables them to transfer to other learning opportunities (Moss & Brookhart, 2015). This tendency to focus on activity completion was very evident in the participants' responses when discussing their planning and teaching during the pandemic. Even more telling was that this activity focus was present in participants' discussions of their planning and teaching prior to the pandemic.

With the pandemic causing most teachers to create content for online teaching for the first time in their careers, it is understandable the trajectories they put in place might miss the mark and focus on activities students will complete instead of the concepts students will learn by

completing those activities. This focus on activity completion was common among the participant's' reports. When discussing planning and delivery of their lessons during the pandemic five of the six participants (P-1, P-2, P-3, P-4, P-5) did not discuss the learning intentions they had for their students; and instead, focused their responses on what they wanted students to do. Participant one's remarks start off with planning and does not mention intended learning "*I tried to keep the delivery process the same when teaching online. I still had a warmup, an example, practice and discussion but it was definitely different."*. Participant three speaks to planning but their planning is centered on doing "*I began planning the way I had always done. I would try to fill my whole block of time with instruction and activities".* Participant two mentions using a trajectory and even posting it in the chat for students to see. However, when participant two describes the trajectory, the focus on activity completion rather than student learning becomes evident "*I began posting numbered lists in the chat in our meeting, re-reading it from time to time and referring students to it to let them know what we had done, what we were currently working on and what we were going to do next."* It quickly becomes clear that what participant two calls a trajectory is simply a list of activities that students have done, are assigned to do, or will do next. A trajectory isn't a list of activities but rather statements about what the students will learn in each lesson that forms a plan for how students are going to increase in their understanding overtime (Moss & Brookhart, 2015).

A simple analysis of participants' responses might lead one to conclude that the hurried switch to online learning and lack of experience in content creation specifically for online learning could cause teachers to quickly fill their instructional time with activities. However, a deeper analysis of participants' responses reveals that their planning and instructional delivery

guided by a focus on what students will do during the lesson was present in their planning prior to the pandemic.

When discussing their planning prior to the pandemic, four of the six participants (P-1, P-3, P-5, P-6) explained that they were guided by the curriculum provided by the district. The examples they provided of their planning to implement the district curriculum revealed their focus on doing over learning. Participant one's response shows this clearly "*Before COVID, I planned my lessons based on a roadmap provided by the district. I supplemented with worksheets and activities that I found online".* Even though this participant was guided by the curriculum road map given to them by the school district, their planning did not focus on what they wanted students to learn along the way, rather the participant focused on what students would do, and never mentioned student learning in their response. Participant three discusses their planning for the whole unit "*Every Unit begins with whole group learning. This is where most activities are teacher guided and a lot of whole group discussion takes place. Next, the unit transitions to small group instruction".* Here even in their planning for an entire unit the focus is on the activities and the various ways student will complete those activities instead of what students will learn during those groups and teacher guided opportunities.

Other participant responses (P-2, P-3) divulged that not only did a focus on doing over learning impact their original planning but also framed their adjustment to their planning. This is evident in the following response from participant two "*If students completed work sooner than expected because it was too easy or struggled because it was too difficult/tedious, I modified and adjusted expectations for upcoming classes".* As can be seen in the response, the focus of the participant is on the time it took for student completion of the work instead of the quality of the what the student mastered regardless of the time of completion. It seems safe to assume, based

on this response that the participant used the amount of work completed and the time it took to complete that work, as a measure of student understanding. The use of time on task as evidence of student understanding stands in stark contrast to the practice of assessing student understanding by gathering compelling evidence of student learning during the formative assessment process. Formative assessment must be built into the lessons (Moss & Brookhart, 2009) so it can be an ongoing process of comparing what students learned to success criteria and not a standalone event or the simple acceptance of student work completion (Cauley & McMillan, 2010; Moss & Brookhart, 2015, 2019; Roskos & Neuman, 2012). It becomes evident that a pattern of focusing on planning activities rather than learning is an obstacle to the development of a worthwhile lesson that can impact and derail other aspects of quality instruction.

It is clear from the finding based on participants' responses that the COVID-19 pandemic had a devastating impact on education. While the ongoing pandemic made the planning and delivery of their lessons much more difficult, it did not change their concept of how to plan a good lesson around activities since that focus guided them prior to the pandemic. The pandemic only exacerbated the impact of that focus and highlighted the need for a deeper commitment to improved planning and can be seen in the other challenges that will be discussed in this section.

Struggling With the Concept of Formative Assessment and How to Use It

Many of the participants reported issues with formative assessment as it related to measuring their students' progress and understanding. Often, these issues were connected to the challenge presented by the majority of their students not having their cameras on during the lesson. Due to internet issues and privacy concerns the participants' school district did not require students to have their cameras on. Although the participants taught their students

synchronously every school day, this meant that they were not able to see their students during those daily lessons. Five of the six participants (P-1, P-2, P-4, P-5, P-6) reported that not being able to see their students inhibited their ability to gauge students' understanding. Participant five described this issue realizing that the degree that they relied on seeing students saying "*One obstacle I did encounter was not being able to see my students. I did not realize how much I used physical signals in my room to help me assess"* (Table 4.7). Participant two noted a similar barrier and connected it to formative assessment "*lack of camera presence in class and the resulting lack of participation and engagement were at times major impediments to my ability to assess the class formatively"* (Table 4.7).

The inability to see their students during lessons caused feelings of unease as can be seen in a statement made by participant one "*I had no idea if a student really understood the material. I did not know if they were actually behind the black square".* This sentiment was shared by participant two who wrote "*Silence and closed cameras deprived me of cues I often use to "read the room" and "shuffle the deck" effectively at times. It was like flying blind in some classes".*

The pattern contained in the responses is consistent with the research on teacher experiences during COVID-19. Many teachers were dealing with situations that they had never experienced in their careers. Due to the unfamiliar setting teachers were instructing in, along with limited training to support them, Rogers Haverback (2020) contends that "efficacious teachers may not feel efficacious now" (p. 3). Louis-Jean and Cenat (2020) agree that due to time constraints, many teachers were not given the proper training for online learning leading to the struggle of many teachers. During the pandemic teachers had to constantly adjust to an unfamiliar and ever-changing environment. Compounding these obstacles, COVID created conditions that did not represent typical online learning. The lack of cameras made it difficult for

the participants to connect with their students. That struggle to connect was a common problem among educators at that time (Rogers Haverback, 2020).

While many of the participants did blame the inability to see their students as the barrier to their effect use of the formative assessment process, it can be argued that it was not the only barrier, and certainly not the strongest. The root cause can be attributed to overarching misconceptions about the role and purpose of the formative assessment process (see Theme 1, Table 4.11). As mentioned, five of the six participants (P-1, P-2, P-4, P-5, P-6) reported needing to see their students in order to engage in formative assessment. Yet, examining what they reported about the design of their lessons reveals crucial gaps in their understanding of the formative assessment process that contributed to their inability to know what their students understood during the lesson and how deeply they understood it. The participants saw formative assessment as an event, and many described ways that they used quizzes to gauge student understanding at the end of the lesson.

Even when participants attempted to implement what they viewed as formative assessment strategies, those strategies were designed only to inform the teachers instead of the students. Participant one explains their process "*I used Quizizz to formatively assess students. It was easy for me to find a 5-10 question quiz to see what students learned"* (Table 4.11). Clearly this strategy is based on a belief that formative assessment is seen as an event, is meant to audit students' work, and is designed to inform the teacher, rather than engage the students in gathering evidence that could inform the quality of their work and understanding. Participant two's responses revealed a unique approach to formative assessment. This participant reported using "*Takes"* which were various activities the participant assigned to gather evidence of student learning and give students multiple opportunities to improve their grade. Participant two

described how they used the first two "*Takes"* (there are a total of seven). The first "*Take"* was a pre-test and the second was an exit slip and described their strategy this way: *"Take 1's and 2's provided good formative assessment data, signaling how much more in-class time I should spend on a given topic or vocabulary set in each unit"* (Table 4.11). While it is promising that Participant two built multiple opportunities into the lesson for students to get a better grade, the intention of the design of the lesson is to inform the teacher of student progress. What's more, it signals to students that their target is to get a better grade, rather than aiming for understanding. This does not engage the students as owners of their own learning.

Effective formative assessment, on the other hand, occurs during the lesson as an ongoing learning process (Cauley & McMillan, 2010; Moss & Brookhart, 2015, 2019; Roskos & Neuman, 2012). The Learning Targets Theory of Action (Moss & Brookhart, 2009; 2015; 2019) ensures that the formative assessment process is embedded throughout the entire lesson by providing a stated, shared learning target that informs the student about exactly what it is that they are supposed to learn; engaging students in a performance of understanding that shows them what it is that they need to be able to do and gives them the chance to do it; and describing the indicators of quality they can look for in their work to determine if they have indeed met the learning target for the day. In this way students are set up to succeed and taught to self-assess. Supporting the target and performance of understanding with student look-fors (or criteria for success) helps both the teacher and student become better informed about student progress on their journey to the learning target. Students can self-assess and adjust their while they are learning and working to get themselves to the learning target. And this also helps to inform the teacher in ways that enables the teacher to provide better effective, formative, and specific feedback connected to the look-fors and the performance of understanding (Moss & Brookhart,

2012; 2015; 2019). With both the teacher and student better informed regarding student progress the formative assessment process is alive and working to improve student learning and understanding throughout the lesson.

Online learning during the pandemic provided a heightened sense of the need for lesson planning that improves students' ability to manage their own learning (Darling-Hammond et al., 2020). Going even further, Sulisworo et al. (2020) concluded that educators must promote "setting and informing explicitly the learning objectives" (p. 728) to inform students about what is expected of them and how they can accomplish it. This need for improved lesson quality from the planning stage directly relates to the seven strategic components embedded in the Learning Targets Theory of Action (Moss & Brookhart, 2012; 2015; 2019).

Delivering Quality Feedback

Another challenge revealed across participants' responses related to providing quality feedback. Specifically, four of the six participants (P-1, P-3, P-4, P-6) noted challenges connected to delivering feedback to their students during online lessons. They reported using online programs such as *Classkick*, so that they could leave feedback directly on students' work while students were working on it. However, some of the participants noted that although it was instant feedback, it was time consuming and cumbersome to provide that feedback to most of their students during the class period. Participant one stated "*I liked being able to provide instant feedback but it is very time consuming to through all of the slides and write individual comments"* (Tables 4.10, 4.14). Participant six reported a similar challenge "*Online, I was able to see everyone's paper, but to then give instant feedback was not so instant"* (Tables 4.10, 4.14). While both participants recognized the importance of the immediacy of quality feedback

online, they struggled to be able to provide feedback to many of their students in a timely manner.

Furthermore, in their discussion of feedback, a few participants displayed low self-efficacy for the feedback they delivered to their students online, especially when comparing it to the quality of the feedback they were used to delivering in their brick and mortar classrooms. Participant five explained "*I think my use of feedback is stronger in person. I can look at exit slips and do a quick one on one re-teach with that student before they leave"* (Table 4.14). Participant three described a similar feeling "*As far as challenges facing feedback, I never really knew or still know for that matter, if students even read the feedback I provide them on their assignments"* (Table 4.14). Given that COVID-19 forced many teachers to struggle with pedagogical practices and strategies that normally would not have been difficult in a brick-and mortar setting (Rogers Haverback, 2020), it is understandable that participants would report feeling unsure if the feedback they delivered to their students was impactful, timely, or even used. This shared struggle to provide quality feedback was common for many teachers as one stated, "I can't respond to 33 kids in writing fast enough" (Turner et al., 2020, p. 6). This shared feeling was surely overwhelming for many educators.

The findings revealed that the participants' challenges with providing feedback partly stemmed from their quick adaptation of their lessons and teaching techniques to online teaching. The findings also brought to light that the root causes of that challenge harkens back, again, to assumptions about lesson design that the participants had prior to the pandemic. The lessons the participants described missed key elements of the formative assessment process. Without a shared learning target, a performance of understanding, and stated criteria to look for in student work, students did not have what they needed to become assessment capable or feed themselves

forward in their learning. What's more, teachers did not base the design of the lesson or their assessment of student learning on those same criteria. Lessons that do not include these components assume that the teacher is the main source of feedback, do not make specific what student success looks like, and does not determine what will be counted by the students and the teacher what will count as evidence of student learning (Moss & Brookhart, 2012; 2015; 2019).

The participants, for the most part, revealed in their descriptions of the lessons they designed that they saw themselves as the main source of feedback and designed the majority of their feedback as comments or corrections they left virtually on students' work. Four of the six participants described using *Classkick* to deliver feedback. Many of those participants liked that they could instantly leave feedback on students' work. However, many also found this to be cumbersome as they needed to do this for every student. Participant one described it this way, "*I liked being able to provide instant feedback but it is very time consuming to go through all of the slides* [in *Classkick*] *and write individual comments*" (Tables 4.10 & 4.14). In other words, this participant saw feedback as comments left on work that was already completed not as information that could feed student learning forward. It also reveals the underlying assumption that teacher comments on completed work was the main source of feedback for students, as participant one explains that it was *"time consuming"* to get through all of the students work. This practice of leaving comments on finished work conflicts with the current research on effective feedback.

Quality feedback should come from multiple sources, not just from the teacher (Hattie & Timperly 2007). Likewise, when feedback is limited to corrections or comments it limits the formative journey that students go on by only informing students of how they did on that one assignment or question and not giving students the information, they need to improve their

understanding (Brookhart, 2017). Moss and Brookhart (2015) remind us that "At a minimum, a student should learn one thing she did well and one thing that could be improved with some idea of how she might accomplish that improvement" (p. 141). This deep understanding of the role and impact of feedback on the quality of student learning was not evident in the responses of the participants when describing the kinds of feedback, they provided during the pandemic. Hampered by a surface understanding of the characteristics of quality feedback along with their need to quickly adapt to online teaching further exacerbated this issue. It is, therefore, not surprising that teachers found feedback to be a challenge.

Difficulty Promoting Student Self-Regulation and Self-Assessment

Another challenge revealed in the findings was the difficulty the participants had with student self-regulation and self-assessment. Participant responses regarding student self-regulation and self-assessment to prompts five (Table 4.5), six (Table 4.6), and ten (Table 4.10) were varied but yielded common misconceptions. Three of the participants (P-1, P-3, P-5) described their strategies for promoting student self-regulation and self-assessment. Participant one explained their reliance on *Classkick* "*I did provide strategies to self-assess and self-regulate. In Classkick, you can set up answer boxes. If the student's answer is correct, the box lights up green"* (Table 4.15). This response seems to indicate that Participant one views the idea of self-assessment and self-regulation as creating ways for students to be informed of the correctness of their work by using self-grade feature and then reaching out to the teacher for assistance, rather than continuously comparing the work they are producing to specific success criteria for the learning target for the lesson in order to adjust their efforts to master that concepts and skills that make up the lesson's stated target (Moss & Brookhart, 2015). Having a shared target and specific look-fors helps develop students who are less reliant on the teacher and who

become assessment capable learners and intentional "goal-getters" (p. 163). Participant five demonstrated a more sophisticated understanding of self-regulation and described directing students to reflect on the outcome of an assessment in order to select and complete reteaching activities. This shows an attempt on behalf of participant five to encourage students to think about their outcomes and how they can improve their work. But it does not go far enough. Instead of merely giving students the opportunity to choose and complete a reteaching activity after receiving a poor assessment at the end of the lesson, teachers can promote opportunities for students to continuously compare their work to success criteria during the lesson.

Moss and Brookhart (2015) explain embedding student self-assessment into lessons saying, "Each lesson gives students self-assessment opportunities" (p. 163), meaning that students should be able to check their progress while they still in the lesson, and arguing that student self-assessment is a key component of self-regulation. While participant five did have reteaching activities that occurred after the lesson, the activities do not help students improve during the lesson and before the test. Even with descriptions of the participants attempt at self-regulation and self-assessment, there was little success mentioned by the participants.

The findings revealed additional misconceptions regarding the ability of students to self-assess and self-regulate. For example, participant two described their feelings surrounding implementation of self-regulation and self-assessment "*Online instruction is overall a very poor substitute for in-person learning so teaching someone to do such challenging and difficult skills as self-regulation and self-assessment becomes an even bigger ask online"* (Table 4.15). Participant four had a similar statement "*I feel we were so behind entering the school year just trying to learn our new district resources that these effective strategies were left behind."* (Tables 4.6, 4.15). The struggle to understand new online platforms was a common problem for

many educators during the pandemic (Louis-Jean & Cenat, 2020) and participant six blamed that condition for blocking student self-assessment efforts explaining it this way: "*However, online this was something that had to be additional, with an additional assignment or website to go to in order for me to even tell they self-regulated"* (Tables 4.13, 4.15). This sentiment of having to do something extra to get the students to self-regulated and self-assess was an assumption shared by five of the six participants (P-1, P-3, P-4, P-5, P-6).

The participants' descriptions of their lessons revealed they were designed in ways that did not allow students to become assessment capable. As participants have reported using online programs to assist students in their self-assessment it would be fair to surmise that participants do not feel students are capable of self-assessment on their own. Conversely, this runs in stark contrast to previous literature on student self-assessment. Hattie and Timperly (2007) in their work promote the idea of encouraging student self-assessment as it will improve their evaluative skills and improve their attainment of goals and expectations. This train of thought is heralded by Moss and Brookhart (2015) who identify that students who are more assessment capable are able to "feed themselves forward" (p. 163).

In a similar manner the challenges reported by the participants regarding the implementation of student self-regulation and self-assessment strategies, can be tied to misconceptions about the concepts themselves. Based on the findings, it seems that four of the participants (P-1, P-2, P-3, P-6) felt that self-regulation and self-assessment were something that was additional to their lessons, and that it should occur at the end of the lesson. However, this conceptual understanding stands in sharp contrast to the research of Moss and Brookhart (2015) that the design of the lesson should include opportunities and resources to foster students as assessment capable owners of their own learning during the lesson—a key element in self-

regulation. Consequently, the misconceptions the participants held surrounding self-regulation hindered students from the beginning design of the lesson. As Peters et al. (2014) argue, teachers must understand self-regulation and model self-regulation throughout the lesson in order for students to be capable of self-regulation.

Having opportunities for students to self-assess through the use of success criteria along with quality self-regulation models gives students the opportunity to regulate towards a learning target. Because the participants showed only a surface level understanding of self-regulation, this negatively impacted their lesson design while also limiting their ability to model quality self-regulation for their students. Additionally, the students were not positioned to develop as assessment capable learners, further hindering students' ability to self-regulate. Clearly there are a variety of reasons why participants found self-regulation and self-assessment to be challenging and underscores that online teaching was not the main obstacle.

Selecting Technology to Promote Student Understanding

Lastly, while participants were instructed to focus their responses only on non-technology related obstacles to planning and teaching during the pandemic, they inevitably discussed challenges they faced due to technology in a majority of their casual explanations. Several of the challenges related to technology were tied to other challenges discussed in this section such as formative assessment, feedback, self-regulation and self-assessment. A technology related challenge reported by three of the participants (P-3, P-4, P-5) was the increased amount of time it took to teach a lesson online. Participant three stated "*I quickly came to learn that what I was doing in my traditional classroom was not going to work virtually … I was only able to get through one item on my agenda when I was prepared with three or four".* This reality of having a lesson take more time to accomplish online led to feelings of inadequacy during the pandemic

(Huber & Helm, 2020; Cope and Kalantzis, 2020). Summers (2020) asserts that teachers similarly to students needed "to feel psychologically safe to learn new skills" (p.33). However, the multitude of changes to their environment did not create conditions that made it easy to learn new skills. Situations like this during the pandemic had a negative impact on teacher self-efficacy beliefs (Rogers Haverback, 2020). Those negative beliefs impacted teachers perceptions of their abilities (Zee et al., 2016), leading to the feelings of inadequacy and supported by the findings from the participants' responses.

Participant four shared an additional challenge. Teachers were tasked not only with instructing online, but also with supporting their students and their families with quickly understanding technology that was new to them "*The focus shifted from getting scholars* [students] *learning, to literally messaging families during the usual "opening" just to get their child online due to being fully remote."* (P-4). Already existing inequities in education were worsened by the pandemic. Those inequities limited student access to technology and internet (Laster, 2020; Louis-Jean & Cenat, 2020). Only 41% of the school districts in the same locations as the school in this study were able to provide necessary technology to all grade levels at the start of the pandemic (Center on Reinventing Public Education (CRPE), 2020). This limited access to technology and internet clearly had a negative impact on the amount of teaching that happened, especially when considering what participant four described as an additional consideration as teachers worked to help students and families get online.

It is clear after analyzing the statements of the participants that they faced serious challenges that were either brought on by the pandemic or exacerbated by the situation. Technological issues were very much present as the participants had to quickly adapt and

recreate their classrooms online as did many other educators around the country (Turner et al., 2020).

Along with challenges associated with technology, other challenges arose that were based on misguided attributions to technology or the task of teaching online by the participants. Specifically, the challenges related to formative assessment, feedback, self-regulation, and self-assessment fall into that category. Many of the participants looked to technology to quickly fix those challenges that were arising instead of re-examining the design of their lessons and the impacts of those designs on student learning. It is important to remember, however, that many educators, including the participants of this study, were faced with a momentous task of hurriedly to switching to online learning while also not worsening the already existing inequities in education (Kaden, 2020; Louis-Jean & Cenat, 2020).

Research Question 2: ***How did those challenges impact teacher perceptions of self-efficacy for providing meaningful lessons for their students?***

Participant responses across all of the prompts revealed their beliefs in their abilities to instruct effectively during the pandemic. Prompts eight (Table 4.8) and nine (Table 4.9) were adapted from the Teacher Sense of Efficacy scale (Tschannen-Moran & Woolfolk Hoy, 2001) to more specifically explore participants perceptions of efficacy.

Teachers' perceptions of self-efficacy are strongly correlated with student success and research confirms that positive teacher self-efficacy beliefs can have superb outcomes in the classroom (Holzberger et al., 2013; Holzberger, et al., 2014; Summers, 2020). It is important to remember, however, that a teacher's perception of their self-efficacy is a malleable construct that can change during a teacher's career (Klassen & Chiu, 2010). The drastic challenges brought on

by the pandemic, add to the importance of understanding the impacts of the challenges that the teachers identified and discussed and the impact on the participants' self-efficacy beliefs.

The impacts brought on by the COVID-19 pandemic led to many dramatic changes for students and teachers alike (Turner et al., 2020). Rogers Haverback (2020) argues that teachers self-efficacy beliefs were negatively impacted by the pandemic. With the switch to online learning teachers were tasked with understanding how to teach online and learn new technology (Milman, 2020). Consequently, Summers (2020) points out that just like students, teachers also needed to feel secure with regard to learning new skills. The increased workload and stress brought on by the pandemic (Kaden, 2020) was certainly not a secure environment for many teachers. Given the strong evidence that COVID-19 brought inherent circumstances that had a high probability of negatively impacting teacher self-efficacy beliefs clearly, it was imperative to examine participants' responses for information regarding their self-efficacy beliefs connected to challenges brought on by the pandemic.

The findings reveal that participants faced challenges that lowered their self-efficacy beliefs in several ways. The participant responses were examined using the lenses of the four sources of self-efficacy belief system: master experiences, vicarious experiences, social (verbal) persuasion, and somatic and emotional states (Bandura, 1994; Rogers Haverback, 2020), each of impact a person's self-efficacy beliefs differently. Yet all were connected to the challenges faced by the participants and influenced the actions participants took to respond to the changes brought on by the pandemic.

Mastery Experiences

The first source of the self-efficacy belief system, mastery experience, are the most impactful in building a strong sense of self-efficacy. Mastery experiences occur when one

completes a task successfully; however, failure to complete a task with success can have a negative impact (Bandura, 1994). With the move to online learning, teachers could no longer rely on past mastery experiences and were forced to find new ways to adapt to the changes (Rogers Haverback, 2020). In the analysis of the participant responses to the prompts, it became immediately clear that participants had difficulty relying on their past mastery experiences for many key parts of their instructional techniques. This difficulty becomes is apparent in their discussion of the challenges faced with creating worthwhile lessons, engaging in formative assessment, delivering feedback, and promoting student self-regulation and self-assessment.

Many participants' statements harkened back to what they did previously and compared it to their teaching during the pandemic. Participant four provides an example of this in their following statement "*it became difficult to instruct the way I would within a normal classroom setting"* (Table 4.2). Participant four, in their efforts to adapt to teaching online looked to their past mastery experience as a guide for their new setting, yet found their past experiences to be not as applicable as they may have hoped. This same sentiment is present in participants' statements about how they created their lessons. Participants one and three explained that lessons or even pieces of lessons took much longer to complete than they did prior to the pandemic. Participant three expressed the impact this change had on them "*This led to me feeling defeated and that I was not meeting my students needs".* This statement indicates that self-efficacy beliefs in their ability to effectively instruct their students was negatively impacted.

Along with creating worthwhile lessons, the formative assessment process was seen to be a challenge for five of the six participants (P-1, P-2, P-3, P-5, P-6). These participants stated that they normally relied on seeing their students' faces as the best way to gauge their students' understanding. Without having students in the room or being able to see all since many students

did not turn on their cameras, the participants stated they were unsure of how to gauge their students understanding. Participant two provides a good example of this challenge "*Silence and closed cameras deprived me of cues I often use to "read the room" and "shuffle the deck" effectively at times. It was like flying blind in some classes".* What the participants considered to be mastery experiences that they could draw on were no longer applicable for situations created by the pandemic. In many cases there was nothing to draw on participants to feel less efficacious when it came to gauging student understanding.

The data showed that participants' attempts to recreate past experiences that were not effective practices in the first place, such as seeing students' faces to gauge their understanding. Even though these techniques did not truly produce evidence of student understanding in the brick and mortar classroom, their misguided assumptions in the impact of those techniques had a negative impact on their self-efficacy beliefs about their ability to instruct effectively. This impacted the actions that they tried to take (finding software or other technology solutions) and also influenced those who took no actions and simply believed that there was no other way to assess student understanding.

A similar case of recalling a past experience as successful that appeared in the participants' was viewing formative assessment as an event (for example a quiz, warm up, or an exit slip) instead of seeing it as a process that is embedded into the lesson. This misconception was only further exacerbated by the hurried switch to online learning. This further confused self-efficacy beliefs since the participants compared what they were doing to gaps in their own understanding and often prevented them from solving the problems by creating more worthwhile lessons.

Vicarious Experiences

The second source of the self-efficacy beliefs system, and not as impactful as mastery experiences, is vicarious experiences. These occur when a person observes another person similar to them performing a similar task. If the person they observe is successful in their performance, they assume that they can also be successful. Likewise, if that person is unsuccessful it has a negative impact on their self-efficacy. Often times, people will search out social models that they can observe and learn from (Bandura, 1994). Due to the pandemic, many teachers were robbed of successful models since many were teaching online for the first time (Summers, 2020). Additionally, their teaching colleagues were also struggling to adjust to the changes brought on by the pandemic (Cope & Kalantzis, 2020; Hebebci, Beritz, & Alan, 2020; Huber & Helm, 2020; Kaden, 2020; Kim & Asbury, 2020). This means that the participants saw other colleagues similar to themselves struggling which could have had a negative impact on their self-efficacy beliefs.

When using the lens of vicarious experiences to focus the analysis of participant responses it became clear that the participants did not have positive social models to improve their self-efficacy beliefs. Most of the participants' responses did not generally mention other teachers or the success of other teachers. Only two of the six participants (P-2, P-5) discussed planning or speaking to other teachers about their instruction. Participant five only mentioned planning content with the other teachers prior to the pandemic. Participant two did look to other colleagues for help "*I tried to figure out how to do it better on my own…I asked around, but I didn't ask the right questions because I never got the answers I was looking for".* Clearly this participant was impacted negatively by these vicarious experiences to the point that the participant questioned their ability to ask the right questions.

Many of the participants struggled to develop quality lessons that focused on what students were to learn instead of what students were going to do. Participants also shared an overarching misconception of the formative assessment process—seeing formative assessment as an event instead of a process that should be embedded into the fabric of the lesson (Moss & Brookhart, 2019). Additionally, many of the participants struggled with the strategies that support this process: delivering quality feedback and promoting student self-regulation and self-assessment. With the majority of the participants stating the same challenges they were hard pressed to serve as positive models for each other. Without the ability to see social models overcoming similar challenges during the pandemic, participants self-efficacy beliefs were negatively impacted as they struggled to figure out the new instructional conditions on their own.

As many of the challenges were shared among the participants, it is fair to suggest that the collective efficacy beliefs for instructing online were low. Not only were participants' beliefs negatively impacted by the lack of social models, but they were also further impacted by the collective efficacy in the building. Klassen et al. (2011) explain that collective efficacy can impact an individual teachers, specifically their confidence in the collective to accomplish change. Based on the participant responses it would be fair to suggest their confidence in the collective to accomplish change was low further negatively impacting the collective and self-efficacy of the participants.

Social Persuasion

A third source of self-efficacy beliefs is social persuasion. This source alone is not typically enough to improve a person's beliefs (Bandura, 1994) but it does have some impact under specific conditions. This source occurs when someone who is deemed trustworthy, verbally persuades a person by stating they are capable of completing a task. Not only can this

have a positive impact on a person's self-efficacy beliefs, but it can also increase their effort for the task. Likewise, if a trusted person tells someone that they can't complete a task it can negatively impact their self-efficacy beliefs (Bandura, 1994; Rogers Haverback, 2020).

None of the six participants mentioned other teachers or other educational staff members or administrators trying to convince them that they were capable of meeting the challenges they faced. While this finding may be due to wording of the survey prompts that asked about their individual planning and instruction, it is important to note that only Participant two mentioned reaching out to other teachers for assistance or support.

Somatic and Emotional States

The final source of self-efficacy beliefs, and the least powerful, is somatic and emotional states. One's feelings about a specific situation or task can positively or negatively impact their self-efficacy beliefs (Bandura, 1994; Rogers Haverback, 2020). Often how someone feels physically such as stress, pain, sores, or other various physical indicators to judge their perceived ability. Additionally, a person's mood can impact their beliefs. If someone feels positive, their beliefs will be positive or if someone feels negative their beliefs will be negative (Bandura, 1994). It is fair to assume that this source of self-efficacy beliefs became a negative source for many teachers during the COVID-19 pandemic. The research surrounding the impact of the pandemic on teachers points to many feeling uneasy, unprepared, uncertain, and overwhelmed (Kaden, 2020; Kim & Asbury, 2020; Turner et al., 2020).

The responses of the participants were consistent with the research surrounding teachers and the COVID-19 pandemic. Their responses to the prompts often revealed clues to their somatic and emotional states. Participant one unveils their feelings in this response "*Providing feedback is difficult and trying to assess understanding* [while teaching online] *is often*

frustrating". Similarly, participant three expressed their feelings about teaching online and not being able to cover all the material stating, "*This led me to feeling defeated".* Participant two shared a similar feeling saying that they felt *"vexed".* These feelings of frustration and helplessness were a source that negatively impacted the self-efficacy beliefs of the participants and impacted that actions that they took.

In conclusion, it is clear that the participants' self-efficacy beliefs were negatively impacted while teaching during the COVID-19 pandemic. Many of the participants compared their actions to false positive mastery experiences, and experienced the absence of positive social models to act provide positive vicarious experiences. Additionally teaching during the pandemic was a stressful and uncomfortable situation for many teachers (Turner et al., 2020) that would have a negative impact on their somatic and emotional states, further impacting their self-efficacy beliefs.

Lack of Success Criteria Negatively Impacted the Self-Efficacy Beliefs of the Participants

Compounding the negative impact on the participants that have been previously discussed, the quality of criteria and the lack of criteria that the participants to self-assess and self-regulate added to their negative self-efficacy beliefs.

The ability to self-regulate is key component in improving learning and understanding (Zimmerman, 2000; 2002; 2013; Zimmerman & Schunk, 2011). While much of the focus of Zimmerman's research in self-regulation focuses on understanding and promoting student self-regulation, Peters et al. (2014), reminds us of the importance of teachers developing their own ability to self-regulate. To self-regulate, persons need to be able to self-assess in order to understand how they performed and what adjustments need to be made (Moss & Brookhart, 2015; Zimmerman & Schunk, 2011). Just like students, educators need quality criteria to

measure their performance in order to have the ability to successfully self-assess and self-regulate. Having those sources of high quality criteria enables educators to improve their "educational practice" (Moss & Brookhart, 2015, p. 5). Based on the responses of the participants, they lacked this kind of criteria to support their self-assessment and self-regulation while teaching during the pandemic and that likely impacted their self-efficacy beliefs in negative ways.

The participants' responses showed a common pattern of thinking. In their responses all participants discussed what was difficult or what did not work in their classrooms during the pandemic. Typically, once a participant identified a challenge in their response it was followed by a rationale that attached blame to an external factor such as student cameras being turned off, it was too difficult to complete a certain task online, or it was too time consuming, just to cite a few excuses. A great of example of this is in the response of participant one "*Providing feedback is difficult and trying to assess understanding is often frustrating. Cameras were not required to be on so most of the time, I was looking at black squares".* Another example of this is in the response of participant five "*I think my use of feedback is stronger in person. I can look at exit slips and do a quick one on one re-teach with that student…Online, there are times that it takes my students 10 minutes to turn in their exit slip or they turn it in after they leave the meeting in which I can't address it immediately".* In both examples that participants note challenges with feedback and assessing students' understanding. They both feel that the strategies that were effective prior to the pandemic are no longer as impactful. Both participants saw external factors as the cause for the difficulty, with participant one identifying the lack of cameras being on and participant five identifying a normally quick activity taking too long to be impactful. While there is certainly truth to both of their points, there was not a discussion of how they assessed their

own efforts to deepen student understanding or how they adjusted accordingly to overcome the difficult external factors that they faced.

It is easy to place the blame on the participants for not self-assessing their efforts and self-regulating to attempt to overcome the challenges that faced them while teaching during pandemic. However, placing the blame on the participants lacks understanding of their context and beliefs. A key component to self-assessment and helping someone be assessment capable, is teaching them to use high quality success criteria to measure themselves against. Moss and Brookhart (2015) explain that when teachers are asked to try out new strategies that they need to design "publicly stated success criteria" (p. 5) in order for them to understand what quality work looks like and create lessons that produce evidence of student learning. Research on the COVID-19 pandemic shows that teachers were asked to many things that they had little experience with (Cope &Kalantzis, 2020; Lachlan et al., 2020; Milman, 2020; Rogers Haverback, 2020; Kaden, 2020; Kim & Asbury, 2020; Summers, 2020; Turner, Adame, & Nadworny, 2020). Having compelling criteria for what makes a worthwhile lesson would have certainly supported the participants' self-assessment and self-regulation and could have assisted them in the enormous adjusts they had to make.

In reviewing the responses of the participants there was no evidence reported that they were given any sort of criteria against which to measure their efforts. External factors such as teaching online for the first time, lack of student cameras, and activities taking longer than they would normally in person began to challenge the participants. Prior misconceptions about creating worthwhile lessons, the formative assessment process, promoting student self-assessment and self-regulation, and delivering quality feedback exacerbated the new teaching

conditions brought on by the pandemic. The participants lacked the necessary criteria to support their own self-assessment to aid them in the regulation of their teaching practice.

With the lack quality criteria to measure their efforts against, the participants continued to face the same issues without a way to create a quality solution and resorted to blaming the external factors such as not being able to see their students. This dramatically impacted their perceived effectiveness and appeared to negatively impact their teacher self-efficacy (Holzberger et al., 2013; 2014). If the participants were familiar with or knew how to design success criteria for their lessons, this knowledge and skill could have helped focus on student learning (Moss & Brookhart, 2015) instead of focusing on removing the external factors that they could not change.

Research Question 3: ***What is the utility of a learning target theory of action for addressing teachers instructional practice challenges and perceptions of self-efficacy?***

Moss and Brookhart's Learning Target Theory of Action (2012; 2015) has helped many educators improve their thinking around education and teaching practices. The researchers assert that their Learning Target Theory of action plays a key role in improving how educators promote a culture of learning by reframing how they address problems in their teaching and instructional leadership practices. This theory of action helps teachers design a shared learning target for each lesson to help communicate with students what they will be learning in each lesson. The learning target helps students aim for understanding during the lesson and motivates them to self-assess and self-regulate during the lesson's performance of understanding guided by a specific set of success criteria known as student look-fors. All of these elements promote in the moment formative assessment that engages teachers and their students as learning partners, assists teachers in feeding their students forward and delivering quality feedback and instruction, and

provides students with the information they need to get themselves to the lesson's learning target in order to help students deepen their understanding and improve their achievement (Moss & Brookhart, 2012; 2015). Moss and Brookhart (2015) also explain how school leaders frame their classroom walkthroughs to guide teachers in their thinking and planning by employing a Learning Target Theory of Action.

To determine the utility of the Learning Target Theory of Action for addressing teachers' perceived instructional practice challenges and perceptions of self-efficacy during the COVID-19 pandemic, the discussion that follows offers a detailed example of the application of this theory. It does so by utilizing a synopsis of participant two's planning and teaching to address the following challenges highlighted in the discussion of research question one: 1) creating worthwhile lessons; 2) struggling with the concept of formative assessment and how to use it; 3) delivering quality feedback; 4) difficulty promoting student self-regulation and self-assessment; and. 5) selecting technology to promote student understanding. These five challenges will be illustrated through participant two's statements about their practices. Each challenge will be analyzed through the lens of the Learning Target Theory of Action and accompanied by suggested next steps for the participant designed to move their practice forward, deepen student understanding, and raise student achievement in each lesson.

Synopsis of Participant Two's Lesson

Within Participant two's responses to the prompts, they outline crucial aspects of their teaching and planning. While this participant does not describe a lesson in detail, their responses to the various prompts paint a picture of the key strategies used with in their planning and instruction of foreign language lessons focused on teaching vocabulary. What follows is a short

summary of participant two's reports of how they organized and conducted their vocabulary lessons.

Participant two reported that they often used "*vocabulary "Takes" to help students chart growth"* (Tables 4.5, 4.11). The participant described these takes as multiple chances to learn the same material and noted that the students' first take was "*their first exposure to new words, a pre-test of sorts usually given as a warm-up".* Before students get to the second take participant two has students work with the vocabulary words that were in the pre-test in several ways. One way the students interacted with one another was through discussion assignments where they were required to post thoughts and opinions to a discussion board and react to each other positively. Other times students were asked to work together in breakout room meetings to ask questions of each other. For both of these activities the participant required that students write, and record spoken responses to demonstrate their vocabulary mastery. Lasty, participant two also mentioned having students write stories about themselves using vocabulary words and again requiring students to read and to react positively to other students' stories.

After at least one of these activities, it is fair to assume that students would be required to complete the second take which the participant described as an "*exit slip"*. This exit slip would be the start of students charting their understanding of the unit's vocabulary words. Throughout the unit, students were required to complete "*takes"* three through seven, which the participant described as "*multiple opportunities to get a desired grade on the vocabulary".* While participant two does not specifically state that the takes took place after the activities previously described, it would be safe to assume this is the case based on their responses. Along with giving students multiple opportunities to achieve the highest grade on the units' vocabulary, Participant two described that the takes also provided students the opportunity to chart their scores from the

various takes. Participant two used the information gained from the students completing the takes to determine the amount of time that each student spent on that unit's vocabulary.

What follows is a series Learning Target Theory of Action analyses using the context of Participant two's reported lesson organization and instruction. Each analysis framed by one of the five challenges highlighted in this study and includes suggestions for feeding participant two forward to their "next level of work" as part of a professional learning agenda (Moss & Brookhart, 2015).

Challenge One: Creating a Worthwhile Lesson

Looking for a worthwhile lesson provides insight into the decisions teachers make when they design and deliver their lessons. Moss and Brookhart (2015) explain "By looking for a worthwhile lesson, you will learn how teachers understand the logic of students making progress over time with important concepts and ideas. You will reach a deeper understanding of how evidence from what students do, say, make, and write shows where they are in their journey to important standards" (p. 49). By examining the responses of participant two against the criteria for a worthwhile lesson according to a Learning Target Theory of Action, what the participant sees as important and how they envision that students will progress quickly reveals itself, along with the gaps in Participant two's understanding. To effectively outline these gaps, this discussion will follow Moss and Brookhart's (2015) three step process for creating worthwhile lessons: "(1) designing the potential learning trajectory that will meet national/state standards and curricular goals, (2) selecting important concepts or skills in the content for the specific lesson, and (3) meeting specific students' needs with the content and lesson goals" (p. 53).

To design a potential learning trajectory, teachers must describe how students will progress in their understanding over time. When examining the responses of Participant two, it is

clear this is where the gaps in understanding begin. While this participant does have a learning trajectory that seems focused on students learning more vocabulary words, it is what Moss and Brookhart (2015) would described as a "miss-the-mark trajectory". A true learning trajectory "describes in words and examples what it means for students to progress over time toward increasingly expert levels of understanding" (Moss & Brookhart, 2015, p. 52). This means that a learning target should go further than just completing simple activities targeted at low levels of learning. Each lesson must increase the students understanding and skills in order to prepare students for an increased challenge in each upcoming lesson. If the aim of a foreign language class is to teach students how to speak a language, then a learning trajectory that focuses merely on vocabulary acquisition clearly misses the mark. While learning vocabulary in a foreign language class is important, it does not serve student well to frame it as the basis for the trajectory. Students can recognize many words in a language but still not understand how to effectively read, write, speak, comprehend, and reason using the language. And while vocabulary is important, a trajectory that hits the mark, would focus on important concepts for learning language such as conjugation, pronunciation, and usage. The vocabulary words, then, would be used to deepen the important concepts, not merely to acquire new words.

Suggestions for Participant Two's Next Level of Work in Creating Worthwhile Lessons:

Suggestions for Participant two begin with coaching them to adjust their learning trajectory to make sure it hits the mark by focusing on important content. Moss and Brookhart (2015) suggest a way to help refocus a teacher's learning trajectory that is built around simple activities is to ask them "what will students learn by doing it" (p. 54). With the current trajectory focused on acquiring multiple sets of vocabulary across lessons, there is not a learning

progression regarding the improvement of language communication that moves students forward to more sophisticated understanding of how to master the language itself. If the goal is to teach the students to understand and speak a foreign language, the teacher needs to determine what the important steps are for understating and speaking a language.

For example, a learning trajectory that hits the mark could be represented by a series of lessons in a Spanish class that uses vocabulary words as a vehicle for teaching students about possessive adjectives and pronouns. In order to design a worthwhile potential learning trajectory, the teacher must determine the essential knowledge—facts, skills, concepts, and reasoning processes—that students will need to master in order to progress in their understanding. For possessive adjectives and pronouns, the trajectory would start with students understanding the basics beginning with the two types of adjectives short-form and long-form. The next lesson might then introduce students to possessive pronouns. Building on that lesson, the students would then learn how to use possessive pronouns with the preposition "lo". To support this concept and content, the teacher might introduce vocabulary words about clothing in order for students to increase their understanding of using possessive adjectives and pronouns and by writing statements in Spanish that show the possessive case of different articles of clothing.

If a teacher plans a trajectory in this manner, they increase the probability that students will master increasingly challenging content in a learning progression focused on important concepts and skills instead of one designed to support the simple memorization of words. More importantly, in the improved potential learning trajectory students are asked to use what they learn in each lesson as the foundation for the increased challenges awaiting them in the lessons that follow. Having teachers identify the important concepts and ideas students need to learn in order for them to reach important learning outcomes helps to shift the focus to learning instead of

doing (Moss & Brookhart, 2015). Once teachers have this goals in mind and a trajectory that focuses on student understanding that builds in a way that prepares students for their next level of learning, focusing on the content of each lesson becomes the next focus in creating a worthwhile lesson.

The second step in creating a worthwhile lesson requires teachers to select important content. With the learning goals and trajectory in place, it is necessary to make sure that the content will help students meet the lesson's learning target. Moss and Brookhart (2015) explain that "Effective teachers select and deliver important content by identifying the knowledge, skills, and reasoning processes that are important to the lesson" (p. 57). Based on the responses of participant two, it is evident that this teacher mostly focused content selection on what vocabulary the students were to learn. Moss and Brookhart (2015) suggest the following specific criteria for determining if the lesson's content is worthwhile: "the lesson develops essential knowledge, skills, and reasoning processes students need for future learning in this discipline" (p. 62). Clearly, according to the criteria, content solely focused on vocabulary is not worthwhile and does not help students build and develop the essential skills to move forward in their understanding of a foreign language.

This teacher's next level of work after designing the potential learning trajectory would be to determine the content for each lesson is essential for increasing their students understanding. Additionally, the teacher should determine where each lesson resides in the trajectory to further guide the content that is selected. The importance of having a worthwhile learning trajectory shows it relevance here since without it, the content of the lesson is skewed. Moss and Brookhart (2015) suggest that teachers ask themselves "which concepts, facts, ideas, principles, and generalizations are absolutely essential for students to come to know deeply and

thoroughly during today's lesson?" (p. 57). Asking that question will help focus the planning around including content that is necessary and purposeful to build a foundation that will allow students to move students forward to master increasingly sophisticated content through the learning trajectory.

To better explain this, it is helpful to continue with the example of the Spanish class learning about possessive adjectives and pronouns. A teacher could design a potential learning trajectory that builds towards student mastery of possessive adjectives and pronouns. The trajectory starts with the learning the two types of adjectives short-form and long form, then moves to learning about using pronouns and then using pronouns with the preposition lo. If we dive deeper into the beginning of the trajectory to look on a lesson focused on short-form adjectives we can identify the important content. To fully understand short-form adjectives students would not just need to understand what short form adjectives are, but also how they are used. Having students both identify adjectives along with the rules for using them (for example the adjective must match the possessed entity in gender and number not the possessor), students would be prepared for their next level of work which would be understanding long-form adjectives. But having lessons with worthwhile content is not enough if that lesson does not meet the needs of the students with that content.

The third and final step in developing worthwhile lessons is that the lesson must meet specific student needs. To do this Moss and Brookhart (2015) suggest that teachers keep in mind that students must understand why they have to learn what they are learning as well as how that learning moves them towards accomplishing important goals upcoming in their learning trajectory. The authors explain that a worthwhile lessons requires students to "do, say, make or write something that they clearly see develops their understanding and gives evidence of it" (p.

59). In other words, what is being asked of students to do must strongly connect to what they are being asked to learn. In addition, to meet the needs of students, the level of challenge within in the lesson should be at the appropriate amount of difficulty for the students to grow. Therefore, it is crucial that a lesson does not simply provide a repetition from the previous lessons. Moss and Brookhart (2015) state that students should never feel like what they are being asked to do is the same thing they did the previous day at the same level of challenge.

Lastly, to be worthwhile, a lesson must recognize that students are at different levels of ability and readiness in their process to improve their understanding. Moss and Brookhart (2015) explain that "Students should never have to attempt work that sets them up to fail. Neither should students have to produce work that leaves them with a feeling that they didn't learn anything" (p. 60). To determine what level of difficulty is appropriate for students, teachers should use information gained through the formative assessment process. This is evidence comes from observing the students, their work, and the process students used to complete their work. The authors explain that the most important formative assessment information to use to plan the current lesson comes from what students did in the prior lesson.

When comparing this to the responses of participant two there are some positive connections. First, the participant did attempt to help keep students informed of their progress and track the progress of their students. Participant two had students chart their progress through the various "*takes"* as they worked to improve their knowledge of that unit's vocabulary. Second, this participant did attempt to meet the needs of students. The participant shared that they modified lessons based on the amount of time it took students to complete a lesson. While there are some positives on which to build, there are still glaring gaps that negatively impact the worthwhileness of the lesson and the teacher's approach to lesson design and delivery.

The criteria set up by Moss and Brookhart (2015) explain that first a lesson must meet the appropriate level of difficulty and "not simply repeat yesterday's lesson". Second the lesson must "require students to do, make, say, or write something that they clearly see develops their understanding and gives evidence of it while meeting curricular goals and student's needs" (p. 62). Using these criteria, the responses of participant two show that the lessons described did not meet the needs of students. When looking at the "*takes"* that were described by the participant students got up to seven takes to get the "*desired"* grade on an activity. Clearly there had to be many instances of repetition since students were working on the same vocabulary words from that unit. Clearly, the focus on mastering different vocabulary words does not require students to do, make, say or write something that helps them see their own development in foreign language understanding and communication.

In order to meet the needs of the students, Participant Two's next level of work would be to focus on framing each lesson around the student understanding that is the intended learning outcome for that lesson and develop all four components of a shared learning target to communicate that to students. By accomplishing this, Participant two would have planned lessons that set the foundation for meaningful learning, established success criteria by which to assess student understanding, and have reliable evidence from the student's work against which to monitor the success of their teaching. That evidence would contribute to their self-assessment and give them ways to better regulate their lesson planning. As a result, there is a higher probability that their successful past performance would contribute to increased positive self-efficacy for planning lessons that are worthwhile and that impact student understanding and achievement of intended learning outcomes. With these positive changes implemented in their

planning and instruction this would also create mastery experiences that would positively impact their self-efficacy for teaching virtually. (Bandura, 1994; Rogers Haverback, 2020).

Next, Participant Two needs to closely monitor and assess what they are asking students to do to learn during the lesson in order to ensure that what students are doing is connected to what students are supposed to learn. In other words, they should use the characteristics of a Performance of Understanding (Moss & Brookhart, 2015, pg. 110) to guide their planning.

Lastly, evidence is key in determining the appropriate level of challenge for students and for determining the students' next level of work. Having ways to gather formative assessment information is key to meeting the needs of specific students since compelling evidence that students produce during the lesson is the strongest way to informs both the teacher and student about the student's progress. This strong evidence should be used to inform Participant Two when planning the next lesson in the potential learning trajectory (Moss & Brookhart, 2015).

Summary of Participant Two's Challenge in designing a worthwhile lesson.

The analyses above make it clear that Participant two's focus on vocabulary produced lessons and a trajectory that missed the mark. The potential learning trajectory needed to build on and advance the students' ability to understand and use a foreign language not simply acquire vocabulary from the language. It was clear that this "miss-the-mark trajectory" (Moss & Brookhart, 2015, p. 54-55) that was evident in the participant's responses, had a trickle-down effect on the content that was selected for the lessons and the ways that the participant attempted to meet the needs of their students.

Participant two's next level of work involve several strategies. First, they should identify

the important steps in being able to learn and use the foreign language at the level that is developmentally appropriate for their students, and then create a learning potential learning trajectory that would advance their students toward that goal. From there, Participant Two should make sure to select the important content, skills, and reasoning processes that will support and pull students to more sophisticated levels of understanding during each lesson in the trajectory. Lastly, Participant two needs to establish success criteria that they can use to better assess students, and turn them into look-fors that students can use to better inform themselves about the nature of their progress. Based on those look fors, Participant Two would be better able to monitor and adjust future lessons to meet the needs of their students. These suggested steps specifically tie into the next challenge that was identified in the first research question—the struggle participants demonstrated with the Concept of Formative Assessment and How to Use It.

Challenge Two: Struggling with the Concept of Formative Assessment and How to Use It.

To support lessons that are worthwhile, formative assessment must be imbedded into the fabric of the lesson. Moss and Brookhart (2009) define formative assessment as "an active and intentional learning process that partners the teacher and the students to continuously and intentionally gather evidence of student learning with the express goal of raising student achievement" (p. 6). The authors go on to explain that student achievement means that the teacher and others are looking for evidence of "something". That "something is typically what the intended learning was for that lesson. This lesson level "something" can be communicated to students through the use of a learning target. This way, both the teacher and the students understand what the intention is for students to learn during that lesson, how students will be

expected to show that they have learned it, and what will count as evidence that they have learned it.

A Learning Target Theory of Action further support students by requiring that teachers engage students in a performance of understanding that both deepens student understanding and assesses their ability to apply that understanding to hit the lesson's target. The performance, therefore, serves both an instructional and formative assessment purpose that allows teachers and students to gather "compelling evidence" (Moss & Brookhart, 2015, p.28) that both parts of the classroom learning team can monitor to improve student achievement. To gather this evidence, students and teachers compare what students are doing during the performance of understanding to the student look-fors. Look-fors describe in terms that students can understand, the success criteria that students can look for in their own work to monitor and improve their work while they are learning and working. Throughout the lesson, learning is supported through quality feedback from teachers and self-feedback from the students themselves using the "language of the student look-fors" (Moss & Brookhart, 2015, p.28). All of this occurs during the Formative Learning Cycle (Moss & Brookhart, 2015).

The Formative Learning Cycle (Moss & Brookhart, 2015, p. 66) is described as "a high-leverage process that brings the learning target theory of action to life by fusing goal-directed learning, feed-forward information, and student self-assessment with the power of the classroom learning team (the teacher and the students)" (Moss & Brookhart, 2015, p. 28). The Formative Learning cycle has five phases: 1. Model and Explain, 2. Guided Practice, 3. Performance of Understanding, 4. Formative Feedback, and 5. The Chance to Use the Feedback to Improve Performance.

To better understand participant two's gaps in understanding and their next level of work regarding grasping the concept of formative assessment and putting it into practice, this discussion will follow the five phases of the Formative Learning Cycle.

Suggestions for Participant Two's Next Level of Work with the Concept of Formative Assessment and How to Use It:

Similar to the conclusions drawn in the first challenge discussed in this section, participant two demonstrated gaps in understanding regarding the topic of formative assessment that were common across the other participants. Participants of this study saw formative assessment as an event such as a quiz or exit slip that audited learning instead of a continuous intentional learning process embedded in the fabric of the lesson.

In their responses, Participant Two described using what they called "*takes*" as their formative assessment strategy explaining that "*Take 1's and 2's provided good formative assessment data, signaling how much more in-class time I should spend on a given topic or vocabulary set in each unit"* (Table 4.11). This description runs in contrast to how Moss and Brookhart (2009; 2015) describe formative assessment in two important ways. First, the "*takes"* that Participant Two describes are summative assessment events that inform the teacher. Moss and Brookhart (2009) explain that formative assessment should be occurring "continuously and intentionally" (p. 6) throughout each lesson and should provide teachers with up to the minute information about where students are in their learning not what they learned at the end of the lesson. Second, the "*takes"* are designed to inform the teacher and not the most important decision makers in the lesson—the students. This does not support the partnership of a classroom

learning team between the teacher and the student, nor does it foster an environment where students can become assessment capable learners.

Guiding Participant Two to their next level work which is grasping the importance of embedding formative assessment into their lessons would start with coaching them on the Formative Learning Cycle. As mentioned previously this cycle has five general phases starting with Model and Explain. In this first phase, the teacher shares whole learning target with the students: the learning target statement, the target specific content and skills, the performance of understanding, and the student look-fors for the lesson. Again, using the example of a Spanish class teaching possessive adjectives and pronouns, we can apply this Model and Explain phase to a lesson focused on teaching about using possessive short-form adjectives.

To start the Formative Learning Cycle in motion, students need a target for which to aim. The learning target for this example lesson would be: Today we are learning how to use short-form possessive adjectives to show possession over items. To support the learning target and give students the opportunity deepens their understanding and assess their mastering of the content, they will also need a performance of understanding. The teacher can inform the students that once they have guided practice (Phase Two of the Formative Learning Cycle) they will be asked to work on their own to describe who possess different articles of clothing by using short-form adjectives. As the teacher models and explains short-form adjectives and how they help to show possession, they can model and apply specific success criteria to demonstrate for the students how to look for mastery of the content in their work. For this lesson the student look-fors would be phrased as self-assessment questions: Do the adjectives match the possessed entity in gender and number not the possessor? Did I place the short-form adjectives before the noun they modify? And, Did I make sure I did not use short-form adjectives with a definite or

indefinite article. Once the teachers use real examples to communicate and explain to the students, what they will learn and how well they will be expected to learn it, the teacher can move on to the Phase Two of the Formative Learning Cycle, guided practice (Moss & Brookhart, 2015).

In the second phase, Guided Practice, Moss and Brookhart (2015) explain that this is where "The teacher scaffolds learning, helps students set goals for their learning, and models how to use look-fors to self-assess and to prepare them for their independent work" (p. 28). For our example lesson, this is where the teacher would guide the students to create examples of possession of articles of clothing using the short-form adjectives. The teacher could model an example and have students use the look-fors to check the teacher's work. Then ask students to work together to create examples and use the look-fors to self-assess their work and correct any errors that they find. In this way the teacher is guiding student learning of both the important content and the ability to self-assess positioning them as assessment capable learners who are ready to work independently.

The third phase of the Formative Learning Cycle is the Performance of Understanding. This is where students get a chance to work independently to deepen understanding and demonstrate where they are in relation to the learning target. Engaged with the content, students apply their look-fors to focus their efforts and self-assess and improve their own work. It is also during this phase that teachers have the opportunity to assess where students are in their progress towards the learning target. Based on that progress, the teacher is able to design high quality feedback that informs the students as a whole class and as individuals.

Phase Four, Formative Feedback, makes time during the lesson for students to receive timely feedback based on their progress during the Performance of Understanding. Raising the

quality of this feedback will be discussed in the following section, since Participant Two was also confused regarding the nature and the content of effective feedback. Teacher feedback during the Formative Learning Cycle should provide students with descriptive information that helps them see what they understand, what they did well. and what they need to do differently to improve their understanding and progress towards the Learning Target. That's because the Formative Learning Cycle's Phase Five, the final phase, gives students The Chance to Use the Feedback to Improve Performance as part of the lesson. This provides students with what Moss and Brookhart (2015) describe as the "golden second chance" (p. 28), another chance to attempt some if not all of the Performance of Understanding, this time guided by the feedforward information from their teacher (Moss & Brookhart, 2015).

Summary of Participant Two's Challenge with the Concept of Formative Assessment and How to Use It:

It is clear from the analysis of Participant Two's responses that there were serious gaps in their understanding of formative assessment. This participant saw formative assessment as an auditing event and not an ongoing learning process. Participant two saw the various "*takes"* as a way to gather assessment data that could inform their instruction. If the information the teacher gathers occurs during a one-time event like a take and does not inform the students it does not meet the criteria of formative assessment. Without formative elements of the lesson a Learning Target Statement, Lesson Sized Chunk of knowledge content, skills, and reasoning processes, a Performance of Understanding, and Student Look-Fors, students it would be impossible for students to use the information from the "*takes"* to improve their understanding. It is also noteworthy that Participant Two blamed technology for their inability to engage in formative assessment explaining that not being able to see students limited the participant's ability to assess

the students. While some clues as to student understanding might be gleaned by watching facial expressions, this information does not provide compelling evidence of what the students understand and cand do. This claim that facial expressions show student understanding underscores Participant Two's confusion regarding what formative assessment is and how to use it.

Based on this analysis of Participant Two's gaps in understanding regarding the formative assessment process, this participant's next level work would be focused by the Formative Learning Cycle. Most importantly their first step would be to design a specific Learning Target Statement for each lesson that would form a potential learning trajectory. From there they would also be tasked with designing selecting a lesson-sized chunk of content to align with the statement, a Performance of Understanding that would require students to apply that content to deepen their understanding and demonstrating it, and Student Look-Fors for each lesson that would enable students to self-assess. With those solidly in place, Participant Two would be ready to engage with their students in the Formative Learning Cycle modeling and explaining, providing guided practice, and then releasing them to work independently during the Performance of understanding supported by the student look-fors. In this way, Participant Two would be able to gather formative information provide formative feedback throughout the first three phases of the cycle. Being able to consistently and continuously gather compelling formative information about their students would undoubtedly improve this teacher's self-efficacy for understanding where their students are in their journey to better understanding. This positive impact on teacher self-efficacy is explained by Holzberger et al. (2014), who connect improving instructional quality to positive self-efficacy beliefs. The authors explain that teachers need to feel themselves as capable as it fills their intrinsic need for competence. But first,

Participant Two would need coaching on what formative feedback is and what makes it effective.

Challenge Three: Delivering Quality Feedback

To support worthwhile lessons where students are engaged in the Formative Learning Cycle, teachers must be able to create and deliver quality feedback. Feedback is vital to each phase of the Formative Learning Cycle and during Phase Four, Formative Feedback, helps students use what they did during the Performance of Understanding to raise their own achievement during the lesson itself.

Moss and Brookhart (2015) describe effective formative feedback as "feedback that feeds student learning forward, and that means feedback that a student finds meaningful and useful—and actually uses to improve and to further learning" (p 138). The authors go on to explain that for feedback to truly feed learning forward, students must use it to improve, and the teacher must give students the opportunity to use it. If students are not given feedback is descriptive of where they are in their learning and what they can do next to improve, along with time to use, the teacher's comments are not formative for either the student or the teacher. Built into the Formative Learning Cycle is a dedicated phase where teachers and their students can implement quality feedback during Phase Five to improve their understanding and performance. (Moss & Brookhart, 2015).

Hattie and Timperly (2007) in their research explain that formative feedback is a "Consequence of performance" (p. 81), meaning that when students are performing or working, that is where important evidence is gathered in order for the students to get feedback. Feedback can come from multiple sources especially when supported by specific success criteria such as look-fors. Students can judge their own work against that criteria, use the criteria along with

other students to assess their learning, and have independent and group discussions with their teacher using the language of the look-fors (Moss & Brookhart, 2015). It is important to remember that feedback that is corrective or evaluative is not feedback that helps move student forward. In fact, this kind of judgmental comment can stop learning in its tracks. Feedback should use the language of the look-fors to help guide the student to improving their learning and believe that they have the knowledge and the skills to get themselves to the learning target. A corrective statement does not foster student self-efficacy, or build assessment capable students who see themselves as agents of their own learning (Moss & Brookhart, 2015).

To better analyze the way Participant Two both conceptualizes and uses feedback and coach this participant to their next level of work, this discussion employs Moss and Brookhart's (2015) three views of feedback: the Micro View, the Snapshot View, and the Long View of Learning (p. 139). The authors explain that all three views of learning must be communicated with the students so that the information teachers provide can be used by the students to improve their work. Each view will be described in turn using the Participant Two's misunderstandings demonstrated in specific statements.

The lens of the micro view helps teachers analyze all of the characteristics of the words and content of the feedback event. For example, is it timely? Is it descriptive rather than evaluative? Is it positive and does it focus on the work and not the student? The authors remind us that the most important aspect of effective formative feedback is that it is descriptive (Moss & Brookhart, 2015, pp. 138-140).

The next view, the snapshot view, helps teachers assess the quality of the "evidence of learning… contained in the feedback episode: What did the student learn from it? What did the teacher learn from it?" (p. 139). During the snapshot view it is the responsibility of the teacher

to learn about what the student understands, where the student is strong or weak, and what kinds of strategies will help feed the student forward.

Lastly the Long View focuses on the future. Will the student see themselves as capable of taking the next steps? What are the next steps for both the student and the teacher? How should the steps be completed? In other words, if the students do not have the information they need to move forward and actually use the feedback to improve their work, then the information was not formative (p. 153).

Applying these three lenses would help Participant Two improve the quality and impact of feedback. What's more the participant would be positioned to embed formative feedback throughout the lesson.

Suggestions for Participant Two's Next Level of Work with Delivering Quality Feedback.

Similar to the discussion of the previous challenges, Participant Two demonstrated gaps in understanding that were common among the other participants. Like the other participants Participant Two saw the teacher as the main source of feedback. What's more, they saw feedback as comments or corrections left on student work. A prime example of this is present in Participant Two's description of the second take *"Take 2 would be given as an exit slip at the end of the lesson and they could see the results"*. Since the statement describes what occurs at the end of the lesson and therefore student would not have a chance to use the feedback that they are given during the lesson since they are seeing the *"results"* of their work; it is safe to assume they are receiving corrections. While this is significant, what is more noteworthy here is that it becomes clear the impact of the first two challenges have on the participant's ability to deliver quality feedback. Without worthwhile lessons and an understanding of formative assessment, it is difficult for the participants to deliver quality feedback. Specifically, the lack of criteria to help

guide the students and teachers in the students next steps makes giving students quality feedback much more difficult (Moss & Brookhart, 2015).

Analyzing the feedback given after the second "*take*" using the micro view reveals significant issues with Participant Two's practice. While they did not provide the exact wording of the feedback given, it is still possible to determine some key flaws that would negatively impact its effectiveness. Moss and Brookhart's (2015) collaborative inquiry guide for feedback (p. 146) helps analyze the feedback left by the participant following the second "*take",* described previously. First, effective feedback must be descriptive. Based on the response of Participant Two, the feedback was more corrective than descriptive since the participant refers to students seeing the "*results".* Next the authors remind teachers that effective feedback is timely, which based the participant's is not the case. The feedback provided to students would be given on material from the previous day as this was work that was completed in an exit slip. Also, there is no mention of time during the lesson provided for students to use that feedback. Participant two only describes further "*takes"* where the students are given the opportunity to get the "*desired grade".* Lastly and arguably the most important characteristic missing from Participant Two's description of what they consider feedback, is the lack of criteria communicated to students that they can use to assess the quality of their own work during the "takes". The students are on their own to try to improve their work without success criteria to guide them and given comments by the teacher that does not use the language of the look-fors to help them use specific strategies. Lessons designed in this way make it difficult, if not impossible, for teachers to design quality feedback and makes it challenging, if not impossible, for students to to use the feedback to improve their work (Moss & Brookhart, 2015). These kinds of teacher comments are evaluative,

do not describe where the students are and what they might try next. Therefore, they do not feed learning forward and are not formative.

The next lens, the snapshot view, is characterized by Moss and Brookhart (2015) as answering two important questions about the feedback event: "Did the student learn something from the feedback?" and "Did the teacher learn something from the feedback?" (p. 147). Based on the responses of Participant Two it seems most likely that students would merely learn what they got wrong on each "*take"* and the score they got. Participant Two explains that students were required to chart that information. Scores are not descriptive and do not provide information that students can use to improve their understanding and work. Clearly what is missing from the feedback episode is that the student does not learn what they did well and how they can improve. Even more telling analyzing Participant Two's comments by applying Moss and Brookhart's second question about what the teacher learned. Participant Two admitted that they struggled with determining the students' level of understanding, "*without immediate visual feedback from the students that they provide just by the way they react, it is difficult to determine their level of understanding*". It is safe to assume that Participant Two was not learning about what the students understood during the lesson and was not providing feed forward information throughout the lesson. By grading the "takes" the participant learned little about what the students did or did not understand, and where the students were in their learning. It is important to note while the participant blames not being able to see student faces for this issue.

Lastly, the final lens teachers can use to analyze feedback, the Long View, is explained by Moss and Brookhart (2015) using two self-assessment questions as criteria: "Did the student get an immediate opportunity to use the feedback?" and "Did the feedback result in an observable improvement in student work?" (p. 147). Applying these two criteria to the second

"take", it is clear that the feedback was not immediate since it occurred at the end of class during an exit slip activity. The second question is little more difficult to determine because there is no discussion of if the students' demonstrated improvement on their next take or were given specific strategies that helped them close their gaps in understanding. However, it is telling that students got five more chances to "get" the desired grade, which brings into question how observable the growth was from that single feedback episode and what exactly the students were able to do to improve their work based on the teacher's remarks after each take.

To coach Participant Two with their next level of work in delivering quality feedback it would be helpful to continue using the example from the Spanish class teaching lessons about possessive adjectives and pronouns. In the discussion on formative assessment, the focus was on a lesson about instructing students on how to use short-form adjectives. If we follow the Formative Learning Cycle and students and teacher have gone through the phases of model and explain and guided practice, it is within those phases and especially during the performance of understanding phase that the teacher and the students can gather evidence of student learning and the teacher can use that evidence to design feedback to move students forward.

As a reminder the performance of understanding asks students to describe who possess different articles of clothing by using short-form adjectives. The teacher notices that one student is doing a good job with two of the three look-fors in their work—they are not using short-form adjectives with definite or indefinite articles, and they are placing the adjective before the noun. However, the teacher observes that students are not always matching the gender and number of the possessed entity, but instead, are using the gender of the possessor. During the formative feedback phase, the teacher uses that evidence to provide feedback that uses the language of the look-fors to point out what the students did well so they can keep doing it, and what students

need to do differently to move forward in their learning. In this example, the teacher should name and notice that that the students are doing well with two of the look-fors but point out that they should look at their statements again to make sure that their adjectives match the possessed entity only in gender and number. The teacher can do that by creating an example, engaging the students in a discussion and showing them how to match their adjective to the possessed entity. These actions make the feedback formative because it is descriptive, timely, compares the work to the criteria, and positive. By taking these steps the students learn what they did well and what they need to improve, and the teacher learn further learns what the students now understand and where they might still need help. And, the students have clear next steps and the opportunity to use the feedback to improve (Moss & Brookhart, 2015).

Summary of Participant Two's Challenge with Delivering Quality Feedback

The analysis of Participant Two's responses demonstrates serious misconceptions about the characteristics of quality feedback. These misconceptions were exacerbated by the participants' lesson design that did not meet the criteria for a worthwhile lesson and gaps in understanding of what formative assessment is and is not. These conditions made delivering quality feedback difficult before the students even began to produce work that they could receive feedback on. The design of Participant Two's lessons did not meet the criteria for worthwhile, did not contain the elements of a complete learning target (statement, specific content, performance of understanding and success criteria in the form of student look-fors) and did not follow the phases of the Formative Learning Cycle. Without specific learning targets and success criteria communicated to students, it becomes difficult if not impossible for students to get feedback from other sources in order to self-assess and self-regulate and hinders the ability of the teacher to deliver feedback that feeds the student learning forward. This is because knowing

where you are headed (the learning target) and what mastery of that target looks like (specific criteria) are needed to help students understand what to look for in their work to get themselves to the target. It also helps the teacher provide descriptive feed forward information to help students improve.

To coach Participant two's and help them get to their next level regarding formative feedback, the participant would be asked to first use the three views of feedback to assess their own feedback to develop a clearer picture of what they need to do to improve their feedback practices moving forward. Second, it would be important to focus on how the participant could use the language of the student look-fors throughout the Formative Learning Cycle to increase student understanding as they model and explain, and engage the students in guided practice. In this way, the participant can quality evidence throughout the lesson to increase the students' chances of profiting from the performance of understanding. Then, by observing the students work during the independent performance, they can better understand what the students do understand where they are not meeting the specific criteria. With that knowledge, the participant can communicate to the students what they did well and how they can improve in their understanding. When students receive quality feedback they can better self-assess their work, a vital part of student self-regulation, which can help students take ownership of their learning and improve their understanding.

Consequently, having increased confidence stemming from the ability to gauge student understanding against specific success criteria, along with a more sophisticated understanding of how to analyze the feedback they give, this participant would now be better able to regulate their ability to deliver formative feedback. This conclusion is supported specifically by the phases of self-reflection illustrated by Zimmerman's (2013) Cyclical model of self-regulation. With a

better ability to assess the feedback delivered to students the participant can now better plan in the first phase (forethought) to deliver better feedback during the performance phase (Panadero & Alonso-Tapia, 2014; Zimmerman, 2002). In addition, the participant would benefit from an increased recognition of the value of formative feedback which could have a positive impact on self-efficacy and motivation (Panadero & Alonso-Tapia, 2014).

Challenge Four: Difficulty Promoting Student Self-Regulation and Self-Assessment

Helping to develop students that can self-assess and self-regulate not only improves students' ability to learn but also their future success (Moss and Brookhart, 2015). Self-regulation plays an important part in the Learning Target Theory of Action since students who have a learning target to aim for can use it as a goal that as they monitor and improve their work to get themselves there. Planning provides ownership over a goal and will push students to achieve that goal. Moss and Brookhart (2015) explain "If students are truly aiming for a learning goal, they will use self-regulatory processes. If students are only complying with teacher directions, if they are just "doing what they are supposed to do," they will not call upon self-regulatory-processes" (p. 159). To put a finer point on it, the important connection between the Learning Target Theory of Action and self-regulation is that positions students with what they need to self-regulate and heightens their motivation to do it by increasing their self-efficacy. Without a shared learning target students do not have the skill or the increased confidence to regulate themselves.

Most importantly to promote self-assessment and self-regulation Moss and Brookhart (2015) explain that students need to have important aspects of the lesson communicated to them in descriptive language that they can understand including the learning target, the performance of understanding, and the look-fors along. And they must have guided practice in applying the

look-fors to their learning and work, so they are capable of using with the look-fors to self-assess during the performance of understanding. This way students can aim for the target, plan what strategies they will use to hit it and monitor and adjust their work as they self-assess along the way. Moss and Brookhart (2015) put it this way, "Each lesson should give students self-assessment opportunities" (p. 163). To enhance their potential to succeed with self-assessment opportunities, students must also be taught and receive forward feeding information about how to plan how they will get themselves to the learning target by using student look-fors to ask good questions during guided practice and then use the look-fors during the performance of understanding to self-assess so they can adjust their work to improve their understanding. In other words, teacher help their students move beyond being simple goal-setters. "When students set specific goals for the lesson and have things to look for during a performance of understanding, they become goal-getters." (Moss & Brookhart, 2015, p. 163). In this way, students grow into assessment capable learners who can use the formative assessment evidence they gather during the lesson to feed themselves forward.

Suggestions for Participant Two's Next Level of Work with Promoting Student Self-Regulation and Self-Assessment.

By analyzing the Participant Two's responses, specifically in relation to the lessons planned around vocabulary, it becomes clear why this participant struggled with promoting self-regulation and self-assessment among their students. It also weakens the argument that the move to online instruction prevented students from using these critical learning processes. Upon examination the design of the lessons themselves is revealed to be the more likely culprit.

As previously determined, Participant Two had a trajectory that missed the mark. Furthermore, their gaps in understanding about the formative assessment process greatly inhibited the teacher and students from engaging in self-assessment and self-regulation. The miss-the-mark trajectory led to the creation of lessons that were not worthwhile and the lessons did not follow the phases of the Formative Learning Cycle rendering it nearly impossible for the lessons to promote student self-regulation and self-assessment.

In model and explain phase of the Formative Learning Cycle, the teacher shares the learning target with the students, describes the performance of understanding, and demonstrates how to use the student look-fors to produce quality work. As previously established, participant two none of these things due to gaps in understanding regarding quality formative assessment processes. Moss and Brookhart (2015) conclude that "When only the teacher knows the learning intention of the lesson, students cannot self-assess or self-regulate" (p. 164). Without the communicated learning intention and success criteria, it is difficult for students to set a goal and plan for reaching it; and it is even more difficult for them to self-assess and adjust along the way.

Further examination of Participant Two's responses makes it clear how self-regulation and self-assessment skills were limited among their students. While Participant Two had students focusing on vocabulary, there were no quality success criteria to guide their understanding and decisions during activities such as the collaborative board assignments or the stories they had to create. The only criteria listed were more directions that focused on what students should do "*students, for example, were required to interact in discussion assignments by posting thoughts, reading those of others and reacting to them positively".* Directions are not descriptions of quality that help students to plan their work. For example, what was the level of quality expected for their discussion board posts? What should their reactions contain? Without

descriptions of the quality of their performances to compare their work to, students have no way to self-assess and then self-regulate (Moss & Brookhart, 2015).

In addition, Participant Two required their students to chart the "*takes".* On the surface the goal may have been for the students to notice if they were doing better. Participant Two explained that students chart their growth while completing the vocabulary *"takes"* and students get up to seven opportunities to get the desired grade on the vocabulary and the highest grade scored would be used for the students official grade. While may be useful for students to keep track of their scores, it does little to help them understand where they are with the material. What's more scores do not provide information that is descriptive and do not meet the definition of formative feedback that can feed their learning forward. Instead, students are trying their best to receive an improved grade without the knowing exactly what they did well, what they need to improve, and which strategies they should use to monitor and improve their work.

The following example of how to coach Participant Two to their next level of work, is again situated in a Spanish classroom where students are learning how to use possessive adjectives and pronouns. Specifically, the lesson is about using short-form adjectives.

As revealed in the analysis of participant two's lessons the lack of a learning target, performance of understanding, and student look-fors hindered student self-assessment and self-regulation. It is in the first two phases of the Formative Learning Cycle that the students are set up to self-regulate and self-assess during the performance of understanding; in other words, during these phases the teacher is feeding the students forward. In the model and explain phase, the teacher shares and unpacks the learning target, explains the performance of understanding, and helps students understand how to apply the look-fors. With that information they can begin to plan to hit their target (Moss & Brookhart, 2015).

During the guided practice phase not only are students learning the lesson sized chunk of knowledge, skills, and reasoning process, but they are also learning how to use the look-fors to assess their own work. For example, during a performance of understanding where students must use short-form adjectives to describe who possesses different articles of clothing, the teacher can model using the look-fors and have students practice using the look-fors by checking the teacher's possession statements. For example, the teacher would remind the students to look for evidence that the adjective matches the possessed entity in gender and number. Then armed with their new learning, the students can engage independently in the performance of understanding knowing how to use the look-fors to plan and self-assess their work since that process was modeled for them during the first phase and then they received guided practice during the second Formative Learning Cycle phase. Once they complete the performance of understanding, students receive formative feedback based on their work. Along the way they not only deepen their understanding but have multiple opportunities to increase their self-efficacy for applying the look-fors to improve their work and get themselves to the learning target. Moss and Brookhart (2015) state "The process itself is motivating because it gives students agency and ownership for their own learning" (p. 160).

Summary of Participant Two's Challenge with Promoting Student Self-Regulation and Self-Assessment.

The analysis of participant two's responses reveals that promoting student self-regulation and self-assessment was a challenge. The roots of the issue were flaws in the design in the lessons, specifically the absence of the Formative Learning Cycle. Since the participant did not design and share a learning target, performance of understanding, and student look-fors, with

their students, students did not have the tools nor the self-efficacy they needed to self-assess and self-regulate. What's more, the lesson's design that focused on what the students would do also limited the participants ability to promote self-assessment and self-regulation among their students. Evidence of this can be seen in participant two's statement "*I would not rate myself in the top quartile when it comes to using feedback and feed forward to enhance the ability of my students to self-assess and self-regulate"* (Table 4.14). Because of this, students completed activities using directions for activities rather than success criteria that described what mastery looked like for the lesson. This made it impossible for students to self-assess their learning and their work or set lesson level goals for how to get themselves to the learning target. Instead, students had a series of tasks to complete, and scores to chart in order to comply with what was being asked of them.

To coach Participant Two to better equip their students to self-assess and self-regulate it would be important for the participant to first understand self-regulatory process better. As Peeters et al. (2014) remind educators, in order for students to self-regulate teachers must be able to effectively model self-regulation for students. Next the participant would need to master the concepts of the Learning Target Theory of Action discussed in the summary of the previous challenges like modeling for the students how to use the learning target to set specific goals and plan to achieve those goals. This would help the participant see the connection between these components and promoting student self-regulation. Then the participant should master how to, model for students how to use the look-fors as a way to assess their work during the performance of understanding and how to design lesson embedded students opportunities to improve this skill and become more assessment capable. Lastly, the participant should be coached on how to effectively model for students how to use their self-assessments and formative feedback from

their teacher to adjust their efforts and deepen their understanding. Equipped with a more sophisticated understanding of the self-regulatory process, Participant Two would be better able to understand how to use a Learning Target Theory of Action to develop assessment capable learners each minute of the lesson by design (Moss & Brookhart, 2015). With this new understanding, the participant would no longer have the negative impacts on their self-efficacy brought on by employing unfamiliar strategies which was common during the pandemic (Cope & Kalantzis, 2020). Instead, they would be able to function as a self-regulatory model for their students improving their competence with this skill which would positively impact their self-efficacy beliefs for self-regulation (Holzberger et al. 2014). Additionally, if properly implemented this could lead to the attainment of educational goals which has been shown to positively impact teacher self-efficacy (Skaalvik & Skaalvik, 2010).

Challenge Five: Selecting Technology to Promote Student Understanding.

The final challenge revealed from the analysis of Participant Two's responses focused on technology. There were technology issues that hindered the participant's instruction since many of the participants were teaching online for the first time. However, as was the case in many of previous challenges teachers were hindered by preexisting gaps in understanding that were exacerbated by the pandemic. When these gaps impacted the participants' instruction, they either looked for technology to fix the issue or blamed that issue on technology. Participant Two shared this line of thinking with the other participants. In Participant Two's discussion of assessing students' understanding, provide a clear example of this misguided rationale "*without immediate visual feedback from the students that they provide just by the way they react, it is difficult to determine their level of understanding"*. While student expressions and reactions are helpful to note and observe, they do not provide evidence of learning and understanding, and their absence

does not make it difficult to collect evidence of understanding that is required for the formative assessment process.

Participant two repeats this conclusion when discussing self-regulation and self-assessment *"It is much easier to have face-to-face conversations and work toward goals of improving student self-assessment and self-regulation when the students HAVE to see you"* Again, while having face-to-face conversations is a great way to work with students, not being able to see students does not negate a teacher's ability to design lessons that promote student self-assessment and student self-regulation. While implementing the Learning Target Theory of Action would not solve all of the technology issues brought to light in the participant responses, it would most certainly provide a new way of approaching the many issues the teachers faced and help them design online experiences that move technology from the center of lesson planning and into an assistive role by focusing on what students must master during the lesson and then designing the best way for students to do that in the online environment.

Instead of looking for technology that enabled teachers to assess their students, provide feedback, promote self-regulation and self-assessment, participants could have looked at technology that would have supported these processes. For example, instead of relying on *Classkick* to self-grade student work, teachers could post videos of themselves using look-fors to model how to assess their work and improve their work by comparing what they did to the language of the look fors. In this way they embed the skill into the fabric of the lesson. The technology needed to make and share the video becomes a vehicle and the video is posted to assist students. The technology is no longer the center of the lesson planning, and the video provides a resource that students can access repeatedly at their discretion.

While the Learning Target Theory of Action will not solve all of the technological challenges that the participants discussed in this study, it would help them problem-solve using their teaching expertise and promote increased self-efficacy for lesson planning and instruction, that might either minimize or eliminate some of the issues they blamed on technology or lack of suitable technology. Most importantly, mastering the Learning Target Theory of Action would have a positive impact on students. Moss and Brookhart (2015) point out that students who have goals set, are more motivated to progress to them.

Overall, it was the participant's limited understanding of creating a worthwhile lesson that led to their over reliance on the challenge of technology. In their discussion of creating a worthwhile lesson Moss and Brookhart (2015) state that teachers often design lessons by focusing primarily on activities and what the students will do during the instructional event. The analysis of the participant responses showed that in their lesson planning, participants focused designing what students would do instead of what they would learn during the lesson. It is important to note, this focus was evident in lesson plans prior to the start of the pandemic. This misdirection regarding lesson design greatly hindered the implementation of the formative assessment process into participant lessons.

Student understanding should be measured through the formative assessment process by continuously comparing what students learned to success criteria (Cauley & McMillan, 2010; Moss & Brookhart, 2015, 2019; Roskos & Neuman, 2012). Instead, the participants measured student understanding by if the students completed the activities, or by the amount of work completed, or the amount of time it took to complete work. With this focus and dependence on completion of work or activities—regardless of the quality of the learning the resulted from those activities—it becomes clear why the participants were so dependent on finding technology that

would allow them to easily assign more work and activities for students to complete. With improved understanding of the previous strategies and skills that the participants saw as challenges (formative assessment, feedback, and promoting self-regulation and self-assessment), they may be less likely to look for technology programs to fill those gaps and instead use technology as a support to deepening student learning and understanding.

Contributions to the Field of Educational Leadership

The COVID-19 pandemic had a devastating impact on education as a whole leaving many within the field scrambling for solutions and adaptations. While the negatives of the pandemic are clear, Darling-Hammond et al. (2020) embrace the idea that the pandemic was an opportunity to "rethink" (p. 9) education. Educational leadership as a whole has the opportunity to analyze what worked during the pandemic and what did not. It is imperative that educational leaders reflect on what happened and continues to happen during each phase of the pandemic, to use those insights it to improve and prepare education for the future.

As the findings of this study show, The Learning Target Theory of Action has utility to address challenges faced by educators during the COVID-19 pandemic. This theory of action enables teachers to create lessons that focus squarely on advancing student learning and achievement and also enable students to become the owners of their own learning. The theory gives teachers a research based framework for designing not only a lesson but a trajectory that truly focuses on the goal of improving student understanding. And, it provides principals, curriculum directors, instructional coaches, and others who contribute to the professional learning agendas of teachers, specific things to gain increased clarity about the quality of the lesson by "sitting in the student's seat" in order to judge the impact of the lesson on student learning (Moss & Brookhart, 2015, p. 22-23).

Most importantly, as Moss and Brookhart (2015) state the Learning Target Theory of Action rests on the central role of students as informed decision makers who can assess and regulate the quality of work" (p. 27). Planning in ways that enable students to be "informed decision" makers helps to address many of the obstacles perceived by the participants of this study and elevate instructional impact.

This proven theory of action when applied it to instructional challenges that arose during the COVID-19 pandemic, reminds us that these challenges exist in brick and mortar classrooms—there are not technology influenced. More specifically this study provided examples of how to analyze teachers' responses to identify their planning and teaching strategies, and identify specific challenges they faced that negatively impacted student learning. Clearly, educational leaders who are able to engage in this level of analysis to come up with each teacher's next level of work would increase their impact on instructional quality in their buildings and districts to suggest more effective learning strategies that would promote improved student understanding.

This study also demonstrated how to move from more specific analysis of a lesson to identifying a teacher's next levels of work, along with examples of what those steps and strategies would look like if correctly implemented to help feed educators forward in their own professional growth. Having effective ways to feed educators forward in their professional growth is paramount in the field of educational leadership and is an important start in the rethinking of education after the pandemic.

Finally, this study sheds light on the areas of student learning and teacher instruction that educational leaders have overlooked in their classroom walkthroughs and teacher evaluations. It points to professional learning agendas for educational leaders themselves who may not

understand the essential components of a worthwhile lesson, have a limited understanding of formative assessment, and who would benefit from studying these concepts themselves to better serve all the learners in their districts and buildings. In other words, it points to the importance of educational leaders becoming the leading learners in order to lead learners and learning (Moss & Brookhart, 2015).

Recommendations and Implications for Educational Leadership for Social Justice

The findings of the study reveal a way to overcome obstacles that were brought on by the COVID-19 pandemic. While findings like this are valuable in any educational setting, the location and population of the current study heightens the importance. This is due to the fact that while the pandemic had devastating impacts throughout the entirety of the educational field, those impacts were felt most by students of marginalized families (Louis-Jean & Cenat, 2020; Summers, 2020). The school used in this study suffered many of the same negative impacts other schools serving marginalized families. Many of the students at the start of online learning, did not receive the technology they needed or had the internet needed to connect their devices. Furthermore, the school district had a later start than many of the surrounding school districts. The issues brought on by the pandemic only added to existing inequities already faced by many of the students that the school serves. In order to begin the process of improving education for all students, along with creating educational strategies that can function both in person and virtual there will be two recommendations made.

The first recommendation encompasses the process of creating a worthwhile lesson. As was discussed in Haberman's (2010) research, schools serving students of marginalized students tend to use scripted curriculum. As for the context of the study this is the case as well. When reviewing the responses of the participants it became clear that many of the participants planned

their lessons focusing on what the students were doing instead of focusing on what they would be learning. Consequently, many of the participants also reported that they used the curriculum provided by the school district. It is clear that training both the teachers and faculty within the district how to create a worthwhile lesson following the strategies laid out in Moss and Brookhart's research (2015). Moreover, training teachers how to design a learning trajectory will help in their creation of worthwhile lessons. This can be designed using a predetermined curriculum guide or map to show teachers what direction their trajectory should aim for. While training teachers and other faculty in the creation of worthwhile lessons, it will not have the necessary impact unless teachers understand how to assess their lessons and students.

The second recommendation is the inclusion of the Learning Target Theory of Action supported by the formative learning cycle into lessons and lesson planning. It was clear from the analysis of participant responses, that all the participants struggled with embedding the formative assessment process into their lessons. Because of this struggle, students were not pushed to use more sophisticated strategies and take ownership of their learning, students were simply complying with a set of tasks that they were to complete. This evidence falls in line with the research of Ladson-Billings (2014) of which it is noted that students who are considered "at risk" (typically poor or minority students) rarely receive more challenging curricula. Instead, students work on basic skills with basic pedagogical styles. In this way, teachers can plan lessons that push students further and empowers students from all backgrounds to take ownership of their own learning.

Limitations

This study had several limitations. The number of participants that responded to the survey was very small. Because this study used a convenient sample, all participants were from

the same school limiting the variety of responses. All data was gathered through participant responses to the opened survey questions. This hindered the study in two ways, first some participant responses to the prompts were either very short or lacked a great deal of detail, which made it difficult to get specific examples of what they did in their classrooms. Second, in reviewing participant responses, it became clear that there were misconceptions with certain educational terms or ideas that impacted the responses of the participants. This was especially the case for prompt eight (How well were you able to respond to difficult questions from students about what they are supposed to be learning during the lesson? How did this compare to what you were able to do during in person learning?) where all participants misconstrued the meaning of the question.

It should also be noted that this study was greatly impacted by the COVID-19 pandemic. The timing of this study occurred in the middle of teachers teaching virtually and preparing for the upcoming switch to hybrid learning (having students both in-person and online). Many teachers at this time were feeling overwhelmed with many of the changes and unfamiliar ways of teaching. This most certainly had an impact on participant responses and the time that participants had to respond.

Future Research

Because of the information provided from participant responses along with the limitations that hindered the analysis of participant responses, this study leads itself to future research. After analyzing participant responses, several questions came to light that could not be answered from the current study's data. Because of the study's focus on formative assessment, it would be beneficial to be able to determine what impact the curriculum and technology resources provided by the school district to the participants of the study, had on what was viewed as

formative assessment. Next, it was clear from the participant responses that they found teaching online to be problematic. It would be advantageous to determine how much those feelings were due to the lack of control they had over the environment and their students while teaching remotely. Lastly, after then analyzation and discussion of the result a bigger question came to light that could not be answered by the data that was collected. The participants explained that they were unable to cover the same amount of content they would in person while teaching remotely. Research focused on the way teachers discuss time and efficiencies could be valuable. Even more a discussion could be had detailing how the participants conceptualize learning.

Implications for My Leadership Agenda and Growth

This research helped me grow in my understanding of the formative assessment process and how it can be embedded into the lesson planning process. I have gained a better understanding how to analyze teachers in their lesson planning process and teaching. Furthermore, I grew in my approach to diagnosing misconceptions and issues in lesson planning and teaching along with coaching teachers to their next level of work. This was exceptionally beneficial for my role as an administrator as it will improve my ability to assist teachers through observations. Moving forward, my work will include taking the findings from this study and using them as a basis for support teachers in their implementation of the Learn Target Theory of Action and its impact of their self-efficacy.

References

A plus schools. (2017). *Pittsburgh's middles schools.* Retrieved from: http://www.aplusschools.org/wp-content/uploads/6-8s-2017.pdf

Atchison, D. (2020). COVID-19 and the squeeze on state education budgets: Equity implications for New York state. *American Institutions for Research*. Retrieved from: https://files.eric.ed.gov/fulltext/ED606245.pdf

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1994). Self-efficacy. In V.S. Ramachaudran (Ed.) Encyclopedia of human behavior (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego: *Academic Press*, 1998).

Berger, J., & Karabenick, S. A. (2016). Construct validity of self-reported metacognitive learning strategies. *Educational Assessment,* 21, 19-33.

Bridwell, S. D. (2012). School leadership: Lessons from the lived experiences of urban teachers. *Journal of Ethnographic & Qualitative Research,* 7, 52-63.

Brookhart, S. M. (2017) *How to give effective feedback to your students* (2nd ed.). Alexandria, VA: ASCD.

Brown, G. T. L., Peterson, E. R., & Yao, E. S. (2016). Student conceptions of feedback: Impact on self-regulation, self-efficacy, and academic achievement. British Journal of *Educational Psychology*, 86, 606-629.

Butcher, J. (2020). Public-private virtual-school partnerships and federal flexibility for schools during COVID-19. *Mercatus Center.* Retrieved from: https://www.mercatus.org/system/files/butcher-virtual-schools-covid-19-mercatus-v1.pdf

Butler, D. L., & Winne, P. H. (1995). Feedback and self-regulated learning: A theoretical synthesis. *Review of educational research,* 65(3), 245-281.

Capper, C. A. (2015). The 20th-year anniversary of critical race theory in education: Implications for leading to eliminate racism. *Educational Administration Quarterly*, 51(5), 791-833.

Cauley, K. M., & McMillan, J. H. (2010). Formative assessment techniques to support student motivation and achievement. *The Clearing House,* 83(1), 1-6.

Cleary, T. J., & Callan, G. L. (2014). Student self-regulated learning in an urban high school: Predictive validity and relations between teacher ratings and student self-reports. *Journal of Psychoeducational Assessment*, 32(4), 295-305.

Cleary, T. J., Callan, G. L., & Zimmerman, B. J. (2012). Assessing self-regulation as a cyclical, context-specific phenomenon: Overview and analysis of SRL microanalytical protocols. *Education Research International*, 2012, 1-19.

Center on Reinventing Public Education (CRPE) (2020). *Charm city leaders adapt as they tackle equity gaps: Lessons from Baltimore City Public School's response spring 2020*, 1-6.

Cope, B., & Kalantzis, M. (2020). . *New Learning*. Retrieved from: https://cgscholar.com/community/community_profiles/new learning/community_updates/117304

Cosnefroy, L., Fenouillet, F., Mazé, C., & Bonnefoy, B. (2018). On the relationship between the forethought phase of self-regulated learning and self-regulation failure. Issues in *Educational Research*, 28(2), 329-348.

Council of the Great City Schools. (2016). *Review of Pittsburgh Public Schools: Organization, instruction, research, and operations.* Retrieved from: https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/4/Pittsburgh%20Report.pdf

Darling-Hammond, L., Edgerton, A. K., Truong, N. & Cookson, P. W., Jr. (2020). Restarting and Reinventing School: Learning in the Time of COVID and Beyond. Priority 2: Strengthen Distance and Blended Learning. *Learning Policy Institute*, 9-20.

Dignath, C., & Büttner, G. (2018). Teachers' direct and indirect promotion of self-regulated learning in primary and secondary school mathematics classes- insights from video-based classroom observations and teacher interviews. *Metacognition learning*, 13, 127-157.

Doubet, K. J. (2012). Formative assessment jump-starts a middle grades differentiation initiative: A school focuses on formative assessment to support its efforts to differentiate instruction. *Middle School Journal,* 43(3), 32-38.

Dudley-Marling, C. (2014). Direct instruction: Effectively teaching low-level skills. In P. C. Gorski & K. Zenkov (Eds). *The Big Lies of School Reform: Finding Better Solutions for the Future of Public Education* (pp. 43-52) New York, NY: Routledge.

Eddins, M., Comly, R., & Lapp, D. (2020). Responses to COVID-19 school closures: A scan of continuity of education plans for Allegheny County public schools. *Allegheny County Education Research*, 1-13.

Gibbs, G. R. (2007) *Analyzing qualitative data.* London: Sage Publications.

Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. Journal of *Educational Psychology*, 76(4), 569-582.

Gjerde, K. P., Padgett, M. Y., & Skinner, D. (2017). The Impact of process v. outcome feedback on student performance and perceptions. *Journal of Learning in Higher Education,* 13(1), 73-82.

Gravill, J., Compeau, D., & Marcolin, B. (2002). Metacognition and IT: The influences of self-efficacy and self-awareness. *AMCIS 2002 Proceedings,* 147, 1054-1064.

Haberman, M. (1991). The pedagogy of poverty versus good teaching. *Phi Delta Kappan*, 73, 290-294.

Haberman, M. (2010). The pedagogy of poverty versus good teaching. *Phi Delta Kappan*, 92(2), 81-87.

Hadwin, A. F., Järvelä, S., & Miller, M. (2011). Self-regulated, co-regulated, and socially shared regulation of learning. In B. J. Zimmerman & D. H. Schunk (Eds). *Handbook of self-regulation of learning and performance* (pp. 1- 12). New York, NY: Routledge.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning.* New York, NY: Routledge.

Hattie J., & Clarke S. (2019). *Visible learning feedback*. New York, NY: Routledge.

Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research,* 77(1), 81-112.

Hebebci, M. T., Beritz, Y., & Alan, S. (2020). Investigation of views of students and teachers on distance education practices during the Coronavirus (COVID-19) Pandemic. *International Journal of Technology in Education and Sciences (IJTES),* 4(4), 267-282.

Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology*, 105(3), 774-786.

Holzberger, D., Philipp, A., & Kunter, M. (2014). Predicting teachers' instructional behaviors: The interplay between self-efficacy and intrinsic needs. *Contemporary Educational Psychology*, 39, 100-111.

Howard, T. C., & Navarro, O. (2016). Critical race theory 20 years later: Where do we go from here? *Urban Education*, 51(3), 253-273.

Huber S. G., & Helm, C. (2020). COVID-19 and schooling: evaluation, assessment and accountability in tines of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer. *Education Assessment, Evaluation and Accountability*, 32, 237-270.

Kaden, U. (2020). COVID-19 School closure-related changes to the professional life of a K-12 teacher. *Education Sciences*, 10(165), 1-13.

Kim, L. E., & Asbury, K. (2020). 'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology,* 90, 1062-1083.

Kim, S. J. & Bostwick, W. (2020). Social vulnerability and racial inequity in COVID-19 deaths in Chicago. *Health Education & Behavior,* 47(4), 509-513.

Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756.

Klassen, R. M., Tze, V. M. C. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, 12, 59-76.

Klassen, R. M., Tze, V. M. C., Betts, S. M., & Gordon, K. A. (2011). Teacher efficacy research 1998-2009: Signs of progress or unfulfilled promise? *Educational Psychological Review*, 23, 21-43.

Lachlan, L., Kimmel, L., Mizrav, E., & Holdheide, L. (2020) Advancing Quality Teaching for all Schools: Examining the Impact of COVID-19 on the Teaching Workforce. *Center on Great Teachers & Leaders at the American Institutes for Research*, 1-20.

Ladson-Billings, G., & Tate, W. F. (1995). Toward a critical race theory of education. *Teachers College Record*, 97(1), 47-68.

Ladson-Billings, G. (2014). The pedagogy of poverty: The big lies about poor children. In P. C. Gorski & K. Zenkov (Eds). *The Big Lies of School Reform: Finding Better Solutions for the Future of Public Education* (pp. 7-16) New York, NY: Routledge.

Laster Pirtle, W. N. (2020). Racial capitalism: A fundamental cause of novel coronavirus (COVID-19) pandemic inequities in the United States. *Health Education & Behavior,* 47(4), 504-508.

Ledesma, M. C., & Calderón, D. (2015). Critical race theory in education: A review of past literature and a look into the future. *Qualitative Inquiry,* 21(3), 206-222.

Louis-Jean, J., & Cenat, K. (2020). Beyond the face-to-face learning: A contextual analysis. *Pedagogical Research,* 5(4), 1-4.

Mango, C. (2011). Validating the academic self-regulated learning scale with the motivated strategies for learning questionnaire (MSLQ) and learning and study strategies inventory (LASSI). *The International Journal of Educational and Psychological Assessment,* 7(2), 56-73.

McKinney, S. J. (2020). Covid-19: Food insecurity, digital exclusion, and catholic schools. *Journal of Religious Education*, 68, 319-330.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (Third edition). California: SAGE.

Miller, A. D., Ramirez, E. M., & Murdock, T. B. (2017). The influence of teachers' self-efficacy on perceptions: Perceived teacher competence and respect and student effort and achievement. *Teaching and Teacher Education*, 64, 260-269.

Milman, N. B. (2020). This is emergency remote teaching, not just online teaching. *Education Week*. Retrieved from: https://www.edweek.org/leadership/opinion-this-is-emergency-remote-teaching-not-just-online-teaching/2020/03?r=1849031805&cmp=eml-enl-cco-news1&M=59520064&U=1471603&UUID=c511df393b937780b8b77ca63d46a74c

Milner, R. H. (2013). Analyzing poverty, learning, and teaching through a critical race theory lens. *Review of Research in Education*, 37, 1-53.

Moores, T. T., Chang, J. C-J. (2009). Self-efficacy, overconfidence, and the negative effect on subsequent performance: A field study. *Information & Management*, 46, 69-76.

Moss, C. M., & Brookhart, S. M. (2009). *Advancing formative assessment in every classroom: A guide for instructional leaders.* Alexandria, VA: ASCD.

Moss, C. M., & Brookhart, S. M. (2012). *Learning targets: Helping students aim for understanding in today's lesson.* Alexandria, VA: ASCD.

Moss, C. M., & Brookhart, S. M. (2015). *Formative classroom walkthroughs: How principals and teachers collaborate to raise student achievement.* Alexandria, VA: ASCD.

Moss, C. M., & Brookhart, S. M. (2019). *Advancing formative assessment in every classroom: A guide for instructional leaders. 2nd edition.* Alexandria, VA: ASCD.

Moss, C. M. (2013). Research on classroom summative assessment. In J. H. McMillan (Eds.), *Handbook of research on classroom assessment* (pp. 235-255). Thousand Oaks, CA: SAGE Publications, Inc.

Nichols, J. A., Nichols, W. D., & Rupley, W. H. (2020). Teacher efficacy and attributes on the implementation of tiered instructional frameworks. *International Journal of Evaluation and Research in Education (IJERE),* 9(3), 731-742.

Pandero, E., & Alonso-Tapia, J. (2014). How do students self-regulate? Review of Zimmerman's cyclical model of self-regulated learning. *Anales de psicologia*, 30(2), 450-462.

Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in psychology*, 8, 1-28.

Pavlov, Y. (2016). On reading Hattie & Timperley's "THE POWER OF FEEDBACK". Retrieved from https://pavlovsyracuse.wordpress.com/2016/06/01/on-reading-hattie-timperleys-the-power-of-feedback/

Peeters, J., De Backer, F., Romero Reina, V., Kindekens, A., Buffel, T., & Lombaerts, K. (2014). The role of teachers' self-regulatory capacities in the implementation of self-regulated learning practices. *Procedia-Social and Behavioral Sciences,* 116, 1963-1970.

Pittsburgh Public Schools. (2017a). *2017 district performance results: PSSA/PASA and keystones.* Retrieved from: https://www.pghschools.org/cms/lib/PA01000449/Centricity/Domain/19/2017%20District%20Performance%20Results.pdf

Pittsburgh Public Schools. (2017b). *Expect great things: Strategic plan 2017-2022.* Retrieved from: http://www.ppsstrategicplan.org

Poulou, M. S., Reddy, L. A., & Dudek, C. M. (2019). Relation of teacher self-efficacy and classroom practices: A preliminary investigation. *School Psychology International*, 40(1), 25-48.

Rogers Haverback, H. (2020). Middle Level Teachers Quarantine, Teach, and Increase Self-Efficacy Beliefs: Using Theory to Build Practice During COVID-19. *Middle Grades Review*, 6(2).

Roskos, K., & Neuman, S. B. (2012). Formative assessment: Simply, no additives. *The Reading Teacher*, 65(8), 534-538.

Schaefer, M. B., Schamroth Abrams, S., Kurpis, M., & Abrams, C. (2020). Making the Unusual Usual: Students' Perspectives and Experiences of Learning at Home during the COVID-19 Pandemic. *Middle Grades Review*, 6(2).

Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teacher and Teacher Education*, 1059-1069.

Sperling, R. A, Ramsay, C. M., Reeves, P. M., Follmer, D. J., & Richmond, A. S. (2016). Supporting students' knowledge construction and self-regulation through the use of elaborative processing strategies. *Middle School Journal,* 47(3), 25-32.

Soltan, L. (2020). *Digital divide: The technology gap between the rich and poor.* Digital Responsibility. Retrieved from: http://www.digitalresponsibility.org/digital-divide-the-technology-gap-between-rich-and-poor

Summers, L. L. (2020). The Right Blend SEL Skills Support Teacher Learning in Person and Online. *The Learning Professional*, 41(4), 32-36.

Thomas, L. (2020). Coronavirus and K-12 education: U-M experts can discuss. *University of Michigan News.* Retrieved from: https://news.umich.edu/coronavirus-and-k-12-education-u-m-experts-candiscuss/

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education,* 17(7), 783–805.

Turner, C., Adame, D., & Nadworny, E. (2020). "There's a huge disparity": What teaching looks like during coronavirus. *NPR*. Retrieved from: https://www.npr.org/2020/04/11/830856140/teaching-without-schools-grief-then-a-free-for-all

Winne, P. H. (2018). Theorizing and researching levels of processing in self-regulated learning. *British journal of educational psychology,* 88, 9-20.

Vogels, E. A. (2020). 59% of U.S. parents with lower incomes say their child may face digital obstacles in schoolwork. Facttank News In The Numbers, 1-7. Retrieved from: https://www.pewresearch.org/fact-tank/2020/09/10/59-of-u-s-parents-with-lower-incomes-say-their-child-may-face-digital-obstacles-in-schoolwork/

Yao, J., Rao, J., Jiang, T., & Xiong, C. (2020). What role should teachers play in online teaching during COVID-19 pandemic? Evidence from China. *Science Insights Education Frontiers*, 5(2), 517-524.

Zee, M., & Koomen, H. M. Y. (2016). Teacher self-efficacy and its effect on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research*, 86(4), 981-1015.

Zee, M., de Jong, P. F., & Koomen, H. M. Y. (2016). Teachers' self-efficacy in relation to individual students with a variety of social-emotional behaviors: A multilevel investigation. *Journal of Educational Psychology*, 108(7), 1013-1027.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13-39). San Diego, CA: Academic Press.

Zimmerman, B. J., (2002). Becoming a self-regulated learner: An overview. *Theory into practice*, 41(2), 64-70.

Zimmerman, B. J. (2013). From cognitive modeling to self-regulation: A social cognitive career path. *Educational psychologist,* 48(3), 135-147.

Zimmerman, B. J., & Schunk, D. H. (2011). Self-regulated learning and performance: An introduction and overview. In B. J. Zimmerman & D. H. Schunk (Eds). *Handbook of self-regulation of learning and performance* (pp. 1- 12). New York, NY: Routledge.