VIRTUAL LEARNING IN ELEMENTARY SCHOOL:
A PHENOMENOLOGICAL STUDY OF STUDENT ENGAGEMENT

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by
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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

VIRTUAL LEARNING IN ELEMENTARY SCHOOL:
A PHENOMENOLGOCIAL STUDY OF STUDENT ENGAGEMENT

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DEDICATION

To Jay.

I almost didn’t write a dedication page. But then it sunk in how much you did for me along this journey toward becoming Dr. Howard. This picture is the epitome of your support. You are reading my completed dissertation to Fern. You read more of my work in this doctoral program than any other person. You made what was important to me important to you. You used your expert editing, revising, and research skills to help me perfect much of my work. You carried around some of my textbooks to read what I was reading and learn what I was learning. You learned the names of many of my fellow Cohort 12 members so that you knew who I was talking about when I recapped class late into the night. You voluntarily read articles that I felt were dull and illuminated how interesting they were. You let me talk on and on about leadership theories, program evaluation, qualitative methods, policy analysis and other topics that would bore the average human. You. Read. My. Dissertation. And gave extensive and helpful feedback! I could go on, but I think the dissertation guidelines say this can only be a page. Thanks for being my biggest cheerleader along this journey and for telling me that it’s okay to feel proud of myself for this accomplishment. Thanks for being excited to be Dr. and Mr. Howard with me. Forever grateful for you. I love you.
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Dr. Mac, I will always remember what you said the first day of class in this program – we are going to read, write, and talk together until we are all transformed. As I write this, I am reflecting on a conversation I just had with complete strangers about the research within this dissertation. They found out I was writing a dissertation and perhaps didn’t expect the can of worms I unleashed when they asked what it was about. That conversation showed me that I have truly learned so much through this program – so much that it is now part of my regular vocabulary. You were right – we read, wrote, and talked ourselves to transformation.

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VIRTUAL LEARNING IN ELEMENTARY SCHOOL: A PHENOMENOLOGICAL STUDY OF STUDENT ENGAGEMENT

Amber Howard
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ABSTRACT

The Covid-19 pandemic necessitated an unprecedented shift to virtual learning in America. It is unlikely that this method of instruction will end when it is safe to return to in-person instruction, even though there is limited research supporting virtual learning at the K-5 level. This phenomenological qualitative study explored the professional identities of virtual elementary school teachers, and what strategies they used to engage their K-5 students in a synchronous virtual setting in the state of Missouri. Data for the present study were collected through a census survey sent to all virtual elementary teachers, two focus groups of the same teachers, and two one-on-one interviews with the assistant principals of virtual learning from one large virtual learning provider in Missouri. Through basic descriptive statistical analysis, findings regarding professional identities showed that teachers had a wide range of backgrounds and expertise areas; but most reported a lack of preparation to teach elementary school online. To investigate engagement strategies, Fredericks et al.’s (2004) Multidimensional Engagement Framework was used. Using a combination of inductive and deductive analysis, findings suggest there are certain teacher dispositions that contribute to successful engagement in elementary virtual learning. In addition, several specific strategies for cognitive, affective, and behavioral engagement were uncovered as well as several challenges regarding engagement in K-5 virtual learning. This research begins the important work of uncovering best practices in virtual learning at the K-5 level and paves the way for future research on the topic.
SECTION I: INTRODUCTION
Introduction to the Background of the Study

The Covid-19 pandemic necessitated an unprecedented shift to virtual learning in America with over 90% of K-12 students learning online for the 2020-2021 school year (Mcelrath, 2020). This rapid growth in virtual learning will undoubtedly change the landscape of education forever. While born of necessity, this shift took place with very little research to support online learning for K-5 students.

Virtual learning in the K-12 setting began predominantly with high school online options to provide flexibility and choice at the high school level (Barbour & Harrison, 2016). Barbour (2017) concluded that due to the rapid increase in virtual learning, it has been difficult to ensure any quality in student performance. Many researchers connect student performance to student engagement (Finn & Rock, 1997; Lei et al., 2018; Skinner et al., 1990), but what does this look like in K-5 virtual learning? Ample research has examined student engagement in both high school and higher education virtual learning (e.g., Diliberti, 2018; Hawkins et al., 2012; Molnar et al., 2019; Oliver et al., 2010; Stenbom et al., 2019). However, little research exists that focuses specifically on K-5 virtual learning.

In fall 2020, over 12,000 elementary students in public schools enrolled in virtual learning with a large virtual learning provider in the Midwest. Students were taught by 317 teachers, most of them teaching online for the first time in their careers. Palmer (1997) said that teachers teach who they are, but very little is even known about the professional identities of these teachers who deliver online instruction to elementary students. Part of teacher identity is the knowledge and professional practices teachers bring to the field (Pennington, 2015). But if the identities of these teachers are unknown,
then it is difficult to know what knowledge and practices they bring to virtual learning. While online teachers typically have little or no training in online teaching, virtual learning will not go away in most states even once it is safe for schools to reopen. This is due in part to policies such as the Missouri Course Access and Virtual School Program (2018) that dictates that every K-12 learner in the state of Missouri must have access to a virtual learning option. Policies are in place in 36 states in America similar to the Missouri Course Access and Virtual School Program, many of which require that students complete at least one class virtually before graduating high school (Erwin, 2019).

One of the professional practices that teachers bring to the field involves the ways in which they engage their students. Research supports the connection between student engagement and academic achievement (Connell et al., 1994; Fincham et al., 1989; Firat et al., 2019; Marks, 2000; Skinner et al., 1990). For example, Lei et al. (2018) conducted a meta-analysis of 69 independent studies on engagement to find that there is a strong correlation between overall student engagement and academic achievement. As a result of the vast amount of research linking student engagement and academic achievement, research-based practices to promote student engagement in a seated classroom for K-5 learners have been well-established (e.g., Hattie, 2009; Marzano, 1992; Wong & Wong, 1991), but little research exists that examines virtual learning engagement practices in a K-5 setting.

**Statement of the Problem**

There is limited research regarding K-5 virtual learning. In fact, even the identities of K-5 online teachers is currently unknown. Further, we do not yet know what
strategies teachers are using to promote engagement in virtual learning for K-5 public school students, even though over half of elementary-aged students were learning online for the 2020-2021 school year (Mcelrath, 2020). While evidence supports the connection between student engagement and academic achievement in virtual learning in higher education and high school settings in America (e.g., Diliberti, 2018; Hawkins et al., 2012; Lapp & Kunz, 2020; Molnar et al., 2019; Oliver et al., 2010; Stenbom et al., 2019; Toro-Troconis, 2019), this topic has not been investigated in the K-5 setting. This study began the important work of filling this gap in the literature by first exploring the identities of virtual teachers and then found what strategies teachers used to engage the youngest virtual learners in the Midwest.

**Purpose of the Study**

The purpose of this study was to first understand the professional identities of public-school teachers who taught K-5 students virtually in the 2021-2022 school year. The study also explored strategies those teachers used to engage K-5 students in virtual learning. The rationale for examining teacher identity ties to the phenomenological design but also aligns with Palmer’s (1997) focus on understanding teacher identity because teachers ultimately teach who they are. The rationale for examining engagement strategies in virtual learning was the vast amount of research that shows the connection between engagement and academic achievement (e.g., Connell et al., 1994; Fincham et al., 1989; Firat et al., 2019; Lei et al., 2018; Marks, 2000; Skinner et al., 1990).

**Research Questions**

The first research question that guided this study was: What are the professional identities of K-5 public school teachers who teach fully online with a large virtual
learning provider in Missouri? The second research question was: What strategies do K-5 public school teachers use to engage students in virtual learning in Missouri?

**Conceptual Framework**

Lokey-Vega et al. (2018) researched the lack of theoretical frameworks to guide studies into K-12 online learning. They reviewed over 700 articles in a systematic review of the literature into theoretical frameworks for K-12 virtual learning and found that most studies borrowed theories from other fields such as psychology, higher education, and business. The lack of theoretical frameworks in K-12 virtual learning is discussed by other researchers as well (e.g., Arnesen et al., 2019; Barbour & Reeves, 2009; Curtis & Werth, 2015).

To frame the investigation into teacher identities, Pennington’s (2015) definition of teacher identity was used. Pennington explained that teacher professional identity is “a unique blend of individual teacher characteristics within the disciplinary knowledge, standards, and practices of the field” (p. 78). Korthagen (2004) described teacher identity as a gestalt – a whole that is greater than the sum of its parts. Investigating identity is a difficult task due to the complex nature of identity (Beauchamp & Thomas, 2009). To navigate this, the study focused on Pennington’s definition of teacher identity to understand how teachers’ knowledge of engagement practices in virtual learning impacted their instruction in their K-5 online classroom.

To examine engagement, this research used Fredricks et al.’s (2004) Multidimensional Engagement Framework. The work of Fredericks et al. synthesized research by many other scholars to build the three components that encompass their framework: cognitive engagement, affective engagement, and behavioral engagement.
According to them, current research on student engagement, “has not capitalized on the potential of engagement as a multidimensional construct that encompasses behavior, emotion, and cognition” (p. 83). Wen et al. (2010) also examined this three-pronged approach to engagement and found that emotional engagement leads to cognitive engagement which leads to behavioral engagement and results in academic achievement.

Fredericks et al. (2004) divided behavioral engagement into three categories: positive conduct, involvement in learning, and participation in school-related activities. Behavioral engagement has been studied in-depth by Finn (1993) through his work with the National Center for Education Statistics. His extensive investigations of over 20,000 eighth grade students examined what behaviors were connected to lower student achievement. His research revealed that behavioral engagement was a malleable part of engagement and thus paved the way for many other studies around strategies to increase behavioral engagement.

Emotional engagement is connected to how a student responds to learning affectively (Fredericks et al., 2004). This may include anxiety, boredom, happiness, interest, and sadness. Stipek (2002) examined emotional engagement in a study with first graders learning to read. This researcher found a strong connection between emotional engagement and early reading comprehension development. This is supported by numerous other researchers who have found a strong connection between student perception of their relationship with their teacher and academic achievement (Siegel & Bryson, 2012; Souers, 2016).

Fredericks et al. (2004) explained that cognitive engagement focuses on a student’s investment in their learning which includes self-regulation, a preference for
challenge, and problem-solving skills. Cognitive engagement combines a psychological investment in learning with a focus on strategic learning. Bond and Bedenlier (2019) attested that cognitive engagement is what leads to deep learning that can transform and stay with students after the learning session.

Bond and Bedenlier (2019) categorized Fredericks et al.’s (2004) three-part framework into indicators of student engagement for each of the three categories. This can be seen in Table 1. To do this, they investigated research surrounding each of the three dimensions to identify what the literature revealed regarding what student behaviors are connected to each one. They also advocated for using a multidimensional approach to student engagement when they wrote, “by understanding the range of influences on student engagement, researchers could use the model presented here to frame their investigation and subsequent results discussion” (Bond & Bedenlier, 2019, p. 8).

Table 1

*Indicators of Student Engagement*

<table>
<thead>
<tr>
<th>Cognitive Engagement</th>
<th>Affective Engagement</th>
<th>Behavioral Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated ideas</td>
<td>Enthusiasm</td>
<td>Effort</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>Sense of belonging</td>
<td>Attention</td>
</tr>
<tr>
<td>Goal setting</td>
<td>Curiosity</td>
<td>Attendance</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>Feeling appreciated</td>
<td>Attempting</td>
</tr>
<tr>
<td>Reflection</td>
<td>Enjoyment</td>
<td>Completion</td>
</tr>
<tr>
<td>Focus/concentration</td>
<td>Pride</td>
<td>Positive conduct</td>
</tr>
<tr>
<td>Deep learning</td>
<td>Excitement</td>
<td>Confidence</td>
</tr>
<tr>
<td>Doing extra to learn more</td>
<td>Desire to do well</td>
<td>Participation</td>
</tr>
<tr>
<td>Follow through</td>
<td>Sense of connectedness</td>
<td>Asking for help</td>
</tr>
</tbody>
</table>

*Note.* Adapted from Bond & Bedenlier, 2019
Bond and Bedenlier’s (2019) categorization of the skills and behaviors that comprise the three dimensions of engagement was used to assist the researcher in the development of data collection tools. Indicators for behavioral engagement that were utilized to frame questions include: effort, attention/focus, attendance, completion, positive conduct, action/initiation, participation/involvement, asking questions, assuming responsibility, and interaction. Indicators for emotional, or affective, engagement that were utilized to frame questions include enthusiasm, curiosity, interest, appreciation, enjoyment, pride, excitement, desire to do well, and connectedness. Indicators for cognitive engagement that were utilized to frame questions include critical thinking, goal setting, self-regulation, reflection, deep learning, learning from peers, doing extra, and preference for challenging tasks.

Design of the Study: Phenomenological Study

This study followed a qualitative phenomenological research design (Merriam & Tisdell, 2016). A phenomenological approach examines the lived experiences of the participants. Mertens (2020) explained that the intent behind phenomenological research is to “understand and describe an event from the point of view of the participant” (p. 255). Patton (2015) took this examination of individual lived experiences a step further by proposing phenomenological research to find the essence of a shared experience. To truly understand a person’s lived experience, one must understand their identity first, hence the first research question regarding the professional identities of teachers. Once that identity was understood, the research examined teachers’ lived experiences regarding teaching K-5 learners virtually. Specifically, the study focused on strategies these teachers used to engage virtual learners.
Setting

The setting of this research was a large virtual learning provider that served public-school students in the Midwest, U.S. Throughout this study a pseudonym – Access Learning, or just Access – was used to refer to this virtual learning provider. Due to the nature of virtual learning, classrooms were spread across the entire Midwest region with three main hubs of support personnel located in large cities. Teachers may teach from their home offices or from their home schools depending on space available. The data for this study was collected from all teachers that taught students in kindergarten through fifth grade during the fall 2021 semester. Some of these teachers resided in the large city where the virtual learning provider had its headquarters. The remaining teachers were spread throughout the rest of the Midwest region in a variety of rural, suburban, and urban areas.

The online setting of these virtual K-5 classrooms was the Canvas Learning Management System and through Zoom video conferencing. The virtual learning provider developed the assignments for students to complete on the Canvas platform. Teachers also accessed their curriculum through a module that is built directly into the Canvas course. All K-5 teachers with this virtual learning provider were expected to deliver live, synchronous instruction throughout the school day. The daily structure for teachers was to deliver a live lesson that students accessed through Zoom, then taught in small groups with students while the rest of the students worked on independent assignments. That cycle repeated throughout the day starting with reading instruction in the morning, followed by writing instruction, then a break. In the afternoon, the cycle continued with math instruction, followed by content area instruction. This structure
meant that teachers were on Zoom with students for roughly 4-5 hours per day. Students were live with their teacher for 2-3 hours depending on their small group schedule for that day.

Students in each class were from all over the Midwest region, so students were not all from the same school districts. Access Learning partnered with over 350 public school districts to provide virtual learning options for students across the region. Individual school districts were expected to provide students with a device to access the virtual learning through Canvas and Zoom. Most districts provided their students with Chromebooks or iPads which have similar functionalities when using the virtual learning curriculum and materials. Partner districts were also expected to support their students in obtaining high speed internet if needed. Many districts did this through providing wireless internet hot spots to students who need or request it.

Participants

Sixty K-5 elementary teachers who taught with Access Learning were invited to complete an electronic survey. The census survey sampling method was used to get the broadest possible picture of the phenomenon (Mertens, 2020). The researcher sent a link to the survey to the Assistant Principal of Elementary Learning at Access Learning who emailed it to the teachers. According to the job description for these teachers that was posted on the school district’s website, teachers must hold a current teaching certificate and were:

responsible for providing support to the instructional program with specific responsibility for facilitating learning within a virtual elementary classroom and other assigned areas, developing lesson plans and delivering group and
individual student instruction within established curriculum guidelines; supervising students; collaborating with other teachers, other professional staff and administrators in addressing instructional and/or classroom issues; and responding to a wide range of inquiries from students’ parents or guardians regarding instructional program and student progress. (Access Learning School District, 2021, para. 1)

In addition to the electronic survey for teachers, 11 of the same teachers who completed the survey participated in two focus groups. Focus group participants were determined based on a maximum variation sample (Mertens, 2020) from participants who indicated interest from the electronic survey that was distributed in addition to convenience in scheduling. To achieve maximum variation in sampling, demographic data from the survey was used to create focus groups with a variety of years of experience teaching online, a variety of grade levels of educators, a variety of education levels, and a variety of locations within the region (rural, suburban, urban).

During the time of this research, Access Learning employed two Assistant Principals of Elementary Virtual Learning who oversaw all K-5 teachers. These two Assistant Principals (APs) participated in one-on-one semi-structured interviews with the researcher. Both APs held a teaching certification as well as an administration certification in the state where Access Learning operates. They also both had office space at the headquarters of Access Learning but were also able to travel to where teachers were currently teaching as needed to fulfill their job duties. They performed all functions of a school principal in relation to the K-5 teachers with Access Learning including teaching observations, training, professional development, and annual reviews.
Data Collection Tools and Sampling Methods

Merriam and Tisdell (2016) explained that the goal of phenomenological research is to depict and explain the basic structure of an experience. The basic structure that this research focused on is teaching elementary school students online. To delve into teachers’ lived experiences with this phenomenon and to address the two research questions regarding the professional identities of K-5 virtual teachers and what strategies they used to engage learners, this research used three data collection tools. Census sampling was used to distribute an electronic survey. Maximum variation sampling was used to determine participants in two focus groups. Finally, two semi-structured interviews with the two Elementary Assistant Principals at Access Learning were conducted.

Survey

An electronic survey built in Qualtrics was emailed to all K-5 teachers employed by Access Learning. Fink (2017) stated that surveys should be used if the information being collected needs to come directly from participants, such as perceptions, feelings, and values. This survey utilized census sampling (Newcomer et al., 2015) to get the broadest picture of teachers’ lived experiences with engagement strategies and obtain the broadest possible picture of the phenomenon. This study examined the lived experiences of K-5 public teachers who were teaching online in the Midwest, so a survey allowed for ease of data collection and best practices in examining perceptions. The survey began with a statement of informed consent (Appendix A). Then it gathered demographic data including years of experience prior to teaching virtually, what grade level they currently taught, where they are teaching from, and a short explanation of why they chose to teach
K-5 online. The demographic data at the beginning of the survey aimed to address the first research question regarding the professional identities of K-5 virtual teachers with Access Learning. The demographic data was also be used to help create a maximum variation sample for focus groups. After the demographic questions, the survey focused questions on what engagement strategies the teachers used in their virtual classrooms to address the second research question. The final question on this survey asked if the teacher was willing to participate in the next level of data collection with focus groups. The survey questions are outlined in Appendix B.

**Validated Assessments.** Survey questions were developed using items from two validated assessment tools. Fredericks et al. (2011) evaluated 21 instruments for measuring student engagement. The present study used the work of Fredericks et al. (2011) to determine which tools to use to measure cognitive, emotional, and behavioral engagement. No one assessment measured all three, so a combination of assessments was utilized.

The first validated assessment tool utilized Skinner et al.’s (2008) engagement vs. disaffection survey that is intended to be completed by teachers to measure student engagement related to emotional and behavioral engagement. This short, four question survey for each area asks teachers to examine what they do to promote aspects of emotional and behavioral engagement in their classroom. The researcher used all four questions of this survey to address the primary research question regarding what strategies teachers use to engage students in virtual learning. Skinner et al.’s survey questions focus on how teachers engage students emotionally and behaviorally.
The second validated assessment tool used the Research Assessment Package for Schools (1998), which is a validated assessment to measure cognitive and behavioral engagement. This three-question assessment is intended to be completed by teachers and asks them to examine the cognitive engagement of their students. This validated assessment was used to determine what strategies teachers use to engage students cognitively in virtual learning.

**Focus Groups**

The second tool for data collection was two 45-60-minute focus groups with five to six teachers each conducted on Zoom with teachers who indicated interest on the survey. Krueger and Casey (2015) supported the use of focus groups to help participants feel more at ease and to determine how participants really think and feel about a topic. This study aimed to determine the engagement strategies teachers use in virtual learning, so a focus group of peers helped provide a setting where they were comfortable sharing. All focus group participants indicated consent to participate in this phase of research through agreeing to the informed consent in the survey (Appendix A). Along with the informed consent, participants were emailed an overview of the conceptual framework that divides engagement into three categories: affective, behavioral, and cognitive. The chart that is shown on the focus group protocol in Appendix C was shared prior to the focus group to frame the discussion that takes place in the focus group. The questioning route for the focus group was based on advice from Krueger and Casey (2015) who recommended beginning with an opening question to evoke conversation, followed by a transition question before getting into the key questions. The focus group protocol closed with two closing questions to wrap up the group conversation.
Semi-Structured Interviews

The third data collection method was two semi-structured 45-minute interviews conducted in-person with the two K-5 Assistant Principals of Virtual Learning at Access Learning. Seidman (2017) stated, “at the root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of that experience” (p. 9). This study aimed to understand virtual K-5 teachers lived experiences with virtual learning, so interviews with the principals who oversaw the work of these K-5 teachers provided valuable insights. The assistant principals knew what the K-5 virtual teachers were expected to do and conducted numerous teaching observations in virtual classrooms each day. Their insight into virtual teachers’ online classrooms provided a rich layer of data that contributed to the overall findings of the study regarding the professional identities of virtual teachers and what strategies they used to engage their learners. Both interview participants were emailed the informed consent prior to the interview. Interviews followed the protocol outlined in Appendix D.

Data Analysis: Inductive Coding

Creswell (2016) outlined the process of taking raw qualitative data and finding themes using inductive coding. The researcher followed Creswell’s six-step system to analyze the qualitative data from the short answer questions on the survey, the interview transcripts, and the focus group transcripts to discover themes and create a conceptual map. This process is outlined below:

1. Prepare the Data for Analysis: transcribed and line numbered all focus groups and interviews, prepared a database for survey data.
2. General Procedure of Data Analysis: carefully read over the data from all three sources, jotted down notes of big picture observations. This occurred through the process of condensation (Miles et al., 2020).

3. Code the Data: determined what was being said through the data and assigned a code label to passages in the data.

4. Group the Data: grouped similar codes together to build support for themes.

5. Examine Reflexivity: ensured that my own experience and role was not influencing the interpretation of the findings.

6. Validate My Interpretation: ensured themes pulled data from all three sources and not just one.

Throughout the data analysis, the researcher focused on the three dimensions of engagement – cognitive, emotional, and behavioral – to determine how educators are engaging students in each area. Each of the three pieces of data followed this overall six-step process in a way that was best suited for that specific data source. This is outlined for steps 1-5 as follows for each data source. The final validation step was done at the end when all three data sets were examined, and the six-step process was repeated looking at all the data to ensure the themes and findings were pulled from all data sources.

The survey began with five demographic questions. These questions were analyzed using descriptive statistical analysis. Mertens (2020) explained that the goal of descriptive statistics is to find characteristics that are common among the entire sample. The researcher calculated the mean, median, and mode for the demographic questions and prepared a histogram (Field, 2018) to display basic demographics of the sample including years of teaching experience, education levels, and the type of area – urban,
suburban, rural – where they teach. The rest of the survey consisted of qualitative questions. Fink (2017) called the data analysis process for qualitative survey data “content analysis” (p. 152). This process is connected to Creswell’s (2016) data analysis method in the following steps.

1. Prepare the Data for Analysis: The data from the Qualtrics survey was downloaded into an Excel spreadsheet and formatted for ease of analysis.

2. General Procedure of Data Analysis: The data was “carefully read to identify the presence of certain words, concepts, themes, phrases, characters, or sentences” (Fink, 2017, p. 152).

3. Code the Data: Fink (2017) referred to this step as “creating a code book” (p. 157). This step was done through adding a tab to the spreadsheet to record the key to the code book that explained the color coding of the raw data.

4. Group the Data: Once all data was color coded initially, the researcher looked for themes within the data and copied excerpts of the data to the code book to support possible themes.

5. Examine Reflexivity: To ensure the researcher’s own experience and understanding is not clouding the results, the researcher followed Fink’s (2017) advice to code the survey data twice. The second coding took place about a week after the first coding to allow for enough time between the two coding sessions to compare the two sets of codes and see if they had been reliably coded.

The focus groups and interviews were analyzed using a similar method since the researcher recorded and transcribed both methods of data collection. Krueger and Casey
(2015) explained that focus group analysis should have four critical qualities: “it is systematic, verifiable, sequential, and consequential” (p. 139). Seidman (2019) recommended a similar outline for analyzing interview data. Following the steps below from Creswell (2016) for analyzing both the interview and focus group data ensured a systematic, sequential process for the analysis.

1. Prepare the Data for Analysis: Krueger and Casey (2015) and Seidman (2019) recommended the use of transcription for focus groups and interviews. The focus groups and interviews were recorded and transcribed verbatim using Otter.ai transcription software. The transcripts were line numbered and any additional notes regarding facial expressions or body language were added to the transcripts using comments on the document. The first focus group was transcribed fully before the second focus group was conducted to help the analysis of the focus group data to be continuous, per Krueger and Casey’s (2015) guidance.

2. General Procedure of Data Analysis: Seidman (2019) said that the act of transcribing the interview is the first step in data analysis because you get to know your data closely through transcribing. He also pointed out that the next step is to simply read the transcripts and highlight passages of interest. Once the transcripts of the interviews and focus groups were prepared, they were read through while watching the recording to ensure accuracy. The focus group recording was watched one final time to record any facial expressions or body language that may have been missed initially to incorporate “multiple strategies for data capture” as recommended by Krueger and Casey (2015).
3. **Code the Data:** Once passages of interest were highlighted, Seidman (2019) recommended organizing excerpts from the transcripts into categories and assigning codes to the categories. Initial codes were assigned to sort comments into similar categories one question at a time. If questions have similar answers, they received the same code. If they are different, they received a different code.

4. **Group the Data:** To group similar codes into themes, excerpts were copied into a spreadsheet under different codes to identify how the data supported different themes that emerge. To determine themes through grouping the codes, Krueger and Casey (2015) recommended researchers consider the frequency, extensiveness, intensity, specificity, internal consistency and participant perception of importance of each of the groups that emerge. These were all considered as the purpose of the study was kept in mind to find themes.

5. **Examine Reflexivity:** To ensure the verifiability of the transcript, two measures were taken. First, a second researcher examined the focus group data and interview data to ensure the coding and themes were accurate. Second, Seidman (2019) supported the use of member checking to confirm findings from interviews, a practice that is also supported by Krueger and Casey (2015).

**Efforts to Support Quality Research**

Mertens (2020) explained that one goal of qualitative research is to “recognize the complexities and the multiple understandings of a phenomenon” (p. 41). Ensuring quality
research is the responsibility of all researchers. To begin, Merriam and Tisdell (2016) encouraged researchers to critically examine their positionality in relation to the phenomenon under study. Once the researcher has reflexively examined their role, other steps to ensure quality research can be outlined including bracketing, the use of validated instruments, an explanation of how member-checking will be used, and the informed consent participants will receive along with Institutional Review Board approvals.

**Researcher Positionality**

A cornerstone of phenomenological research is bracketing. Merriam and Tisdell (2016) explained this process, “prior beliefs about a phenomenon of interest are temporarily put aside or bracketed, so as not to interfere with seeing or intuiting the elements or structure of the phenomenon” (p. 26). Holmes (2020) posited that qualitative researchers must establish three areas of their positionality: the researcher’s beliefs and position about “the subject under investigation, the research participants, and the research context and process” (p. 2).

To position the researcher within the context of this investigation, the reader will need to understand the researcher’s background. The researcher worked in K-12 education for twelve years at the time of this research. For the past seven years, she worked in various teaching roles in the district that houses the virtual learning provider that will be explored in this research. For a year prior to beginning data collection, she worked directly with Access Learning, educating fourth grade students across the Midwest. One component of this position was to be a fourth-grade department head. This afforded her the opportunity to network and lead a team of 35 fourth grade teachers by providing support and training. This role was non-evaluative, but rather she served as a
pedagogical leader and support person for the fourth-grade team. Many of these teachers, along with teachers of other grade levels, were participants in this study. These teachers grew accustomed to sharing their perceptions, successes, and frustrations about virtual learning with the researcher through her role as their department head. The grade level team met every other week to share how things were going and provide support for one another. A third component of the position with Access Learning was to develop and train teachers on the curriculum used. These trainings allowed the researcher to get to know many K-5 teachers. Some of these teachers that were trained by the researcher in the past will participate in this study. The connection with the participants in this study will serve as a strength because the researcher has developed rapport with many of them. This rapport came through relationships that were collegial and non-evaluative in nature, so teachers are accustomed to being candid with the researcher. At the time of this research, the researcher was not be working within the district, but these relationships still existed.

**Quality Assurance of Research**

To overcome the conflict of interest based on the researcher’s connection to Access Learning, the following steps were taken. First, data was triangulated to ensure that the “bias inherent in any particular data source, investigator, and particularly method will be canceled out when used in conjunction with other data sources” (Mathison, 1988, p. 14). In addition to reducing bias, Mathison goes on to point out that when triangulation is used, the results of the research will be “a convergence upon the truth about some social phenomenon” (p. 14). This makes triangulation a good fit for all research; but,
especially for phenomenological research such as this study that aimed to understand the lived experiences of participants with specific phenomenon.

Second, the study used validated assessment survey instruments. Fink (2017) encouraged researchers to rely on surveys that were already created and validated experimentally to increase the trustworthiness of research. Two validated assessments were used – the Research Assessment Package for Schools (1998) and Skinner et al.’s (2008) engagement vs. disaffection survey. Both validated measures have content and construct validity (Fink, 2017). Fink outlined that construct validity is “established experimentally by trying the survey on people whom clinical experts say do and do not exhibit the behavior associated with the construct” (p. 79). Both validated measures went through this process by piloting them with specific groups of teachers then comparing the results with what the administrators in the school reported about each teacher’s ability to engage their students.

Third, to ensure quality research the researchers used reflexive member checking (Mertens, 2020) for the focus group and interview data to ensure the findings are an accurate depiction of participants’ lived experiences. Merriam and Tisdell (2016) explained that member checking is the process of taking tentative findings back to the participants to ensure they are plausible. Cho and Trent (2006) added that member checking is “an interactive process between the researcher, the researched, and the collected data” (p. 324). This interactive process took place between each focus group and interview participant to ensure accuracy and consensus of the findings.

Fourth, to ensure protection of participants and best practices in research, the researcher made the purpose of this research abundantly clear to participants through
providing the informed consent (Appendix A) electronically prior to participating in the research. There were no known risks involved in participating in this research and this research aimed to benefit teachers by providing them a list of virtual learning strategies they may use to engage students virtually. The researcher also received formal Institutional Review Board approval through the University of Missouri to obtain permission to conduct this research. The researcher has received human subjects training through the Collaborative Institutional Training Initiative (Appendix E). In addition, permission was obtained from the school district that houses the virtual learning provider to conduct research within Access Learning (Appendix F).

**Limitations**

As with all research studies, there are some limitations of the research proposed here. The lack of K-5 virtual learning research presented many challenges to this research. First, the study only set the groundwork for future research. The aim of the present study was to explore strategies that teachers use to engage K-5 virtual learners, but the efficacy of those strategies was not evaluated in the present study. Since there is not presently research on this topic, the present study simply aimed to inform future studies. Secondly, the present study drew on work that has been conducted in higher education and high school settings to outline the rationale and some of the methodology. This was a result of the lack of research on this topic in the K-5 setting. Finally, the study focused on just one virtual learning provider in one Midwest state. While the reach of Access Learning is broad across the state, the experiences of teachers in this study may not mirror the experiences of all K-5 public school teachers who are teaching online full time across the country.
Definitions of Key Terms

There are a few terms that need to be defined that were used throughout this research. These terms include virtual learning, learning management system, asynchronous, synchronous, virtual learning providers and professional identities. Each term is explained below as it relates to the present study.

Virtual Learning: VanBeek (2011) defined virtual as learning that “uses computer software, the Internet, or both to deliver instruction to students” (p. 1). Virtual learning can be offered on a part time or full-time basis to K-12 students. This means students could enroll in just a few classes virtually while their other classes are delivered through a traditional face-to-face format. The other option is for students to receive all their instruction virtually. The focus of this study was K-5 virtual learning that provided students with a full school day of virtual learning. Elementary virtual learners at Access Learning must enroll in the virtual programming full time. There is not a part time option for instruction at the elementary level.

Learning Management System (LMS): Turnbull et al. (2020) explained that LMS’s “are defined as online learning technologies for the creation, management and delivery of course material” (p. 165). There are several LMS’s used in K-12 virtual learning including Blackboard, Canvas, and Google Classroom. The learning management system used by Access Learning was the Canvas Platform. All courses, assignments, and resources for learning for both teachers and students were housed in the Canvas Learning Management System. Access Learning also utilized Google Drive which pairs with Canvas for students to create, share, and submit documents.
Asynchronous/Synchronous: Virtual learning can be delivered either asynchronously or synchronously. This refers to the interaction between teachers and students. In asynchronous instruction, the learners work at their own pace and only interact with the instructor through messaging. There is no live interaction between instructors and students through an asynchronous model. Synchronous instruction provides live instruction between students and teachers. This is typically done through Zoom or other video conferencing services. Access Learning utilized synchronous instruction with all their K-5 teachers and students.

Engagement Strategy: Instructional practices that are intended to increase student investment, interest, and commitment to learning on a cognitive, behavioral, and/or affective level (Fredericks et al., 2004; Jensen, 2013).

Virtual Learning Provider: A virtual learning provider (VLP) can be a for profit or not-for profit organization that develops, creates, and delivers virtual instruction. Sometimes large publishing companies have virtual learning providers or local public schools may serve as a virtual learning provider, provided they meet all state requirements for virtual learning. Oftentimes, public school districts contract with VLP’s to provide virtual learning opportunities to their students. Access Learning is a not-for-profit provider of virtual learning that is housed in a large public school district in the Midwest and contracts with over 350 other public-school districts across the state.

Professional Identities: Pennington (2015) defined professional identities for teachers as, “a unique blend of individual teacher characteristics within the disciplinary knowledge, standards, and practices of the field” (p. 78). For this study, professional identities of teachers were explored specifically as they related to student engagement in
virtual learning. To understand these identities, personal characteristics, knowledge, and practices related to student engagement were examined.

**Significance of the Study**

This research contributed to both practice and scholarship of K-5 virtual learning. For educational leaders/policy makers, this research may address changes that need to be made to teacher development and training prior to virtual learning to increase K-5 virtual student engagement. Erwin (2019) indicated that the number of virtual learning policies were only expected to increase over the coming years; so, this study could inform those policy decisions to help ensure K-5 virtual learners receive an engaging virtual experience.

This study began the process of developing a collection of strategies for engaging students in K-5 virtual learning. The findings of this research could be used to inform the design of preservice teacher training programs and virtual teacher development. Teachers report little or no training prior to being asked to teach virtually, (Dawson & Dana, 2014) so the findings in this study could be used to develop training for teachers. Research (Connell et al., 1994; Fincham, et al., 1989; Marks, 2000; Skinner, et al., 1990) shows a connection between student engagement and academic achievement, so this study will begin to develop resources for teachers that will lead to academic achievement in a virtual setting.

This research will also begin to fill the gap in the literature by focusing on K-5 virtual learning instead of high school and higher education. Student engagement in K-5 virtual learning has not been studied to date even though there are thousands of K-5 students learning online. While there is still much research to be done, this study can act
as a catalyst for other researchers in this area to ensure the youngest online learners are receiving a quality experience.

Summary

K-5 virtual learning is projected to increase in the coming years (Erwin, 2019). Without research into best practices in virtual education, this increase may lead to abysmal student achievement (Barbour, 2017). This study began the work of bridging the gap in the literature by exploring the professional identities of virtual elementary teachers and what strategies they used to engage students in their virtual classroom in the Midwest. To answer these questions, the researcher used a phenomenological research method with an electronic survey, focus groups, and interviews, to examine the lived experiences of how K-5 virtual educators in the Midwest engaged their students online. The analysis of the data in this study showed how teachers engage virtual students emotionally, cognitively, and behaviorally.

As a virtual educator myself, this research was personal. It is my job to ensure that my students receive the highest possible quality virtual learning experience. Attempting to deliver this without research to support it is what educators across the nation have been tasked with in response to the Covid-19 pandemic and with the rapid increase in K-5 virtual learning. This research began the larger work of providing these educators with tools to promote engagement in their virtual classroom and ultimately increase student achievement.
SECTION II: PRACTITIONER CONTEXT FOR THE STUDY
Introduction

This study took place with teachers and administrators of Access Learning, which is one of the largest virtual learning providers in the state of Missouri. To place the study within the context it took place, the following section will provide information on the history of virtual learning in Missouri as well as the history Access Learning. A comprehensive organizational analysis for Access Learning will be provided followed by a leadership analysis of Access Learning and virtual learning in Missouri. This section will close with possible implications this research will have for Access Learning.

Background of Virtual Learning

Virtual learning in the K-12 setting has a relatively short history in the state of Missouri, starting in 2009 (Missouri Legislature, 2009). According to the Access Learning website (Access Learning, 2021) Access Learning, where participants in this study taught, began offering online courses in 2012 to students in the district Access operates. Since that time, Access Learning has expanded its reach to offer over 500 courses to 361 districts across the state of Missouri. The following sections will outline the policies that form the foundation for Access Learning to have this broad reach.

History of Virtual Learning in Missouri

The first online K-12 course was offered by a private charter school in California in 1991 (Barbour, 2011). The state of Missouri officially did not recognize online courses at the K-12 level until 2009 when the Missouri legislature enacted SB 291 which outlined basic standards for virtual courses in section 162.1250. This set up the Missouri Virtual Instruction Program (MOVIP) which provided loose oversight for virtual programming for K-12 schools across the state. The state quickly saw an increase in virtual learning
after 2009 and passed SB 603 in 2018 which changed the name of MOVIP to the Missouri Course Access and Virtual School Program (MOCAP) and impacted the ways schools across the state approached virtual learning (Meystedt, 2018).

Missouri Course Access and Virtual School Program required all K-12 schools in the state of Missouri to “allow any eligible student to enroll in [virtual] program courses of his or her choice to be paid by the school district” (S.B. 603, 2018, p. 3). Many districts in 2018 were not providing any virtual programming but this new law required them to provide access to, pay for, and create an enrollment process for all K-12 students to enroll in a virtual learning option (Meystedt, 2018). This new law allowed for current VLP’s to become providers through MOCAP if they passed the requirements outlined in Section 162.1250, RSMo. These requirements included: following the Missouri Learning Standards for instruction, following web accessibility guidelines, undergoing a data security review, and they must be taught be a teacher with a Missouri teaching certificate (MOCAP, 2020).

Currently, there are currently 13 providers for virtual learning through MOCAP in the state of Missouri. Eight of these providers are based in Missouri while the other five are larger companies that provide virtual learning nationwide. The 567 school districts in Missouri can either choose to use one of these 13 providers for virtual learning or they can provide their own virtual learning in house, if the virtual learning they provide meets the MOCAP requirements.

**History of Access Learning**

Access Learning employed the teachers and administrators who participated in this study. According to the MOCAP website (2020), Access Learning is the largest VLP
in the state of Missouri currently with 361 districts utilizing their virtual courses and programming. Access Learning is part of a large school district in the state and started virtual programming in 2012 through offering virtual options to high school students in the district (Access Learning School District, 2021). At that time, two digital course developers worked with curriculum leaders and certified teachers in the district to create 50 course options for students in the district. In 2013, only 13 students were enrolled in virtual courses through Access Learning’s course catalog (Riley, 2020).

The rapid growth of virtual learning seen across the country (Molnar et al., 2019, Schroeder, 2019) was reflected in the rapid growth of this virtual learning provider in Missouri. The small enrollment of 13 students in 2013 grew to over 65,000 across the entire state by 2019 (Riley, 2020). At the beginning of the 2020 school year, Access Learning was serving over 120,000 students in over 350 districts in Missouri (Stracener, 2020).

Access Learning was originally housed in the central district offices building with a staff of just five people. By 2021, the staff had grown to over 50 full time staff, over 500 teachers, and three hubs of operation in major Missouri cities. Access Learning moved from its original space to a large virtual learning center where virtual students can come in-person for tutoring, mental health services, and IT support (Riley, 2020).

Organizational Analysis of Access Learning

At the time of this research, Access Learning had four teams, and followed a hierarchical structure as shown in the organizational chart in Figure 1 (Access Learning, 2021). There is a division of labor between each of the teams, thus following a scientific management structure (Taylor, 1916). To describe the organizational structure and
division of labor between teams, it is helpful to look at the organization through the structural and human resource frames as outlined by Bolman and Deal (2017).

**Figure 1**

*Organizational Chart for Access Learning*

**Structural Frame**

The Structural Frame is a task-oriented frame. It derives from the belief that organization, strategy, and specialization create simplicity and clarity. The basic tenants of the structural frame can be summed up with a simple phrase, “putting people in the right roles and relationships” (Bolman & Deal, 2017, p. 48). There are six key principles
of the structural frame that apply to this study. First, organizations exist to achieve goals and devise strategies to meet those goals. The goal of Access Learning and MOCAP is to provide virtual learning to K-12 students across the state of Missouri. One strategy that organizations use to meet goals is creating organizational structures (Bolman & Deal, 2017). This can be seen through the hierarchical structure (see Figure 1). The Director of Virtual Learning and the Assistant Director of Virtual Learning work alongside the Executive Director to create strategies and goals that set the direction for the entire organization. Then each team works individually and in concert to achieve those goals. In practice, goal setting happens at every level of the organization, but the goals are focused on the duties assigned to each specific team.

Second, coordination and control between divisions ensures that goals are met between units within the organization (Bolman & Deal, 2017). The organizational chart for Access Learning follows a hierarchical structure that allows for higher levels within the organization – the directors and assistant directors – to coordinate and control the subordinate levels. The higher levels evaluate performance and output and make decisions that help Access Learning reach its goals. There is also a lateral element that allows for coordination between teams. The directors of each team can be seen on the same level of the organizational chart. This allows for formal and informal meetings to take place between teams without a differential power dynamic between teams because they are working at the same level towards the same goals that were set for the organization from higher levels. This lateral structure also allows for collaboration between the technostructure, middle line and support staff to assist each team in meeting its goals.
Third, specialization allows organizations to increase efficiency and enhance performance (Bolman & Deal, 2017). This specialization often occurs through a fixed division of labor. In practice, this is seen through the organizational structure of Access Learning that is divided into four teams. While the four teams must work together to ultimately deliver virtual learning, this division of labor is clear between the Digital Development Team and the Student Services Team. The digital developers create the online content in the learning management system that teachers deliver to students across the state. There is some collaboration across these teams to ensure that teachers have a say in how things are created, but ultimately there is a division between the two teams.

Another way to view the structure Access Learning is using Mintzberg’s (1979) five basic parts of an organization (see Figure 2). Viewing the VLP this way has implications for how this research will be used, which is expounded upon later. The teachers who participated in the present study form the operating core of Access Learning. However, there is a division between the teachers and the digital developers who create the material for the teachers. As Access Learning has grown, this division of labor has become more formalized with the expanding staff (Launch Virtual Learning, 2021). Mintzberg’s model also points out the separation between the core technologies and the rest of the organization. The technostructure and support staff are responsible for decisions related to what new technologies to adopt within Access Learning. These decisions must then be communicated to the strategic apex and then they reach the middle line and operating core. This means that a decision made by the technostructure – the digital developers – may take some time to reach the operating core – the teachers.
Fourth, Bolman and Deal (2017) explained that organizations work best when rationality prevails rather than outside pressures or personal agendas. Virtual learning is an increasingly political issue across America (Williamson et al., 2020). This is certainly the case in the school district that houses Access Learning as can be seen through a lawsuit against the school district for not providing five days of seated instruction during the Covid-19 pandemic (Beasley, 2020). These outside pressures must be approached with rationality according to Bolman and Deal (2017). To do this, they recommend clear standard operating procedures, rules, policies, and structures to ensure that behaviors within the organization are consistent and predictable. To accomplish this, Access Learning utilizes Quality Matters (2020) to ensure their course design meets all MOCAP
requirements. In addition, teachers are evaluated following the Missouri Educator Evaluation System to ensure they are performing at appropriate levels (Riley, 2014). These two examples of measuring performance in the organization shows that Access Learning uses rationality even amid outside pressures that may be opposed to virtual learning.

Fifth, “effective structure fits an organization’s current circumstances” (Bolman & Deal, 2017, p. 48). Part of an effective structure includes technology, workforce, and environment. To understand the connection between this principle and Access Learning, it is important to consider the rapid growth of Access Learning over the past few years that coincided with the Covid-19 pandemic (Riley, 2020). This fast expansion coupled with the pandemic resulted in a change of circumstances within the organization with the addition of the entire elementary division (Temple, 2020). As the size of an organization increases, so does the complexity and formalization of the structure (Bolman & Deal, 2017). One of the first ways Access Learning saw the need to be adaptable when they expanded so quickly was a need for more information technology positions to staff the Help Desk that helped troubleshoot technology issues for teachers and students (Access Launch, 2020). Increased information technology can allow for a more decentralized structure within an organization, but it can also cause tensions between different divisions of labor (Bolman & Deal, 2017).

Finally, problem-solving and possible restructuring is needed when performance suffers due to structural flaws (Bolman & Deal, 2017). In practice, this was seen during the 2020-2021 school year at Access Learning. Teachers and principals saw a need for increased mental health services but there was no current structure in place to provide
those. Near the end of that school year, Access Learning announced a new campaign to provide a comprehensive counseling model as well as gifted and special education services (Riley, 2021, March). The ever-changing nature of virtual learning and technology will require Access Learning to continuously assess their structure to ensure it meets the needs of the organization and helps achieve the mission of providing high-quality virtual learning across the state.

**Human Resources Frame**

The human resources frame argues that “people’s skills, attitudes, energy, and commitment are vital resources that can make or break an enterprise” (Bolman & Deal, 2017, p. 118). The human resources frame is built on four principles. First, organizations exist to serve the needs of humans rather than the needs of the organization. This principle can be seen in the eruption of K-5 virtual learning across the country due to the Covid-19 pandemic. The director of virtual learning and the superintendent of the school district connected the emergence of the elementary division of Access Learning to this principle of meeting the needs of people because of the Covid-19 pandemic (Access Launch 2020). In an interview with the superintendent of the school district that houses Access Learning, he said, “our number one focus is taking care of students during this time” (Temple, 2020, paragraph 5). The district’s many years of investing in increasing technology paid off through being able to meet the needs of thousands of students seeking virtual learning.

Second, humans and organizations need each other (Bolman & Deal, 2017). Access Learning needs people with ideas, talent, and energy. People who work with Access Learning need jobs, salaries, and opportunities for advancement. In the 2020-
2021 school year, Access Learning employed 1,172 teachers and paid them over 13 million dollars (Access Learning Magazine, 2021, p. 7). One way to enhance the human resources principle of humans and organizations needing each other is to promote from within. The current assistant director of virtual learning experienced this type of promotion in the past year. He was previously the principal of virtual learning and then was promoted to the assistant director role after a year as principal (Access Learning School District, 2020). Another avenue for ensuring a good fit between people and organizations is to make the organization’s beliefs clear before people join the organization (Bolman & Deal, 2017). Access Learning practices this strategy through making their three core beliefs very clear on their website (Access Learning, 2021). Access Learning also ensures transparency with expectations through posting a detailed three-page document of expectations for teachers on the job posting website that teachers can access prior to applying (Access Learning School District, 2021a).

Third, the organization and the people in it will suffer if the fit between the organization and its’ people is poor (Bolman & Deal, 2017). Argyris (2009) argued that when there isn’t a good fit between people and the organizations they serve, they withdraw, restrict output, form alliances, and become apathetic. Bolman and Deal (2017) explained that one way to avoid this poor fit is to ensure that employees are rewarded and appreciated for their work. In every issue of Access Learning’s annual magazine that is distributed to partner school districts, the director of virtual learning and the superintendent make a statement about their appreciation of all the staff at Access Learning (Access Learning Magazine, 2020, 2021). The magazine also showcases at least one teacher and one staff member with a spotlight feature. Another recommendation from
Bolman and Deal (2017) is to invest in the people that make up the organization. They point out, “employers often fail to invest the time and resources necessary to develop a cadre of committed, talented employees” (p. 131). The ever-changing enrollment of Access Learning that results in a fluctuating teaching force can create challenges regarding this method for ensuring the teachers are a good fit for the organization.

Finally, when people and the organization are a good fit, both the organization and its’ people benefit (Bolman & Deal, 2017). The aim of the human resources frame is to fit people to the organization because in the end it benefits both the person and the organization. Access Learning employs over 500 K-12 teachers to deliver full or part time virtual instruction. This includes over 50 elementary teachers who created the sample for the present study. The number of teachers employed by Access changes each academic semester based on enrollment needs. This means that many teachers will only teach for one semester with Access, or they may be considered an “as needed” employee whose contract is not certain each semester. One of the key components of the human resources frame is the focus on investing in people which is a difficult task when the people in the organization are fluctuating so frequently. This can also make it difficult for teachers to feel like they are part of a team if the team is ever-changing. This also has implications for how this research will impact Access Learning.

**Leadership Analysis**

Northouse (2019) defined leadership as, “a process whereby an individual influences a group of individuals to achieve a common goal” (p. 5). To understand what this influence looks like at Access Learning, zooming out is necessary. State laws are in place that require districts to offer virtual learning in Missouri, so a leadership analysis
must start with the Missouri Department of Elementary and Secondary Education (DESE). Figure 3 shows the leadership hierarchy that guides virtual learning through Access Learning. In the following section, the leadership within each level will be examined as it relates to virtual learning provided by Access Learning. Each level of leadership influences the next level to achieve the common goal of delivering virtual learning across the state.

**Missouri Department of Elementary and Secondary Education**

The Missouri Course Access and Virtual Learning Program was developed through Senate Bill 603 (2018) to provide virtual learning in the state. This legislation outlined the role that the DESE should play in oversight and leadership with the MOCAP policy. The roles that are outlined in SB 603 are strictly managerial roles and do not qualify as true leadership according to Kotter (2011). Kotter explained that management is a key to successful organizations. It brings a “degree of order and consistency to key dimensions like the quality of products” (p. 38). The bill (SB 603, 2018) outlined several duties of DESE regarding ensuring MOCAP providers are delivering quality products:

1. Establish an authorization process for virtual course providers.
2. Ensure that all courses provided by MOCAP providers align with Missouri Learning Standards.
3. Publish annual reports publicly that include a variety of statistics about the number of students, providers, and courses available through MOCAP as well as virtual student academic results on standardized assessments and total costs of virtual programming.
4. Provide a catalog of virtual learning providers publicly for both school districts and families to access.

5. Ensure accessibility requirements for all MOCAP courses.

SB 603 (2018) includes a caveat that if DESE determines that evaluating courses for standards alignment, accessibility, and authorization is too costly then they can charge providers for the evaluation. DESE currently delegates this task to five different nationwide evaluation services, thus charging virtual learning providers up to $3,000 for
evaluating a single course (MOCAP, 2020). Access Learning currently utilizes Quality Matters (2020) for their course evaluation to comply with the MOCAP policy. This is a membership-based evaluation service that utilizes extensive rubrics to evaluate courses for nine general standards: Course Overview and Introduction, Learning Objectives (Competencies), Assessment and Measurement, Instructional Materials, Learning Activities and Learner Interaction, Course Technology, Learner and Instructor Support, Accessibility and Usability. In summary, DESE is currently outsourcing this managerial task of ensuring quality products to evaluators of virtual programming that operate nationwide and thus causing virtual learning providers to fund their own evaluation. It is likely that DESE chooses to outsource these evaluations because the current staff of MOCAP consists of six people. There is a Virtual Learning Administrator, a Supervisor, a Virtual Operations Assistant, and three Counselors assigned to three different regions of Missouri.

**School District for Access Learning**

There are 567 districts that report to DESE and follow all DESE guidelines. Access Learning is housed in one of the largest of these districts. The district employs over 4,000 staff to educate over 24,000 students (Riley, 2018). The school district provides another level of management (Kotter, 2011) for Access Learning through creating the organizational structure, budget, and infrastructure for Access Learning to exist. Access Learning utilizes large departments with the school district such as Human Resources, Information Technology, Learning Support, and Operations. While everything that occurs at Access Learning connects to the overall district and the larger departments mentioned, the virtual learning provider has created their own processes and procedures
for hiring, technology training, curriculum development, and instructional leadership (Launch Virtual Learning, 2021). Access Learning has the potential to operate separate from the school district that houses it due to the unique processes and procedures that have been created to lead the virtual learning provider.

**Board of Education**

Missouri Statute 162 (1985) outlined that all school districts must be governed by a board of education. The district that houses Access Learning is governed by an elected board of 7 members. The board has a president, vice president, and five non-ranking members. The board meets publicly twice a month. The school board adopted Policy IGCD: Virtual Courses in 2018 that outlined how the district will follow MOCAP guidelines to offer virtual learning (MSBA, 2021). This policy states that students within the school district can only take virtual courses with approval from the superintendent, the executive director of learning support and innovation, or the director of virtual learning. Enrollment in Access Learning courses during the Covid-19 pandemic bypassed this policy by providing open enrollment in virtual learning without careful oversight from these leadership roles within the district due to the vast number of students who elected to enroll in virtual learning. The school board had to be adaptable and responsive to the needs of families during the Covid-19 pandemic which is evident in their phased reentry to seated learning during the height of the pandemic and shifts in focus for both hybrid and virtual learning (Lin, 2020; SBJ Staff, 2020).

**Superintendent**

Section 591 of Missouri Statute 162 (1985) gives the local boards of education power to appoint a superintendent. The current superintendent of the school district that
houses Access Learning was appointed in July 2021. This superintendent reports directly to the board of education and oversees all operations within the district, including Access Learning. The district website (2021) described the superintendent using words such as passionate, advocate, positive, and change-maker. When the superintendent announced that all staff in the district would receive a paid mental health day she was praised for her adaptability and focus on the needs of staff in the district (Riley, 2021). This level of empathy and social skill shows a level of emotional intelligence that contributes to the superintendent’s leadership in positive ways (Goleman, 2011).

There are two deputy superintendents in this district to support the work of the superintendent. The deputy superintendent of academics oversees instruction, including instruction through Access Learning. The deputy superintendent of operation oversees operations issues such as buildings, grounds, human resources, and communications. There are several other executive level positions under these deputies including six executive directors of different areas. All these leaders work closely with the superintendent to provide leadership and direction to the large school district, including the leadership team of Access Learning.

**Access Learning Leadership Team**

The leadership team of Access Learning reports directly to the superintendent and deputy superintendents. This team consists of the director of virtual learning and the assistant director of virtual learning. Occasionally leaders of the student services team, instructional technology team, partner engagement team, and digital development team will join leadership meetings based on the needs of the organization. While the other levels of leadership above this team provides more management than leadership. The
director and assistant director of virtual learning provides true leadership over Access Learning. Kotter (2011) explained that leadership involves setting direction, aligning people, and providing motivation. Since the offices of these two leaders are housed at the Access Learning headquarters, they can provide this type of leadership.

When Covid-19 caused schools to shut down in 2020, the director of virtual learning and the school district saw an opportunity to expedite launching the elementary virtual program. Access Learning had been planning to begin virtual programming at the elementary level, but the pandemic sped up the process of when that would be offered (Temple, 2020). This caused the organization to grow rapidly through hiring digital developers, administrators, and teachers to create the elementary division of Access Learning. This rapid shift in direction is a key component of leadership (Kotter, 2011), but it also showcases the ability of the director of virtual learning and the school district as a whole to respond to adaptive challenges by getting on the balcony and seeing the opportunity from above (Heifetz & Laurie, 2011).

**Access Learning Principals**

The principals of virtual learning meet with the leadership team of Access Learning regularly to share about the student services side of the organization. Access Learning has one principal of virtual learning. This leader oversees the work of numerous assistant principals. Since Access Learning provides virtual programming for K-12 students, there are numerous assistant principals of secondary virtual learning. The elementary division is smaller with just two assistant principals of elementary virtual learning. The assistant principals have direct oversight of the teachers at Access Learning. The assistant principals conduct observations in teachers’ virtual classrooms,
provide professional learning to teachers, and are responsible for hiring teachers. The assistant principals of elementary virtual learning are the leaders who have a direct leadership role over the participants in this study.

One leadership style practiced by many principals is transformational leadership. Research shows that principals who practice transformational leadership can increase teachers’ self-efficacy, job satisfaction, and motivation (Adarkwah & Zeyuan, 2020, Baptiste, 2019, Francisco, 2019). Northouse (2019) described transformational leadership as a “process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower” (p. 164). To achieve this style of leadership, the principals would need to create deep connections with every teacher to understand their needs and motives. The changing nature of the teaching staff at Access Learning would pose a challenge to the development of this leadership style between teachers and principals.

**Access Learning Teachers**

The next level of leadership at Access Learning is the teachers who deliver virtual learning. Barth (2011) argued that all teachers can be leaders. Teachers don’t often ascribe to traditional notions of what leadership is, but instead think of leadership as more of a collaborative effort to work with other teachers for professional learning and to ensure student achievement (Troen & Boles, 1992). This aligns with an adaptive leadership model that is concerned about how leaders – in this case teachers – help others do the work they need to do – in this case others are their students and fellow teachers (Northouse, 2019). Examining the ideas of Drucker (2011) also shows the connection between teachers and leaders. Drucker outlined eight things effective leaders do that all
apply to teachers of virtual learning. First, they ask what needs to be done, then they ask what’s right for the enterprise – or in this case, the student. Next, they make an action plan which in the case of a teacher this would be a lesson or intervention plan. Effective leaders take responsibility for decisions and communicating and focus on opportunities, not problems. Finally, Drucker said effective leaders run productive meetings and think and say “we” and not “I”. All these traits of effective leaders are also traits of effective teachers.

Teachers are the true face of virtual learning as they may be the only person that truly interacts with students and families who are enrolled in virtual learning. Access Learning currently structures teacher leaders into grade level teams. Each grade level has a department head that holds meetings with the grade level team to disseminate information, provide support, and check in on curriculum questions and needs of teachers within each grade level. These teacher leaders are often the point of contact for other members of their grade level instead of contacting the elementary assistant principals of virtual learning. Derrington and Anderson (2020) researched teacher leadership and found that teachers often feel like they have power to influence local decisions at the school level but feel like there are many barriers to advocating for change beyond the local level. One barrier Derrington and Anderson noted was a lack of understanding regarding the structure of leadership and educational policies beyond the district level. It is predicted that many teachers with Access Learning are unaware of the MOCAP policy that is in place that creates this programming.
Parents and Guardians of Students Enrolled in Access Learning

Virtual learning transforms parents to teachers as traditional education moves from the brick-and-mortar schoolhouse to the kitchen table. Welch (2015) identified that parents of students learning virtually must be more active in their schooling to ensure academic success. This transforms the role of the parent to parent as teacher. Covid-19 catapulted many parents into this role that otherwise may have not chosen it (Klein, 2021). Access Learning’s website has an elementary virtual learning guide for parents. It includes a detailed schedule that begins at 7am and has multiple transitions for students to get on and off the virtual learning platform. It also outlines how to set up the optimal virtual learning space that includes a desk or table, school supplies, and headphones. The guide refers to a parent as a PAL which stands for Parent or Adult Learner and goes on to explain that a PAL should support student learners get into the groove of virtual learning, support and sustain virtual learning through frequent contact with the child’s teacher, assist the student with content as needed, and help the child with technical skills. These are typical roles of a seated classroom teacher that parents take on when they enroll their child in virtual learning, but there is no system in place to ensure parents have the proper support to fulfill this role.

Implications for Research at Access Learning

This research focused on the operating core of the Access Learning – the teachers. Mintzberg (1979) explained that the operating core of an organization transforms the inputs into outputs. This means that anything that the operating core – the teachers – does is dependent upon the work of the technostructure – the digital developers. As a result, the findings from this research have implications to both the operating core and the
technostructure of Access Learning. This research revealed some practices that teachers are using that contribute to engagement as well as several challenges that are preventing teachers from engaging students in virtual learning. Both should be considered when preparing for future policies and practices at Access Learning.

This research may also have implications for how Access Learning provides training for new and current teachers who are hired. At the time of this writing, Access does not provide any formal training connected to how to engage students in a virtual classroom. Some strategies have been informally shared across the organization, but there has been no formalized or research-based training. This research aims to develop a matrix of strategies teachers can use to increase engagement and ultimately increase academic achievement. This would create implications for what training teachers looks like.

Finally, there may be implications for how the organization conducts its professional development opportunities. Currently, professional learning is planned and delivered primarily by assistant principals and teacher leaders. To truly invest adequately in every teacher who joins the organization, this structure may need to be examined more thoroughly and a new professional development position may need to be added. The research may also reveal other changes to how teachers receive information and training that could impact the overall structure of those trainings.

Summary

The rapid increase in virtual learning in America has been reflected in programs and policies in the state of Missouri. Through the Missouri Course Access and Virtual Program policy, students across the state of Missouri are enrolling in virtual schooling options. One virtual learning provider has risen to the top of the VLP’s in Missouri
through providing over half of Missouri districts with virtual learning programming. Access Learning follows a hierarchical structure with a division of labor between the teachers who are providing virtual instruction and the developers who are creating the programming online. The present research may have implications for the structure and the nature of training teachers with the organization. Ultimately Access Learning wants students to succeed, which is clear through their website. This research aimed to support Access Learning with resources to better equip their teachers with the strategies they need to lead to that student success.
SECTION III: SCHOLARLY CONTEXT
Introduction to Scholarly Context

Virtual learning enrollments for K-12 learners have rapidly increased over the past ten years. In the 2017-2018 school year, over 300,000 students were enrolled in over 500 different virtual schools across America (Molnar et al., 2019). In 2019, the number of virtual students enrolled in at least one online class jumped to 2.7 million (Schroeder, 2019). This increase was expedited further during the Covid-19 pandemic in 2020 that forced many schools into a crisis education model that involved full and part time virtual instruction (Leiberman, 2020). Barbour (2017) has dedicated much of his career thus far to examining virtual learning and stated, “the combination of dramatic, unchecked growth and an almost complete inability to assure any measure of quality [will result] in abysmal student performance in many K-12 online learning environments” (p. 421). Barbour (2017) points to the gap in the literature about ensuring quality of K-12 virtual learning, but this gap can be seen even more clearly in the K-5 virtual learning setting.

Blueprint for this Literature Review

The present study examined the lack of research related to K-5 virtual learning by exploring the following two questions: What are the professional identities of K-5 public school teachers who teach fully online with a large virtual learning provider in Missouri? What strategies do K-5 teachers use to engage students in virtual learning in the Midwest? To provide background for this research, the following review of literature will begin by examining teacher identity in online environments. Next, it will define virtual learning and outline the history of this educational practice. This will be followed by a review of what strategies have been researched and found effective in virtual learning, teachers’ perceptions of virtual learning, the connection between student engagement and
student achievement, and the Multidimensional Engagement Framework (Fredricks et al., 2004) for examining engagement in learning.

The intention of this review is to support the two research questions explored in this study. Therefore, there are some limitations to what the review will explore. First, the review will not examine effective teaching practices in a seated setting, though research on this topic is abundant (Hattie & Yates, 2014; Marzano, 2017; Stone, 1999; Whitaker, 2020; Wong & Wong, 1997). Second, this review will draw on research from higher education and high school settings even though the present study will be conducted in an elementary setting. The reason for using research outside of the elementary setting is because there is a lack of research in the K-5 setting presently, so the researcher must draw on existing research outside of the setting where the study will take place. This lack of research will be expanded upon later in the review. This lack of research can also be seen in the lack of studies connected to teacher identities in online K-5 environments.

Many recent studies examine teacher identities connected to language learning (Hashemi et al., 2021; Li & Li, 2021; Qi et al., 2021) but the research found no current studies that focus specifically on K-5 virtual educator identities.

**Teacher Identities in Online Environments**

Palmer (1997) argued for the importance of the development of teacher identity because according to him, teachers teach who they are. Their identity – who they are – comes through in every action they bring to the classroom. But what is teacher identity? Research on teacher identity points out that there is no clear, single definition of teacher identity (Hafsa & Borasai, 2010; Li & Li, 2021). This is partly since teacher identity changes over time. In a study of 80 secondary school teachers from a variety of specialty
areas, Beijaard et al. (2000), discovered that teacher identity evolves as teachers advance in their careers. This was considered in the present study with an added question to the survey about how long the participants had been teaching. Pennington (2015) explained that teacher professional identity is “a unique blend of individual teacher characteristics within the disciplinary knowledge, standards, and practices of the field” (p. 78). This definition was used throughout this research because it focused on teacher identity rather than identity in general. The following sections will expand upon those four components by exploring what the literature has to say about teacher characteristics, disciplinary knowledge, and teacher standards as they relate to building teacher identity. Practices in the field will be explored in later portions of this literature review.

**Virtual Teacher Characteristics**

Ash (2009) pointed out how difficult it is to determine what characteristics virtual teachers need to be effective. She pointed to the newness of the field of virtual learning, the vast range of online programs, and the variety (or lack of) teacher training that occurs prior to teaching online as the cause for this difficulty. Boudreau (2020) identified that online teachers needed the following characteristics to be effective: content knowledge, pedagogical knowledge, cultural awareness, and self-awareness. She went on to connect all these attributes to the need to build online class community and be flexible in the online learning environment. A simple search for “online teacher characteristics” brings up countless blog posts, higher education websites, and news reports on the topic. This showcases how online learning is in the spotlight currently and shows that everyone has their own opinion of what characteristics teachers should bring to this field. No definitive research was found on what characteristics an online teacher should have which shows
that while many people have opinions on the topic there is a need for more empirical research into the topic of characteristics for K-12 online teachers.

**Virtual Teacher Standards & Disciplinary Knowledge**

The International Association for K-12 Online Learning (2011) developed 11 standards for quality online instruction in K-12 settings. These standards are accompanied by a 12 page rubric teachers and administrators can use to score themselves on each of the standards using a four point scale. In addition to these standards that are used to measure teacher knowledge, understanding, and abilities, Quality Matters (2016) outlines six competencies that online teachers should have including institutional context, technologies, instructional design, pedagogy, assessment, and social presence. On top of these standards for teacher quality, teachers must also have the disciplinary knowledge of the standards they are tasked with teaching the children they serve. For an elementary teacher in the state of Missouri, they must have content and pedagogical knowledge to teach over 20 different standards in each of the following areas: English Language Arts, Math, Science, Social Studies, and Health. Teachers ability to showcase their performance in relation to the iNACOL, Quality Matters, and Missouri Learning Standards contributes one component to the overall picture of teacher identity.

**What is Virtual Learning?**

Virtual learning has been referred to by a variety of names including e-learning, digital learning, distance learning, online learning, and many more (Van Beek, 2011). Van Beek (2011) defines virtual learning as learning that “uses computer software, the Internet, or both to deliver instruction to students” (p. 1). Schlosser and Simonson (2006) expanded this definition by noting that virtual learning can occur in the absence of a
traditional classroom environment. One virtual learning provider in the Midwest uses the unique nature of virtual learning to advertise their services as “high quality learning anytime, anywhere” (Launch Virtual Learning, 2021). Schlosser and Simonson (2006) identified that virtual learning has four main components that qualify it as virtual learning:

1) It is institutionally based. Virtual learning must be part of a larger educational institution providing learning to users. Without this institutional base, it would just be self-learning.

2) There is a separation between the teacher and the student. Virtual learning takes place outside of a traditional school setting with distance between teachers and students.

3) There are interactive telecommunications involved in virtual learning. This can include internet-based instruction, computer software, synchronous and asynchronous components, or video conferencing software. The important part of this component is the interactive relationship between teachers and students.

4) There is data sharing between teachers and students. Again, this can take any number of forms including the using of learning management systems (LMS), email, video conferencing technology, and telephone interaction. The important part of this component is the exchange of data between teachers and students to showcase learning.

As long as the learning has these four components, it can be called virtual learning.

Virtual learning can take place synchronously or asynchronously and can be full time or part time (Van Beek, 2011). The studies highlighted in this review include synchronous,
asynchronous, full time, and part time virtual learning settings in higher education, high school, and some middle school settings.

**History of Virtual Learning**

Harasim (2006) identified the paradigmatic shift in traditional views of education that took place in the late 1990’s and into the 21st century. She identified this as the beginning of virtual learning, but other researchers trace the concept of learning from a distance all the way back to the creation of the Postal Service (Online Schools, 2021). Shortly after the postal service was developed, correspondence education emerged with the University of London creating the first distance learning degree in 1858 (University of London, 2021). Several other universities worldwide followed London’s lead and created distance learning courses, programs, and degrees. As technology continued to grow and change, the landscape of higher education distance learning changed as well. In 1953, the University of Houston offered the first televised college credit courses (Online Schools, 2021). The rise of the internet age led to the creation of the University of Phoenix in 1989 which was the first institution to offer fully online bachelor’s and master’s degrees (University of Phoenix, 2021). Since 1989, online higher education programs have continued to increase with 2,500 universities in America offering online programs in 2020 (Gallagher & Palmer, 2020). Gallagher and Palmer (2020) explained that the Covid-19 pandemic forced universities who were reluctant to enter the virtual learning realm to offer courses online. This will inevitably cause a continued increase in virtual learning in higher education.

Loss and McGuinn (2016) wrote extensively on the convergence of K-12 and higher education, a trend that can also be seen with virtual learning as it follows much of
the same timeline as the emergence of virtual learning in higher education. K-12 virtual learning began predominantly with high school online options to provide flexibility and choice at the high school level (Barbour & Harrison, 2016). The first online high school program was offered by a private charter school in 1991 (Barbour, 2011) with the first full time online high school opening in California in 1994 (Barbour, 2019). In the first two decades of the 21st century, virtual high school enrollments increased from just .001% of high school students in 2000 (Clark, 2001) to a little more than half of high school students across the country starting the 2020-2021 school year fully online (Liesman, 2020). While Covid-19 made virtual learning a necessity in 2020, the rapid growth in virtual learning will undoubtedly change the landscape of education forever.

But is virtual learning working for K-5 learners? How can the “abysmal student performance” referred to by Barbour (2017, p. 421) be avoided for elementary students enrolling in virtual programs?

Lack of K-5 Virtual Learning Research

Ample research has examined both high school and higher education virtual learning (Diliberti, 2018; Erwin, 2019; Hawkins et al., 2012; Molnar et al., 2019; Oliver et al., 2010; Stenbom et al., 2019). However, few studies exist that explore K-5 virtual learning. This shortcoming was noted by several researchers (Barbour, 2019; Cavanaugh, 2013, Loeb, 2020; Means et al., 2009; Rice, 2006). This lack of research has resulted in K-5 virtual programming using research based in high school and higher education settings to design virtual learning for K-5 learners (Barbour, 2019). This can have detrimental effects on learning for K-5 students because the brain development of high school and college aged students does not reflect the brain development of elementary-
aged students. Thus, the virtual programming designed based on research for older students will inevitably fall short of meeting the needs for younger learners (Bailey, 2015; Siegel & Bryson, 2011). Among the many unexplored areas related to virtual learning is effective engagement strategies for K-5 virtual learning.

**Effective Virtual Teaching Practices**

Several studies have examined what teaching practices are effective in virtual learning. Means et al. (2009) and Cavanaugh et al. (2004) conducted two different meta-analyses of over 75 studies about virtual learning to find effective practices that are used as landmark studies in the field of virtual learning. Means et al. (2009) found that in the 51 studies they examined, on average, students enrolled in virtual learning outperformed students enrolled in the same courses in a seated environment when examining test, quiz, and assignment scores. This is supported by the analysis by Cavanaugh et al. (2004) that demonstrated “educators and other stakeholders can reasonably expect learning in a well-designed distance education environment to be equivalent to learning in a well-designed classroom environment” (p. 20). This is further supported by Simonson’s (2000) Equivalency Theory which states that online and face-to-face learning is equivalent if designed and delivered effectively.

Specific practices in virtual learning that contribute to equivalent outcomes to seated instruction include emotional presence (Stenbom et al., 2016), socialization with teachers and classmates (Burdina et al., 2019; Farrel & Brunton, 2020), and varying pedagogical approaches (Rose, 2018). Stenbom (2016) analyzed transcripts from conversations in a virtual course and found that in addition to the components of teacher presence, cognitive presence, and social presence in online courses, the teacher must also
develop emotional presence for students to succeed. Cleveland-Innes and Campbell (2012) confirmed the importance of emotional presence in virtual learning through surveying 217 graduate students to find that emotions are present but under-explored in online courses because too much focus is placed on cognitive, social, and teaching presence. Burdina et al. (2019) studied precisely how teachers can develop this emotional presence through increasing positive interactions with students online.

Rose (2018) conducted semi-structured interviews with teachers and concluded that there are 5 attributes that make online teachers effective. These attributes include avoiding a didactic approach, varying pedagogical practices, using productive failure, facilitating the learning, and providing a seamless structure. To support the finding of avoiding a didactic approach and facilitating the learning, research by Burdina et al. (2019) uncovered that K-5 students who had frequent, synchronous interactions with their teacher online performed better than peers who did not have this interaction. Farrel and Brunton (2020) found similar results in their qualitative study of higher education students. Farrel and Brunton identified peer interactions and a supportive online teacher increased students’ reports of engagement and success. Farrel and Brunton also found that creating an online learning community was one theme identified as supportive for student learning and growth in an online course. Creating a classroom community is a common teaching practice that leads to higher engagement and student success and research supports this is true in both a seated and virtual setting (Fisher et al., 2021; Grant & Ray, 2019; Jensen, 2013; Siegel & Bryson, 2011; Spencer & Juliani, 2017).

The Covid-19 pandemic made it necessary for teachers and students to become familiar with virtual learning. This rapid increase in virtual learning worldwide was
accompanied by an influx of research around virtual learning and teaching practices
(Aliyyah et al., 2020; Louwrens & Hartnett, 2020; Todd, 2020, Yang, 2020). Todd (2020)
surveyed 52 university English teachers after they taught their courses online for the first
time in response to the pandemic. Findings from this study suggested that teachers
initially had serious problems with the online learning format including creating a
classroom environment that mirrored a seated learning experience, finding suitable
stimulating activities to engage students virtually, and gauging student reactions and
learning of the content. However, the study also indicated that teachers rapidly found
solutions to the myriad of issues that arose during this sudden change in teaching
practices. Louwrens and Hartnett (2020) engaged in similar research during the pandemic
through a mixed methods case study examination of three online courses taught to
children aged 11-15. They sought to discover what activities teachers believed engaged
students online. Teachers in this study reported that completing activities outside of the
LMS, teacher and student feedback, relationship building, and incorporating choice all
led to higher levels of engagement. On the other hand, teachers also reported that when
they were less engaged or did not encourage interaction during activities, that led to
lower engagement from their students (Louwrens & Hartnett, 2020). While all research
during the Covid-19 pandemic has limitations due to the nature of researching during a
global crisis, the work of these researchers contributes and will continue to add to the
literature on effective virtual teaching strategies.

Teacher Perceptions of Virtual Learning

One method to determine what is effective in any educational context is to ask the
teachers. Uzunboylu & Ozdamli (2011) created the Mobile Learning Perception Scale
(MLPS) to examine teachers’ perceptions of effectiveness on 26 different factors in virtual learning. These factors were divided into three dimensions that included whether technology used helped meet the goal of virtual learning, whether the virtual learning was appropriate for the content, and whether there was adequate communication within the virtual learning environment. The MLPS was validated by Uzunboylu & Ozdamli (2011) and can be utilized to examine the effectiveness of tools, environment, programs, curriculum, and communication in virtual learning. Initial distribution of the MLPS showed teachers have an overall positive perception of virtual learning.

Roche (2013) used the MLPS to explore whether teacher perceptions were different based on the grade level taught by the teacher. Roche discovered that professional development connected to technology use was more of a predictor of perceptions of virtual learning than grade level taught by the teacher. Teachers who self-reported at the proficient or expert level with technology implementation had more positive perceptions of virtual learning across all K-12 grade levels. Other researchers found similar results that showed teacher preparation contributed to the overall positive perception of virtual learning at all levels (Rasmitadila et al., 2020; Yang, 2020). Other studies of teachers’ perceptions focused on more specific factors of virtual learning rather than the broad view taken by Uzunboylu & Ozdamli (2011) in creating the MLPS. These studies, as noted below, showed several components of virtual learning that teachers perceive as ineffective and others they perceive as effective.

**Teacher Perceptions of Ineffective Virtual Teaching Practices**

Barbour & Harrison (2016) surveyed graduate students who were teaching in K-12 schools about their perceptions of virtual learning in the K-12 setting to inform future
curricular decisions in their teacher preparation program. The 28 participants had mixed reviews. Some participants in this study had exposure to online articles and professional development around virtual learning which led to more positive perceptions of virtual learning overall. However, other participants believed that school administration and stakeholders were not adequately equipped with the skills needed to support K-12 online learning, which left the teachers feeling unsupported in their virtual instruction. This latter finding was supported by Hawkins et al. (2012) who also added that many virtual teachers feel isolated. In their case study interviews of teacher perceptions, they “uncovered three types of disconnection: disconnection from their students, from their traditional notions of what it meant to be a teacher, and from their fellow teachers” (p. 132).

To expand on the disconnect between teachers and students, Dawson et al. (2014) compiled 25 action research studies that showed virtual teachers struggled with meeting the non-academic needs of their students such as social-emotional learning, ensuring a safe home environment, and providing meals and mental health services for students. These teachers reported that in a seated environment schools provide much more than academics; but that was not possible through virtual learning. This difficulty in meeting non-academic needs is confirmed by Bayless’s (2001) dissertation work which found that online learners identified 34 non-academic needs they needed support with from their instructors including access to technology, a relationship with a caring adult, and counseling services. Findings such as these are significant when examining virtual learning due to what is known about Maslow’s (1943) hierarchy of needs. Gross (2020) applied Maslow’s hierarchy of needs to supporting virtual learners during the Covid-19
pandemic and the skills needed to be successful in virtual learning are in the top tier with access, coping skills, and safety falling in the lower tiers. Gross (2020) pointed out that virtual teachers are not able to ensure any of the lower tiers when they are teaching at a distance away from their students. While this limitation existed during the global crisis that prompted many students to move to online instruction, Milheim (2012) connected the five tiers of Maslow’s to virtual learning and provided strategies that, when implemented with fidelity, could lead to the highest level of needs being met through learner guided, humanistic instruction that utilizes tools to foster a sense of self.

**Teacher Perceptions of Effective Virtual Learning Practices**

While teachers perceive many shortcomings of virtual learning, they also identified some effective virtual learning practices. Teachers involved in the study by Barbour & Harrison (2016) expressed the flexibility that teachers had to customize learning for their students allowed them to provide more personalized instruction for students. Virtual course design that mirrored a seated course design and allowed students to showcase learning in meaningful ways were factors that teachers in several studies found effective (Dawson et al., 2014; Diliberti, 2018; Oliver et al., 2010). Yanti et al. (2018) explored teachers’ perceptions of adding a learning management system (LMS) to their virtual instruction and found that teachers found this technology easy to use and helpful for their students. A Learning Management System is defined as “online learning technologies for the creation, management, and delivery of course material” (Turnbull et al., 2020, p. 166). Diliberti (2018) had teachers evaluate 43 online courses that used an LMS using the Quality Matters Rubrics which are “tailored for assessing quality and assisting course design of elementary, middle and high school online and blended
courses” (Quality Matters, 2020). This research showed that teachers found all the indicators in 39 out of 43 courses. The indicators on the Quality Matters Rubrics included the clear presence of learning objectives, high quality instructional materials and activities, presence of learner interaction, technology support, learner support, and accessibility.

Another factor that contributed to positive perceptions towards virtual learning was parental involvement and support in the virtual learning environment (Borup, 2016). Borup explained that when parents were involved in helping organize and manage students’ schedules, provided nurturing relationships, monitoring student motivation and engagement, and assisting students with schoolwork when needed the students performed better in the virtual course. This was also supported by Smith et al. (2016) who found that online learning resulted in parents needing to be more involved with their child’s learning. Smith et al. noted that virtual learning providers need to take a more active role in providing parents with support so that they can help meet the academic needs of their children, because for most parents the role of teacher is new territory that is difficult to navigate.

A final factor that contributed to teachers viewing virtual learning positively was the incorporation of emotional engagement through teacher-student feedback and showing interest in students (Louwrens & Hartnett, 2015). Crews and Wilkinson (2015) surveyed 557 college professors at the Quality Matters conference to determine if their online courses had all of the components of the Quality Matters rubrics and the seven principles of good practice in undergraduate education identified by Chickering and Gamson (1987). Crews and Wilkinson (2015) found that participants identified giving
prompt feedback as the weakest area in their online courses. Participants reported this was needed in order to improve the quality of their online instruction. This finding regarding the need for feedback was supported by Oliver et al. (2010) when he examined how to prepare teachers for virtual learning. Oliver et al. found that not only to students enrolled in virtual learning need regular feedback, but so do teachers who are preparing to teach virtually. Other studies (Rasmitadila et al., 2020; Roche, 2013; Yang, 2020) supported this need for professional development prior to entering the virtual learning setting to bolster teachers’ perceptions of virtual learning.

**Engagement and Student Achievement**

Finn and Rock (1997) were among the first researchers to examine the connection between engagement and academic achievement. They found that when students have higher behavioral engagement through participation, assignment completion, and attendance they also have higher academic achievement, are less likely to drop out, and are more likely to attend college. Since Finn and Rock’s (1997) work, many studies have been published examining the connection between engagement and academic achievement.

Lei et al. (2018) conducted a meta-analysis of 69 of these studies to further explore this connection. This meta-analysis included nearly 200,000 participants and revealed a moderately strong and positive correlation between overall engagement and academic achievement. Lei et al. (2018) investigated these results further to find that behavioral, emotional, and cognitive engagement all contributed to this strong correlation.
More recently, the Gallup Education Research Group (Reckmeyer, 2019) used survey results from over 110,000 students from 128 schools in America to find a significant positive correlation between student engagement and academic achievement in math, reading, and all subjects combined. Reckmeyer (2019) reported that the Gallup Student Poll used in this research focused on the emotional, or affective, dimension of engagement to show the connection between engagement and student achievement. Delfino (2019) used a mixed methods design to survey 305 higher education students to examine the connection between three components of engagement and academic achievement. Through correlation analysis, he found that behavioral, emotional, and cognitive engagement were positively correlated to academic performance of students at this university.

Similarly, Carini et al. (2006) surveyed over 1,000 college students in America regarding their engagement in their college courses. The researchers used the survey data to compare engagement to existing data sources from the GRE, SAT, National Survey of Student Engagement, GPA, and grades for the students who completed the survey. Their findings support findings from other researchers of a positive correlation between student engagement and academic achievement as shown through grades, critical thinking skills, and writing ability. Al-Azawei et al. (2020) found similar results in their exploration of over 1,900 students’ performance in a virtual learning environment. Researchers found that behavioral engagement in the online course was a significant predictor of academic achievement.

This abundance of research to support the connection between student engagement and academic achievement has led to evaluators using engagement as one
criterion used to measure whether a teaching practice is an effective way for students to learn. Fredricks et al. (2011) highlighted the use of engagement for evaluation through their investigation of 21 different instruments used to measure student engagement in middle and high school aged students. The strong connection between engagement and academic achievement also led to the inclusion of student engagement as one measure of teacher effectiveness in the Every Child Succeeds Act (2015). Both student and educator engagement are included in the list of possible indicators to measure school quality, teacher quality, and student success in the ECSA. Other items in the list of possible indicators include access and completion of advanced coursework (which falls under behavioral engagement), postsecondary readiness, and school climate and safety (which falls under emotional engagement).

Research is clear regarding the connection between student engagement and academic achievement in seated environments for all age groups. There is a gap in research regarding student engagement strategies for K-5 virtual learners; therefore, it is unclear if virtual learning is an environment in which elementary-aged students can be engaged and learn.

**Multidimensional Engagement Framework**

Fredricks et al. (2004) examined scholarship on engagement to create a multidimensional approach to engagement research. They recognized that engagement is not simply whether students complete the work or are interested in the content. Scholarship to date on engagement typically examines one of these three components: cognitive engagement, behavioral engagement, or emotional engagement (Frederick et
al., 2004). Fredricks et al. used the literature on engagement to create the following definitions of these three dimensions:

*Behavioral engagement* draws on the idea of participation; it includes involvement in academic and social or extracurricular activities and is considered crucial for achieving positive academic outcomes and preventing dropping out. *Emotional engagement* encompasses positive and negative reactions to teachers, classmates, academics, and school and is presumed to create ties to an institution and influence willingness to do the work. Finally, *cognitive engagement* draws on the idea of investment; it incorporates thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills. (p. 60)

In order to get a true picture of student engagement, Fredricks and colleagues (2004) proposed combining all three components of engagement. Since introducing this multidimensional engagement framework, many researchers have utilized this three-prong approach to examining engagement. Studies connected to each dimension of the multidimensional framework are outlined in the following sections.

Childs (2021) took the multidimensional framework and adapted it to a virtual learning setting, as seen in Figure 4. Using the work of Fredricks et al. (2004), Childs (2021) identified specific teaching practices that could improve engagement in virtual learning for each of the three dimensions of engagement. Childs (2021) based her framework entirely on the work of Fredricks et al. (2004) and the strategies she recommended for each dimension have not yet been researched. The purpose of her
framework was to provide teachers with a starting point and ready-to-use engagement ideas to implement immediately to engage virtual learners during the Covid-19 pandemic. Her work, as well as the work of other researchers for each dimension of engagement, is further elaborated in the following sections.

**Figure 4**

*Virtual Engagement Framework*

![Virtual Engagement Framework](image)


**Behavioral Engagement**

Meyer (2014) and Wang (2019) attest that behavioral engagement in online learning is the most important type of engagement because all other engagement is dependent upon behavioral engagement. This is because behavioral engagement is
connected to the idea of participation (Fredricks et al., 2004). Finn (1993) and Kokoc (2019) agree with these researchers that behavioral engagement online is the foundation upon which other engagement can be added. Finn’s (1993) study of over 20,000 eighth grade students was a landmark study that researchers (Fredricks et al., 2014; Kokoc, 2019; Meyer, 2014; Wang, 2019) use to describe behavioral engagement. Finn’s (1993) discovery that behavioral engagement is malleable was groundbreaking and led to years of research into ways to increase behavioral engagement.

Kokoc (2019) discovered that one way to increase behavioral engagement in virtual learning is to incorporate flexibility in due dates and choice in what content students learn. Meyer (2014) was one of the first researchers to use data from the learning management system that houses virtual learning at his institution to track behavioral engagement. Since his research, other researchers (Barbour & Harrison, 2016; Molnar et al., 2019; Rose, 2018) have used tracking data from their own LMS to study behavioral engagement through participation in their courses. To improve behavioral engagement for virtual learners, Childs (2021) recommended establishing class norms, implementing restorative practices, and collaborating with students’ caregivers.

**Cognitive Engagement**

The term cognitive engagement was first coined by Corno and Mandinach (1983) in their exploration of pedagogical processes that lead to higher student motivation. Corno and Mandinach argued that cognitive engagement can lead to self-regulated learning which ultimately allows students to use higher thinking skills. Joo et al. (2014) used Corno and Mandinach’s groundwork on cognitive engagement to examine how distance education courses could be designed to impact students’ cognitive engagement.
Joo et al. (2014) discovered that students’ self-report of their cognitive engagement could be increased through strategic changes to the design of the distance learning course such as increasing student-teacher interaction. Louwrens and Hartnett (2015) examined all three dimensions of engagement outlined by Fredricks et al. (2004) through a mixed methods study of middle school students and found that two components that led to higher levels of cognitive engagement were feedback between teachers and students, along with creating interest about the online content. Childs (2021) recommended incorporating authentic experiences, higher-order questioning, and learning strategies to improve cognitive engagement in virtual learning.

**Emotional Engagement**

Fredricks et al. (2004) used research on motivation (Connell & Wellborn, 1991; Skinner & Belmont, 1993) to define emotional engagement as “students’ affective reactions in the classroom including interest, boredom, happiness, sadness, and anxiety” (Fredricks et al., 2004, p. 63). Fredricks et al. (2004) elaborated on the intricacies of emotional engagement when they connected the concept to research on values, student attitudes, and overall identification of belonging students feel at school. Fredricks et al. (2004) also identified that out of the three dimensions of engagement, there was the least amount of research on emotional engagement. Sagayadevan and Jeyaraj (2012) acknowledged this gap in their study of the impact of emotional engagement on student learning outcomes in a lecture-centered college course. They found that students who self-reported an emotional connection to their professor outperformed students who did not have that emotional connection.
Louwrens and Hartnett (2015) found similar results in their examination of engagement in middle school students. The ongoing development of an online learning community where students felt safe to share contributed to higher rates of emotional engagement in Louwrens and Hartnett’s (2015) study. To further this research on emotional engagement, Handelsman et al. (2005) developed a student questionnaire to measure emotional engagement in college courses. After validating the questionnaire, they used it on a small sample of students and found that teachers “helping students become emotionally engaged may be an important complement to teaching knowledge and skills” (p. 190). Pietarinen et al. (2014) supported this finding when they found a significant positive correlation between emotional engagement and cognitive engagement in their study of 170, K-12 students.

Emotional engagement of elementary school students was the topic of Domina et al.’s (2021) research at the beginning of the Covid-19 pandemic. Through surveying nearly 10,000 parents of elementary school students, researchers concluded that utilizing social emotional curriculum in virtual learning led to higher engagement in the virtual learning environment. They further indicated that this higher emotional engagement led to higher grades in the virtual learning course. This finding suggests a connection between emotional engagement through the social-emotional curriculum and academic achievement through grades in the virtual learning environment. Childs (2021) promoted similar practices as used in a seated environment to increase emotional engagement in a virtual environment including building a learning community, developing strong relationships with students, and promoting a growth mindset with learners.
Conclusion to Scholarly Context

While research about effective virtual teaching practices and teacher perceptions of virtual learning exists, further research is needed to examine virtual learning engagement in a K-5 setting. This research is needed quickly because of the rapid increase in K-5 virtual learning that was expedited by the Covid-19 pandemic. Means et al. (2009) examined 51 studies on virtual learning and none of them were from a K-5 population. Barbour and Harrison (2016) admitted that a limitation to their research involved the lack of participation from teachers at the elementary level. Elementary learning and processes differ from those used in high school and higher education because elementary schools build the foundation for learning. Therefore, using studies from high school and higher education to inform decisions of practice for elementary virtual learning is short sighted. As enrollment rates in K-5 online programs increase, the need for research in this area becomes even more imperative. Instead of using research from higher education and high school studies, this study aims to begin filling the gap in the literature related to K-5 virtual learning. Through examining what strategies K-5 virtual teachers are using to engage their students and what their perceptions are of how effective those strategies are, this study will provide teachers with needed strategies to ensure student engagement that leads to student achievement. The study recognizes that engagement is a multi-faceted construct and will utilize the multidimensional framework developed by Fredricks et al. (2004) to explore behavioral, cognitive, and emotional engagement of students in the Midwest.
SECTION IV: CONTRIBUTION TO PRACTICE
Plan for Dissemination

The researcher in the present study identifies as a pragmatist due to the axiological belief that research is done in the “pursuit of desired ends” (Mertens, 2020, p. 11). The desired end of this study was to provide Access Learning with an understanding of what strategies are currently being used in their elementary courses to promote student engagement in virtual learning. During the course of this research, it became clear that due to the young age of Access Learning, consistency across grade levels in engagement practices varied greatly. The results of the present study allowed the researcher to get a zoomed-out picture of what engagement looked like in a variety of grade levels and virtual classrooms. These results can be used to create professional learning opportunities for teachers to provide consistency across the elementary division of Access Learning and to increase all three dimensions of engagement.

Who & When: Access Learning Leadership in Summer 2022

The researcher remained in contact with the leadership team of Access Learning throughout the study. This team consisted of one K-12 Principal, two Assistant Elementary Principals, one Director of Virtual Learning, and one Assistant Director of Virtual Learning. This leadership team will be the primary audience for the first phase of dissemination. Upon initial dissemination to this group, Access Learning may elect to ask the researcher present to the teachers who participated in the study. Access Learning typically plans professional learning for teachers in the summer in between academic years. For this reason, the researcher will plan to meet with Access Learning in the summer of 2022 upon successful completion of the study.
How

The researcher created an executive summary and presentation using Google slides to share with the leadership team. In addition to the presentation, the researcher compiled a list of engagement strategies that can be shared with teachers. All resources that will be shared with Access Learning will utilize Google documents so they can easily be shared with teachers. Copies of these are also provided in the following sections. Access Learning utilizes Google documents extensively so this format will serve the needs of the organization.
Executive Summary

The executive summary below will be shared with Access Learning in print and digital form.
Presentation

The presentation can be accessed digitally by visiting tinyurl.com/AccessEngagement. Screenshots are provided below.
OVERVIEW of RESEARCH METHODOLOGY

Qualitative Phenomenological Study Using Multidimensional Engagement Framework

Survey: 44 Teachers Interviews: 2 Elementary AP’s Focus Groups: 12 K5 Teachers

Electronic Survey Interviews with AP’s Focus Groups

Inductive Analysis

Where Do You Teach?
- Urban area: 30.6%
- Suburban: 52.8%
- Rural area: 16.7%

Average Age: 47 Years Old Age Range: 26-71 Years Old

RQ1 FINDINGS: DEMOGRAPHIC DATA

RQ1: What are the professional identities of K-5 public school teachers who teach fully online with a large virtual learning provider in Missouri?

What Grade Do You Teach at Access Learning?
- Kindergarten: 5.6%
- 1st Grade: 19.4%
- 2nd Grade: 11.1%
- 3rd Grade: 22.2%
- 4th Grade: 16.7%
- 5th Grade: 25.0%
RQ1 FINDINGS: DEMOGRAPHIC DATA

**RQ1:** What are the professional identities of K-5 public school teachers who teach fully online with a large virtual learning provider in Missouri?

**Teacher Certifications:**
- All teachers certified for the grade levels they teach.
- 51% of teachers certified for additional areas outside of current role.

![](chart.png)

What is Your Highest Degree?

- **Bachelors Degree:** 30.6%
- **Doctorate Degree:** 2.8%
- **Master’s Degree:** 58.3%
- **Specialist Degree:** 8.3%

RQ1 FINDINGS: What led you to teach K5 with Access Learning?

**RQ1:** What are the professional identities of K-5 public school teachers who teach fully online with a large virtual learning provider in Missouri?

- **Flexibility**
  - “Started because I wanted to stay home and care for parents. Then fell in love with it.”
  - “I retired, they needed help.”

- **Pandemic**
  - “I saw a need during the rise of Covid-19 and chose to step in to help.”
  - “I have taught elementary teachers online, covid gave me the option to start teaching again online.”

- **Something New**
  - “Being a part of a relatively new way to educate K-5 learners.”
  - “It wasn’t something I had done before in education and wanted to try it out.”

- **Pay**
  - “I was looking for a pay increase, and [ACCESS] was a way to get that and use my certification.”
  - “I mostly chose to start because the extra pay each month, but I stayed because I genuinely enjoy connecting with the elementary students.”
**RQ1 FINDINGS:** What are the professional identities of K-5 public school teachers who teach fully online in the Midwest?

**What is your take on Elementary Virtual Learning?**

"I think it can be very good, most especially if students are committed and well supported at home."

"I think as long as they have involved and supportive home OR are extremely independently driven, they have a high rate of success."

**RQ2 FINDINGS:** What strategies do K-5 public school teachers use to engage students in virtual learning?

**3 THEMES**

- **Teacher Dispositions**
  - Traits of teachers that have higher engagement

- **Teacher Practices**
  - Strategies used to increase engagement

- **Challenges**
  - What makes virtual engagement difficult
RQ2 FINDINGS: Teacher Dispositions

RQ2: What strategies do K-5 public school teachers use to engage students in virtual learning in Missouri?

<table>
<thead>
<tr>
<th>COGNITIVE</th>
<th>AFFECTIVE</th>
<th>BEHAVIORAL</th>
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<tr>
<td>Adaptable</td>
<td>Fun</td>
<td>Adaptable</td>
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<td>Curious</td>
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<td>Flexible Thinking</td>
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<td>Value Students</td>
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RQ2 FINDINGS: Teacher Practices

What strategies do K-5 public school teachers use to engage students in virtual learning?
RQ2 FINDINGS: Challenges to Engagement

RQ2: What strategies do K-5 public school teachers use to engage students in virtual learning in Missouri?

**INADEQUATE FAMILY SUPPORT**
"But we also know that seven-year-olds are going to needs some guidance from somebody who’s in close proximity with them. And so just getting them to understand that there has to be a partnership, but the only person that’s going to be able to make that partnership is a real challenge."
- Survey Participant

**DISTRACTING HOME ENVIRONMENTS**
"You’re competing with Grandpa listening to something in the background, and grandma walking through in a bra. And you’re competing with little brothers and sisters popping up in their face and the pets coming in the picture. And it’s a competition to try to hold their attention and help the family understand that the home environment matters."
- Focus Group Participant

**DIFFICULTY ENGAGING STUDENTS COGNITIVELY**
"I think a lot of the... levels of thinking are not as deep because of the nature of the beast... I think if we had this conversation in four years, we would have teachers who have been with us for a while who are pros at this. But because it’s all new, cognitive engagement falls off because we are focused on the other dimensions."
- Assistant Principal

---

RQ1: What are the professional identities of K-5 public school teachers who teach fully online with a large virtual learning provider in Missouri?
- 70% of K-5 teachers with Access Learning have a degree beyond the bachelor’s degree required for their position.
- 51% of K-5 teachers have teaching certifications outside of their current area.
- Minimal training to teach online.
- Perceive a strong connection between family support and success in virtual learning.

RQ2: What strategies do K-5 public school teachers use to engage students in virtual learning in Missouri?
- Teacher dispositions contribute to higher levels of engagement.
- Strategies exist to engage students for all 3 dimensions.
- Teachers have most comfort with engaging students affectively.
- Teachers have fewest strategies to engage students cognitively.
- Challenges to virtual engagement include:
  - Inadequate family support
  - Distracting home environments
  - Difficulty engaging students cognitively
IMPLICATIONS

DISPOSITIONS
Access Learning should keep looking for teachers who prioritize relationship building and classroom culture in hiring for K5 virtual learning positions (Boudreau, 2020).

FAMILY SUPPORT
Access Learning needs a system for requiring or encouraging family support (Welch, 2015).

HOME ENVIRONMENT
Access Learning needs procedures or supports for ensuring homes are conducive to learning (Klein, 2021).

COGNITIVE ENGAGEMENT
Additional training and professional learning opportunities is needed for teachers at Access Learning (Pennington, 2015).

Questions?
List of Engagement Strategies

The following flyer will be shared with Access Learning in both print and digital PDF formats.

**HELP! How do I engage my K5 students?**

Research shows that engagement has 3 dimensions. Fredericks et al. (2004) explained: "Behavioral engagement draws on the idea of participation; it includes involvement in academic and social or extracurricular activities and is considered crucial for achieving positive academic outcomes and preventing dropping out. Emotional engagement encompasses positive and negative reactions to teachers, classmates, academics, and school and is presumed to create ties to an Institution and influence willingness to do the work. Finally, cognitive engagement draws on the idea of investment; it incorporates thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills." (p. 60).

There are different strategies to use to engage students for each dimension. First, identify what dimension of engagement needs improvement. Then try a strategy from the list below.

<table>
<thead>
<tr>
<th>Cognitive Engagement</th>
<th>Affective Engagement</th>
<th>Behavioral Engagement</th>
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<tbody>
<tr>
<td>Choices</td>
<td>Show &amp; Tell</td>
<td>Expressiveness</td>
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<td>Goal Setting</td>
<td>Showcase Student Work</td>
<td>Daily Announcements</td>
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<td>Small Groups</td>
<td>Simon Says</td>
<td>Use Multiple Formats</td>
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<td>Call on Students</td>
<td>Student Input</td>
<td>Clear Expectations</td>
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<td>Competition</td>
<td>Student Leaders/Tutors</td>
<td>Provide Answers</td>
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<td>Cooperative Learning</td>
<td>Theme Days</td>
<td>Movement</td>
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<td>Discussion</td>
<td>Trivia</td>
<td>Pacing</td>
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<td>Exit Tickets</td>
<td>Videos</td>
<td>Newsletters</td>
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<td>Feedback</td>
<td>Virtual Field Trips</td>
<td>Participation Points</td>
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<td>Gestures/Nonverbals</td>
<td>Sending Mail</td>
<td>Reminders</td>
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<td>Hands On</td>
<td>Relationship Building</td>
<td>Repetition</td>
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<td>Manipulatives</td>
<td>Riddles</td>
<td>Rewards/Incentives</td>
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<td>Modeling</td>
<td>Scavenger Hunts</td>
<td>Routine</td>
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<td>Questioning</td>
<td>Sharing</td>
<td>Steps</td>
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<td>Relatable/Real World</td>
<td>Affirmation Practices</td>
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SECTION V: CONTRIBUTION TO SCHOLARSHIP

Manuscript to be submitted to *Online Learning*, the official journal of the

Online Learning Consortium.
Abstract

The Covid-19 pandemic necessitated an unprecedented shift to virtual learning in America, and it is unlikely that this method of instruction will end when it is safe to return to in-person instruction even though there is limited research supporting virtual learning at the K-5 level. This phenomenological qualitative study explored the professional identities of virtual elementary school teachers, and what strategies they used to engage their K-5 students in a synchronous virtual setting in the state of Missouri. Data for the present study were collected through a census survey sent to all virtual elementary teachers, two focus groups of the same teachers, and two one-on-one interviews with the assistant principals of virtual learning from one large virtual learning provider in Missouri. Through basic descriptive statistical analysis, findings regarding professional identities showed that teachers had a wide range of backgrounds and expertise areas; but most reported a lack of preparation to teach elementary school online. To investigate engagement strategies, Fredericks et al.’s (2004) Multidimensional Engagement Framework was used. Using a combination of inductive and deductive analysis, findings suggest there were certain teacher dispositions that contributed to successful engagement in elementary virtual learning. In addition, several specific strategies for cognitive, affective, and behavioral engagement were uncovered as well as several challenges regarding engagement in K-5 virtual learning. This research begins the important work of uncovering best practices in virtual learning at the K-5 level and paves the way for future research on the topic.
Keywords

Elementary virtual learning, K-5 online, synchronous online learning, engagement strategies, professional identities, multidimensional engagement framework.

Introduction

The Covid-19 pandemic necessitated an unprecedented shift to virtual learning in America with over 90% of K-12 students learning online for the 2020-2021 school year (Mcelrath, 2020). This rapid growth in virtual learning will undoubtedly change the landscape of elementary education forever. While born of necessity, this shift took place with very little research to support online learning for K-5 students. In fact, the professional identities of K-5 online teachers in currently unknown. Pennington explained that teacher professional identity is “a unique blend of individual teacher characteristics within the disciplinary knowledge, standards, and practices of the field” (p. 78). In addition to not yet understanding professional identity of virtual K-5 teachers, we do not yet know what strategies teachers are using to promote engagement in virtual learning for K-5 public school students.

Research supports the connection between student engagement and academic achievement (Connell et al., 1994; Fincham et al., 1989; Firat et al., 2019; Marks, 2000; Skinner et al., 1990). For example, Lei et al. (2018) conducted a meta-analysis of 69 independent studies on engagement to find that there is a strong correlation between overall student engagement and academic achievement. As a result of the vast amount of research linking student engagement and academic achievement, research-based practices to promote student engagement in a seated classroom for K-5 learners have been well-
established (e.g., Hattie, 2009; Marzano, 1992; Wong & Wong, 1991), but little research exists that examines virtual learning engagement practices in a K-5 setting.

While evidence supports the connection between student engagement and academic achievement in virtual learning in higher education and high school settings in America (e.g., Diliberti, 2018; Hawkins et al., 2012; Lapp & Kunz, 2020; Molnar et al., 2019; Oliver et al., 2010; Stenbom et al., 2019; Toro-Troconis, 2019), this topic has not been investigated in the K-5 setting. This study seeks to begin the important work of filling this gap in the literature to uncover the strategies teachers use to engage elementary virtual learners in the Midwest.

The purpose of this study was to first understand the professional identities of public-school teachers who taught K-5 students virtually in the 2021-2022 school year. The study also explored strategies those teachers used to engage K-5 students in virtual learning. The rationale for examining teacher identity ties to the phenomenological design but also aligns with Palmer’s (1997) focus on understanding teacher identity because teachers ultimately teach who they are. The rationale for examining engagement strategies in virtual learning was the vast amount of research that shows the connection between engagement and academic achievement (e.g., Connell et al., 1994; Fincham et al., 1989; Firat et al., 2019; Lei et al., 2018; Marks, 2000; Skinner et al., 1990).

**Review of Related Literature**

Virtual learning enrollments for K-12 learners have rapidly increased over the past ten years. In the 2017-2018 school year, over 300,000 students were enrolled in over 500 different virtual schools across America (Molnar et al., 2019). In 2019, the number of virtual students enrolled in at least one online class jumped to 2.7 million (Schroeder,
This increase was expedited further during the Covid-19 pandemic in 2020 that forced many schools into a crisis education model that involved full and part time virtual instruction (Leiberman, 2020). Ample research has examined both high school and higher education virtual learning (Diliberti, 2018; Erwin, 2019; Hawkins et al., 2012; Molnar et al., 2019; Oliver et al., 2010; Stenbom et al., 2019). However, few studies exist that explore K-5 virtual learning. This shortcoming was noted by several researchers (Barbour, 2019; Cavanaugh, 2013, Loeb, 2020; Means et al., 2009; Rice, 2006). This lack of research has resulted in K-5 virtual programming using research based in high school and higher education settings to design virtual learning for K-5 learners (Barbour, 2019). This can have detrimental effects on learning for K-5 students because the brain development of high school and college aged students does not reflect the brain development of elementary-aged students. Thus, the virtual programming designed based on research for older students will inevitably fall short of meeting the needs for younger learners (Bailey, 2015; Siegel & Bryson, 2011).

Among the many unexplored areas related to virtual learning is effective engagement strategies for K-5 virtual learning. Finn and Rock (1997) examined the connection between engagement and academic achievement in seated environments. They found that when students have higher behavioral engagement through participation, assignment completion, and attendance they also have higher academic achievement, are less likely to drop out, and are more likely to attend college. Since Finn and Rock’s (1997) work, many studies have been published examining the connection between engagement and academic achievement.
Lei et al. (2018) conducted a meta-analysis of 69 studies to further explore the connection between engagement and academic achievement. The meta-analysis included nearly 200,000 participants and revealed a moderately strong and positive correlation between overall engagement and academic achievement. Lei et al. (2018) investigated these results further to find that behavioral, emotional, and cognitive engagement all contributed to the strong correlation between achievement and engagement. More recently, the Gallup Education Research Group (Reckmeyer, 2019) used survey results from over 110,000 students from 128 schools in America to find a significant positive correlation between student engagement and academic achievement in math, reading, and all subjects combined. Reckmeyer (2019) reported that the Gallup Student Poll used in their research focused on the emotional, or affective, dimension of engagement to show the connection between engagement and student achievement.

Research to support the connection between student engagement and academic achievement has led to evaluators using engagement as one criterion to measure whether a teaching practice is an effective way for students to learn. Fredricks et al. (2011) highlighted the use of engagement for evaluation through their investigation of 21 different instruments used to measure student engagement in middle and high school aged students in seated settings. The strong connection between engagement and academic achievement also led to the inclusion of student engagement as one measure of teacher effectiveness in the Every Child Succeeds Act (2015). Both student and educator engagement are included in the list of possible indicators to measure school quality, teacher quality, and student success in the ECSA. Other items in the list of possible indicators include access and completion of advanced coursework (which falls under
behavioral engagement), postsecondary readiness, and school climate and safety (which falls under emotional engagement).

Research is clear regarding the connection between student engagement and academic achievement in seated environments for all age groups (e.g., Connell et al., 1994; Fincham et al., 1989; Firat et al., 2019; Lei et al., 2018; Marks, 2000; Skinner et al., 1990). There is a gap in research regarding student engagement strategies for K-5 virtual learners; therefore, it is unclear if virtual learning is an environment in which elementary-aged students can be engaged and learn.

Fredricks et al. (2004) examined scholarship on engagement to create a multidimensional approach to engagement research. They recognized that engagement is not simply whether students complete the work or are interested in the content. Scholarship to date on engagement typically examines one of these three components: cognitive engagement, behavioral engagement, or emotional engagement (Frederick et al., 2004). Fredricks et al. used the literature on engagement to create the following definitions of these three dimensions:

*Behavioral engagement* draws on the idea of participation; it includes involvement in academic and social or extracurricular activities and is considered crucial for achieving positive academic outcomes and preventing dropping out. *Emotional engagement* encompasses positive and negative reactions to teachers, classmates, academics, and school and is presumed to create ties to an institution and influence willingness to do the work. Finally, *cognitive engagement* draws on the idea of investment; it incorporates thoughtfulness and willingness to exert the
effort necessary to comprehend complex ideas and master difficult
skills. (p. 60).

To get a true picture of student engagement, Fredricks et al., (2004) proposed combining
all three components of engagement. The present study applied the multidimensional
framework for exploring engagement in K-5 online settings.

**Research Questions**

The first research question guiding this study was: What are the professional
identities of K-5 public school teachers who teach fully online with a large virtual
learning provider in Missouri? The second research question was: What strategies do K-5
public school teachers use to engage students in virtual learning in Missouri?

**Methods**

This study followed a qualitative phenomenological research design (Merriam &
Tisdell, 2016). A phenomenological approach examines the lived experiences of the
participants. Mertens (2020) explained that the intent behind phenomenological research
is to “understand and describe an event from the point of view of the participant” (p.
255). Patton (2015) takes the examination of individual lived experiences a step further
by proposing phenomenological research to find the essence of a shared experience. A
phenomenological approach fits the present study because it examined teachers’ lived
experiences regarding teaching K-5 learners virtually.

**Participants**

All 60 K-5 teachers who taught with Access Learning at the time of this research
were invited to complete an electronic survey. The survey used a census survey sampling
method to get the broadest possible picture of the phenomenon (Mertens, 2020). In
addition to the electronic survey for teachers, 12 of the same teachers who completed the survey participated in two focus groups. Additionally, the researcher conducted two semi-structured one-on-one interview with the two Assistant Principals (APs) of Elementary Virtual Learning at Access Learning. Both APs held a teaching certification as well as an administration certification in the state where Access Learning operated. These AP’s performed all functions of a school principal in relation to the K-5 teachers with Access Learning including teaching observations, training, professional development, and annual reviews.

Data Collection Tools

An electronic survey built in Qualtrics was emailed to all 60 K-5 teachers employed by Access Learning. Forty-four teachers responded representing a rate of 66%. Fink (2017) stated that surveys should be used if the information being collected needs to come directly from participants, such as perceptions, feelings, and values. The survey began with a statement of informed consent that explained the purpose of the research. Then it gathered demographic data including years of experience prior to teaching virtually, what grade level they currently taught, where they are teaching from, and a short explanation of why they chose to teach K-5 online. The demographic data at the beginning of the survey aimed to address the first research question regarding the professional identities of K-5 virtual teachers with Access Learning. The demographic data was also used to help create a maximum variation sample for focus groups. After the demographic questions, the survey used two validated assessments to ask focused questions on what engagement strategies the teachers used in their virtual classrooms to address the second research question. The first validated assessment tool used Skinner et
al.’s (2008) engagement vs. disaffection survey that is intended to be completed by teachers to measure emotional and behavioral student engagement. The second validated assessment tool used was the Research Assessment Package for Schools (1998), which is a validated assessment used by teachers to measure cognitive and behavioral engagement of their students.

The second tool for data collection was two 45-minute focus groups conducted on Zoom with teachers who indicated interest on the survey. Twelve teachers from a variety of grade levels and experience levels attended two focus groups. Krueger and Casey (2015) supported the use of focus groups to help participants feel more at ease and to determine how participants really think and feel about a topic. All focus group participants were emailed the informed consent prior to the focus group along with an overview of the conceptual framework that divides engagement into three categories: affective, behavioral, and cognitive. The conceptual framework helped form the questioning route that was used in the focus groups.

The third data collection method was two semi-structured 45-minute interviews conducted in-person with the two K-5 Assistant Principals of Virtual Learning at Access Learning. Seidman (2017) stated, “at the root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of that experience” (p. 9). The present study aimed to understand virtual K-5 teachers lived experiences with virtual learning, so interviews with the principals who oversaw the work of these K-5 teachers provided valuable insights. The assistant principals knew what the K-5 virtual teachers were expected to do and conducted numerous teaching observations in virtual classrooms each day. Their insight into virtual teachers’ online classrooms
provided a rich layer of data that contributed to the overall findings of the study regarding the professional identities of virtual teachers and how they engaged their learners.

**Data Analysis**

One of the foundational components of qualitative research is that the researchers is the instrument by which data are collected and analyzed (Mertens, 2020), which ultimately means that every qualitative study will be analyzed differently depending on the researcher. The deductive and inductive analysis method for this research will be detailed in the remainder of this section.

Qualitative data analysis must be ongoing and continuous (Merriam & Tisdell, 2016; Mertens, 2020). For this study, data was analyzed continuously by examining each piece of data as it was collected. Interviews and focus groups were transcribed shortly after completing them as the first step in analysis of these data pieces (Krueger & Casey, 2015, Seidman, 2019). Next, the transcript was copied into a document to begin inductive coding (Creswell, 2016). Saldana (2016) promoted the use of line-by-line coding followed by descriptive coding of sections of data as part of the inductive analysis process. To apply Saldana’s (2016) coding method to the interview and focus group data, a three-column chart was created with the line-by-line code on the left, the transcript in the middle, and the descriptive code on the right. This produced a document with initial codes for both focus groups and both interviews.

In addition to the inductive coding method used for the interviews and focus groups, a color-coding system was used with a layer of deductive coding that applied the multidimensional engagement conceptual framework (Fredericks et al., 2004). Deductive coding is used when you have codes in mind before you begin analyzing the data and is
recommended to be used simultaneously with inductive coding for qualitative research (Saldana, 2016). Each question in the interviews and focus groups was related to one of the following topics connected to the research questions: professional identities of teachers (Pennington, 2015), overall engagement strategies, cognitive engagement, behavioral engagement, or affective engagement (Fredericks et al, 2004). The portions of the interviews and focus groups connected to each of these topics were color coded according to these five categories to get a visual of the phenomenon as it related to the conceptual framework and research questions.

A similar approach that combined inductive and deductive coding was used to analyze the qualitative data from the survey (Saldana, 2016). The questions on the electronic survey were randomized when the survey was sent, so the first step was deductive coding to put the questions back in the 3 categories based on the conceptual framework. This ensured that all questions related to each dimension of engagement from the validated assessments were grouped together and color coded using the same color code as was used on the interview and focus group transcripts. Then, the researcher used inductive coding (Creswell, 2016) to add line-by-line and descriptive codes (Saldana, 2016) to the survey data.

Finally, all codes from all three data sets were combined into one master code book for further analysis, as recommended by Creswell (2016) when he said, “the researcher develops clusters of meaning from the significant statements into themes” (p. p. 82). These clusters of meaning were used to create a description that wove together participant quotes with the themes to present the findings below.
The demographic and professional identity questions on the survey were copied into a different spreadsheet to allow the data connected to the research question regarding professional identities to be analyzed separately from the engagement research questions. Basic descriptive statistics of finding averages was applied to the demographic data to produce a picture of who the elementary virtual teachers were who participated in the study (Fink, 2017). The short answer questions regarding why teachers chose to teach virtually and what their training was prior to beginning virtual learning were analyzed using the same line-by-line and descriptive coding as described for the other data pieces (Saldana, 2016).

A final component of the analysis process was the practice of bracketing, which is one characteristic that makes phenomenological analysis unique (Mertens, 2020). In bracketing, “the everyday understandings, judgments, and knowings are set aside, and the phenomena are revisited” (Moustakas, 1994, p. 33). Since the researcher had experience with elementary virtual learning, it was important to practice bracketing throughout the analysis. To accomplish this task, the researcher added a column to the analysis spreadsheet that housed her own thoughts, judgments, and preconceptions of the phenomenon so the focus remained on the lived experiences of the participants and not those of the researcher.

Findings

This research uncovered four main findings. To begin, the first question regarding professional identities of virtual teachers with Access Learning was answered. Three main findings were revealed to answer the second research question about what strategies these teachers used to engage their online students – teacher dispositions that contribute
to student engagement, engagement practices to promote K-5 virtual engagement, and challenges involved in K-5 virtual student engagement.

**RQ1 Findings: Professional Identities of Teachers**

The first research question asked: What are the professional identities of K-5 public school teachers who teach fully online in the Midwest? Overall, the variety of experiences and backgrounds of teachers at Access Learning mirrored what one would expect to see in any school setting (Table 1). All teachers reported two years or less of experience teaching online, which reflects the age of Access Learning at the time of this research. Most teachers had a master’s degree or higher with one doctoral degree and two specialists’ degrees. There was a wide sampling of grade levels represented in the participants. Most teachers reported that the location where they taught was a suburban area while 30% reported teaching in an urban area and 16% reported they taught in a rural area.

There were several reasons that these teachers chose to teach elementary school online with Access Learning. Reasons included the increased flexibility of the schedule compared to teaching in a seated environment so they could “stay home more”, it was something different and they “wanted to try it out”, the pandemic led them to this mode of teaching, there was a pay increase, or they had retired, and this was a way to continue working with kids. The participants overall opinion of virtual learning was that it is a good fit for some students and that families played a larger role in virtual learning than in seated learning. This was reflected in several survey responses like this one from a fourth-grade teacher, “It can be highly successful for those students and parents who are invested in learning, while for those who are not, they are failing miserably.”
### Table 1

**Demographic Data of Participants**

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Average</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>47</td>
<td>26-71</td>
</tr>
<tr>
<td>Years of Teaching Experience</td>
<td>16 years</td>
<td>1-32 years</td>
</tr>
<tr>
<td>Years of Teaching Experience Online</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Highest Degree of Participants</td>
<td>31% Bachelor’s Degree</td>
<td></td>
</tr>
<tr>
<td></td>
<td>58% Master’s Degree</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8% Specialist Degree</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3% Doctoral Degree</td>
<td></td>
</tr>
<tr>
<td>Current Grade Level Taught by Participants</td>
<td>Kindergarten: 6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st Grade: 19%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2nd Grade: 11%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd Grade: 22%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4th Grade: 17%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5th Grade: 25%</td>
<td></td>
</tr>
<tr>
<td>Locations Where Participants Teach (as identified by participants)</td>
<td>Urban Area: 30%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suburban Area: 53%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rural Area: 17%</td>
<td></td>
</tr>
</tbody>
</table>

When asked about their preparation for teaching elementary school online, ten of the survey respondents referred to a two-day training at the beginning of the school year while the rest of the teachers responded that they had minimal preparation, had to lead their own learning, used trial and error, or prior knowledge. Several of the teachers who
reported minimal training attributed the lack of training to being hired after the beginning of the school year. One assistant principal pointed out a challenge of hiring for positions at Access Learning was the fluctuating enrollment in students which resulted in fluctuating needs for staffing. They said, “we thought we were going to have about 20-25 teachers. We ended up with 60.”

**RQ2 Finding 1: Teacher Dispositions that Contribute to Engagement**

In all data sets within this study, several dispositions were mentioned that participants believed contributed to higher levels of engagement in K-5 virtual learning. Both assistant principals mentioned looking for specific mindsets or ways of thinking when they hired teachers to work for Access Learning. One AP called this the “It Factor” while the other AP explained that “we are looking for [teachers] who will find more ways to say yes to students.” Deductive coding was used to categorize the dispositions that teachers mentioned contributed to higher engagement into the three dimensions of engagement using the work of Bond and Bedenlier (2019) to determine which category the disposition would fall under (Table 2).

The survey items connected to affective engagement had the most detailed responses related to the dispositions teachers show to engage students. In both focus groups and both interviews with the assistant principals, participants reported that this was the most important dimension of engagement for virtual learning, indicating that “the other two depend on that relationship that is built through the affective dimension” (Focus Group 1). One teacher responded in the survey that “it’s all about relationships and building those from the very start.”
Table 2

*Teacher Dispositions that Contributed to Higher Levels of Engagement*

<table>
<thead>
<tr>
<th>Cognitive Engagement</th>
<th>Affective Engagement</th>
<th>Behavioral Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptable</td>
<td>Fun</td>
<td>Adaptable</td>
</tr>
<tr>
<td>Curious</td>
<td>Happy</td>
<td>Enthusiastic</td>
</tr>
<tr>
<td>Flexible</td>
<td>Excited</td>
<td>Flexible Thinking</td>
</tr>
<tr>
<td>Creative</td>
<td>Enthusiastic</td>
<td>Engaged</td>
</tr>
<tr>
<td>Reflective</td>
<td>Encouraging</td>
<td>Expressive</td>
</tr>
<tr>
<td>Supportive</td>
<td>Inspiring</td>
<td>Focused</td>
</tr>
<tr>
<td></td>
<td>Kind</td>
<td>Open Minded</td>
</tr>
<tr>
<td></td>
<td>Patient</td>
<td>Motivational</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
<td>Organized</td>
</tr>
<tr>
<td></td>
<td>Silly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Friendly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value Students</td>
<td></td>
</tr>
</tbody>
</table>

RQ2 Finding 2: Teacher Practices that Contribute to Engagement

One result of this research was to provide virtual learning providers with a list of strategies that teachers use to engage K-5 learners. After careful analysis of all the data, practices teachers and the assistant principals reported were categorized into the three dimensions of engagement (Table 3). Many of these practices could be summed up by one focus group participant who said,

I feel like from the time I start the Zoom until the time I end, I am on stage, so to speak. So, I am a totally different person than what you see right here right now. I am animated, I'm all about props, I've got, you know, anything to keep them engaged. And with third grade, you've got to be on it nonstop.
And in the traditional classroom, I feel like I was up and active all the time.

So it's not a new thing for me.

She went on to explain that teaching, both in a seated environment and online incorporates a lot of acting. One AP echoed this sentiment when he said that the most engaging classrooms that he observes were “entertaining for him” because the teachers were using practices that incorporated dispositions of being fun and enthusiastic.

Teachers reported more practices connected to engaging students affectively than the other dimensions. In a focus group one teacher explained that many of the things she does in her virtual classroom are “geared toward emotional engagement but end up engaging them behaviorally and cognitively too”. The belief that affective engagement was foundational for the other dimensions was a common thread throughout all the data. Another common thread was the connection between how these teachers engaged their students in a seated environment and how those practices translated to their online classroom. One teacher wrote, “I just take what I did in my face-to-face classroom and figure out a way to make it work online. It’s kind of a fun challenge. It’s a puzzle I have to put together every day, but it’s really the same thing as seated.”
Table 3

*Teacher Practices that Contributed to Higher Levels of Engagement*

<table>
<thead>
<tr>
<th>Cognitive Engagement</th>
<th>Affective Engagement</th>
<th>Behavioral Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choices</td>
<td>Affirmation Practices</td>
<td>Expressiveness</td>
</tr>
<tr>
<td>Goal Setting</td>
<td>Blooket</td>
<td>Daily Announcements</td>
</tr>
<tr>
<td>Small Groups</td>
<td>Brain Breaks</td>
<td>Use Multiple Formats</td>
</tr>
<tr>
<td>Call on Students</td>
<td>Breakout Rooms</td>
<td>Clear Expectations</td>
</tr>
<tr>
<td>Competition</td>
<td>Check Ins</td>
<td>Provide Answers</td>
</tr>
<tr>
<td>Cooperative Learning</td>
<td>Build Class Culture</td>
<td>Movement</td>
</tr>
<tr>
<td>Discussion</td>
<td>Dress Up</td>
<td>Pacing</td>
</tr>
<tr>
<td>Exit Tickets</td>
<td>Free Time</td>
<td>Newsletters</td>
</tr>
<tr>
<td>Feedback</td>
<td>Games</td>
<td>Participation Points</td>
</tr>
<tr>
<td>Gestures/Nonverbals</td>
<td>Interaction</td>
<td>Reminders</td>
</tr>
<tr>
<td>Hands On</td>
<td>Jokes</td>
<td>Repetition</td>
</tr>
<tr>
<td>Manipulatives</td>
<td>Morning Meeting</td>
<td>Rewards/Incentives</td>
</tr>
<tr>
<td>Modeling</td>
<td>Music</td>
<td>Routine</td>
</tr>
<tr>
<td>Questioning</td>
<td>Musical Chairs</td>
<td>Steps</td>
</tr>
<tr>
<td>Relatable/Real World</td>
<td>Relationship Building</td>
<td>Structure</td>
</tr>
<tr>
<td>Variety</td>
<td>Riddles</td>
<td>Visuals</td>
</tr>
<tr>
<td>Scavenger Hunts</td>
<td></td>
<td>Word of the Day</td>
</tr>
<tr>
<td>Sharing</td>
<td></td>
<td>Cameras On</td>
</tr>
<tr>
<td>Show &amp; Tell</td>
<td></td>
<td>Chat Feature</td>
</tr>
<tr>
<td>Showcase Student Work</td>
<td></td>
<td>Sending Mail</td>
</tr>
<tr>
<td>Simon Says</td>
<td></td>
<td>Variety</td>
</tr>
<tr>
<td>Student Input</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Leaders/Tutors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theme Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trivia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Videos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virtual Field Trips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sending Mail</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RQ2 Finding 3: Challenges to K-5 Virtual Engagement

The data showed three clear challenges that teachers face when engaging students virtually. These themes included inadequate family support, distracting home environments, and difficulty engaging students cognitively. Each area will be expanded with data in the following sections.

Inadequate Family Support

The role of families in K-5 virtual learning was mentioned in all three data sets from the interviews, focus groups, and survey. All 44 teachers who responded to the survey, both assistant principals, and focus group participants mentioned the role of families or parents in their responses related to challenges with virtual engagement or success stories related to virtual engagement. One AP explained that the teachers who were more successful with engaging their students were the teachers who had built strong relationships with their students’ families. Many of the challenges that were mentioned related to engaging K-5 students virtually connected to the inability to be near students. One AP summed up the thoughts of many teachers when she said the following about parents whose students were enrolled with Access Learning:

You chose virtual learning. And as a virtual learning parent, who is going to be there to guide your students through the day, because I will tell them things, I will give them information, they will have everything they need. But we also know that seven-year-olds are going to needs some guidance from somebody who’s in close proximity with them. And so just getting them to understand that, that there has to be a partnership, but the only person that’s going to be able to make that partnership happen, obviously
the family, but the teacher is going to have to set that expectation. From you know, out of the gate.

Out of the 44 survey responses, 21 teachers mentioned family involvement and support as one of the biggest challenges they face with engaging students virtually. Many of these teachers reported reaching out to families “constantly” and one said, “I have no control over helping these students if parents won’t respond.”

**Distracting Home Environments**

Another theme that is connected to inadequate family support related to the home environment where K-5 virtual students are learning. The challenges presented by the home environment were mentioned in 33 of the 44 survey responses. Analysis of the survey, focus groups, and interviews, showed that participants had difficulty in engaging students behaviorally when there were distractions in the homes. Many times, participants referred to their students preferring to play video games or play with their pet instead of engaging in the virtual lesson. In one focus group, a teacher explained that it felt like she was competing with all the other distractions in the home,

You're competing with Grandpa listening to something in the background, and grandma walking through in a bra… And you're competing with little brothers and sisters popping up in their face and the pets coming in the picture. And it's a competition to try to hold their attention and help the family understand.

**Difficulty Engaging Students Cognitively**

In addition to challenges with the home environment and engaging families, participants reported difficulty with engaging students cognitively. Both APs said this was the most difficult dimension of engagement. Interestingly, the APs and focus group
participants explained that the reason cognitive engagement was so challenging was due to the constraints of behavioral engagement. For example, one focus group participant said, “how can I engage a student in deep learning if I can’t get them to turn their camera on or attend a small group?” This feeling of defeat was reflected in several survey responses. One teacher responded to the question about how they keep their students tuned in with “I can’t,” while a different teacher responded to the question about encouraging students to do more than is required with “I don’t do that.” One AP pointed out that “cognitive engagement is challenging regardless of what setting you are teaching.” The other AP explained that Access Learning just isn’t there yet with being able to engage students cognitively. He said,

I think a lot of the… levels of thinking are not as deep because of the nature of the beast… I think if we had this conversation in four years, we would have teachers who have been with us for a while who are pros at this. But because it’s all new, cognitive engagement falls off because we are focused on the other dimensions.

**Summary of Findings**

The first research question asked, “What are the professional identities of K-5 public school teachers who teach fully online with a large virtual learning provider in Missouri?” Pennington (2015) indicated that part of professional identities includes the knowledge that teachers bring to the field. The data showed that while most teachers had an advanced degree beyond a bachelor’s degree that was required for their teaching position, they still felt unprepared to teach online with Access Learning. Teachers reported minimal training to teach online and indicated most of their knowledge about
teaching virtually came from their own self-led learning or prior experiences. Overall, their take on virtual learning was that it was a successful modality for learning if family supports were in place.

The second research question asked, “What strategies do K-5 public school teachers use to engage students in virtual learning in Missouri?” The data showed that teachers and principals believe there are specific dispositions that contribute to overall engagement in all three dimensions. Teachers reported more dispositions for affective engagement than the other two areas including being happy, excited, fun, positive, patient, kind and silly, among others. Dispositions that contributed to behavioral engagement included being focused, open minded, motivational, and organized, among others. Teachers reported the fewest dispositions connected to cognitive engagement and indicated that this dimension of engagement is very dependent upon the other two dimensions. Cognitive engagement dispositions did include being reflective, supportive, and creative.

A second answer to the research question regarding strategies to engage students in virtual learning was a list of specific strategies teachers use for each dimension of engagement. Once again, teachers reported the most strategies connected to the affective dimension and the fewest strategies connected to the cognitive dimension. Several strategies reported included methods to engage students affectively with the hopes of those efforts engaging students behaviorally and cognitively as well.

Three challenges existed connected to engaging students virtually. Inadequate family support of virtual learning, distracting home environments, and an difficulty engaging students cognitively left many teachers feeling defeated and frustrated when it
comes to engagement in virtual learning. Even the assistant principals in the study were unsure how to support teachers in developing cognitive engagement in their virtual classrooms.

**Discussion**

Virtual learning in the elementary setting is likely here to stay (Erwin, 2019). It is imperative that the present and future research on this mode of instruction informs practice to ensure K-5 students learning online receive high quality education. Finding teachers who are a good fit, with the right dispositions for the virtual learning setting will help support student learning. Ash (2009) pointed out that the newness of virtual learning combined with the relatively low preparation teachers receive to teach in this area limitations to discovering what characteristics teachers must possess to be successful in teaching online. The present study affirmed Ash’s understanding of the overall lack of preparation, however it also uncovered several dispositions that may increase engagement in K-5 virtual learning. Some of these traits include enthusiasm, adaptability, and organization. Pennington (2015) pointed out that part of teacher identity is in the practices teachers use in their classrooms. One practice that was clearly prioritized in the present research was building the affective dimension of engagement through establishing a classroom culture. Boudreau (2020) supported this need to establish online class culture and even incorporated teacher dispositions as the foundation for building this culture. Access Learning already looks for teachers to prioritize classroom community building and adaptable thinking in their interview process, and this practice should continue.
While engaging students affectively seemed to be a natural process for many teachers at Access Learning, challenges regarding family support and home environments contributed to difficulty in engaging students cognitively. This challenge is supported by Welch (2015) who identified that parents of students learning virtually must be more active in their schooling to ensure academic success. This transforms the role of the parent to parent as teacher. Covid-19 catapulted many parents into a new role who otherwise may have not chosen it (Klein, 2021). The struggle to engage students cognitively due to inadequate family support could potentially have long lasting impacts on students’ academic success if measures are not taken. Cognitive engagement combines a psychological investment in learning with a focus on strategic learning. Bond and Bedenlier (2019) attested that cognitive engagement is what leads to deep learning that can transform and stay with students after the learning session. While the leadership at Access Learning attested to measures in place to engage families in a partnership with teachers, there is currently no procedure or structure in place to create or maintain this partnership. The development of a system that ensures family support at Access Learning is needed to increase all three dimensions of engagement.

In addition to increasing family involvement, providing teachers with additional initial and ongoing professional development may help them reach higher levels of engagement. Pennington (2015) explained that part of the professional identity of teachers is the knowledge they bring to practices within the field. Knowledge must be built through professional development. The minimal preparation teachers currently receive to teach K-5 online with Access Learning resulted in teachers reporting that they struggle to engage their students cognitively and behaviorally. Once family supports are
in place to increase behavioral engagement, cognitive engagement may follow but only if teachers are prepared to provide deeper learning using the curriculum provided. Teachers will need more training to reach this goal.

**Limitations and Future Research**

This study, albeit limited, lays a foundation for future research. The aim of the present study was to explore strategies that teachers used to engage K-5 virtual learners, but the efficacy of those strategies was not evaluated in the present study. Since there is not presently research on this topic, the present study simply aimed to inform future studies. Secondly, the present study drew on work that was conducted in high education and high school settings to outline the rationale and some of the methodology. Finally, the study focused on just one virtual learning provider in one Midwest state. While the reach of Access Learning is broad across the state, the experiences of teachers in this study may not mirror the experiences of all K-5 public school teachers who are teaching online full time across the country.

Future research into the efficacy of engagement strategies used in virtual learning could be a potential next step for this study. A list of over 60 strategies was created as a result of this research, but these were just strategies that teachers self-reported. They have not been thoroughly evaluated or examined using research methodologies. Research into best practices for engagement in the three dimensions based on this list of strategies would be a useful direction for a future research study.

**Conclusion**

K-5 virtual learning is projected to increase in the coming years (Erwin, 2019). Without research into best practices in virtual education, this increase may lead to
abysmal student achievement (Barbour, 2017). This study began the work of bridging the gap in the literature by exploring the professional identities of virtual elementary teachers and what strategies they used to engage students in their virtual classroom across Missouri. To answer these questions, the researcher used a phenomenological research method with an electronic survey, focus groups, and interviews, to examine the lived experiences of how K-5 virtual educators in the Midwest engaged their students online. The analysis of the data in this study showed how teachers engage virtual students emotionally, cognitively, and behaviorally.
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SECTION VI: SCHOLARLY PRACTITIONER REFLECTION
Introduction to Scholarly Practitioner Reflection

Throughout the Educational Leadership and Policy Analysis Doctoral program, reflection on practice and scholarship has been built into each course. It is only natural to continue that reflection upon the completion of this last requirement – the Dissertation in Practice. Jenlink (2001) affirmed that for educational leaders, scholarship and practice should be inseparable. The program embedded scholarly research projects into every semester that were intended to impact practice. The biggest difference I have experienced between those projects and this Dissertation in Practice is the difference between working in a team versus working alone. The intentional work that was done in the program during the first semester connected to team dynamics set students up for successful research collaboration teams the following semesters (Levi, 2017). Learning how to conduct research in a team setting helped me grow in my understanding of how research impacts both practice and scholarship and prepared me to work solo on this dissertation.

Dissertation Influence on Practice

As a pragmatist, I value the connection between research and practice (Mertens, 2020). I believe that quality research has the potential to lead to improvements in practice that are supported with data (Mankins & Steele, 2013). My intention with this research from the beginning was to support virtual education providers and teachers through providing resources to promote engagement. Since there were so few studies about K-5 virtual learning at the time of this research, the primary contribution to practice is simply to begin the work of digging into this phenomenon. Starks and Trinidad (2007) explained that the goal of phenomenological research was to describe the lived experience, which was the aim of this study. While this instructional method was born of necessity for
elementary schoolers, current trends show that it is not going anywhere (Erwin, 2019). Therefore, it is imperative that best practices in virtual learning be examined thoroughly for this age group of learners.

Due to the nature of my relationship with the virtual learning provider used in this study and my previous experience teaching fourth grade online, this research had a personal connection for me, so in a way I was what Merriam and Tisdell (2016) called an insider. Since leaving this position at Access Learning, I have stayed in touch with several leaders there because I ascribe to the value embracing community that Schultz (2010) attested was a core value of scholarly practitioners. Ultimately, they want to provide the best learning opportunities to their students, but to do so, they see the value of this research and other research into K-5 virtual learning. Their view of me has also changed during this transition. Instead of viewing me as a teacher through their organization, one of the leaders said it felt like I was an educational consultant. I truly embodied the role of a scholar-practitioner pursuing an authentic problem of practice without even realizing it (Ma et al., 2018). Throughout my data collection, leadership at Access continued to reach out eager to know what I was finding. I will share this work with them over the summer in hopes that it will influence their back-to-school training for the following school year.

All of this means that one of the biggest impacts this Dissertation in Practice has had on me as an educational leader is that it has helped shift the views that others hold towards me. I was a bit concerned that Access Learning would not take me seriously as a researcher since that is not a role I had held with them, but they supported and valued my work throughout the whole process. This shift in their view of me towards more of a
scholar-practitioner (Schultz, 2010) has built my confidence in my skills and role as an educational leader. In my new role as a clinical faculty member, I am eager to continue applying what I have learned about research through this program to impact both my practice and the work of my colleagues as we prepare the next generation of teachers to enter classrooms.

**Dissertation Influence on Scholarship**

One of the biggest impacts that this dissertation and this program in general has had on me is in the development of a more critical eye towards research. I think prior to this program I would read articles in journals without a critical eye, assuming if it was good enough to be published then it must be quality research. I now have developed the critical skills of really analyzing research methods and data analysis to frame the quality of the research that I read in journals using Mertens (2020) as a guide for determining the quality of the research. The development of this critical eye has already impacted my students as I have changed some of the required readings assigned and updated several old readings with more relevant research. I am also more aware of identifying gaps in the literature to see what problems of practice exist that should be investigated through research, a practice known as “gap spotting” by Sanberg and Alvesson (2011).

I am uncertain if it was the result of writing this dissertation or the result of starting a new job teaching in higher education full time, but my view of the role that scholarly writing plays in my future has shifted over the past months. Currently I am not serving in a tenure track position, so I do not have any research requirements in my role. While I truly love the opportunity to focus on teaching, I do not see my drive to research and learn more to just end upon a successful defense. I have many ideas of topics I want
to dig into next and several colleagues who want me to join their research. There are far too many problems of practice out there for me to ignore them (Ma et al., 2018).

During the process of writing this Dissertation in Practice I was invited to work on three different research teams in the College of Education at Missouri State. Once my colleagues remembered I was still “dissertating” they quickly rescinded these offers, but the influence their offers had on me remained. My colleagues saw me as someone who could contribute to their scholarly endeavors. They sought out my input and shared their ideas with me. In a way, my view of myself as an educational researcher that can contribute to scholarship has shifted during this research. While I have published a few things during my Master’s program, I am looking forward to taking my colleagues up on those invitations to join them in their research once this Dissertation in Practice is complete and I have added a new title before my name. I can see myself and my new colleagues as stewards of the practice of teaching and it is my job to continue learning and growing in order to be the best steward (Perry, 2016).

Conclusion

I recently listened to a podcast episode of Hidden Brain (Vedantam, 2021) in which psychologist Kevin Cokley discussed the concept of imposter syndrome and the role that self-doubt plays in higher education. I had a strong connection to this conversation. Throughout this doctoral program, I was one of the youngest students and felt like an imposter at times. I thought I would overcome those feelings when I finished coursework, then when I finished comprehensive exams, then when I successfully proposed this research. However, I have learned through completing this research and entering higher education full time that the imposter phenomenon is always present. To
overcome this, I can show my good work in both practice and scholarship to prove to myself and others that I can be a voice at the table. I can be the educational leader whose research challenges the thinking of others and whose teaching leaves lasting impressions on future teachers. When I look at my curriculum vitae, I am proud of the work I have accomplished prior to turning 35. That will spur me on to continue to build my CV throughout my career. Not because I am trying to prove that I am not an imposter, but because I do have expertise and can contribute to the conversation.
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Appendix A: Informed Consent

Virtual Elementary School: A Study of Student Engagement

Introduction

You are invited to participate in a research study focused on student engagement in K-5 virtual learning. Before you agree to participate in this study, please read and understand the following explanation and procedures involved. If you have any questions about the study or your role in it, be sure to ask the investigator. If you have more questions later, you may contact the investigator or their dissertation advisor at:

Primary Investigator: Amber Howard (AmberHoward@MissouriState.edu)

Dissertation Advisor: Dr. Kennedy Ongaga (KennedyOngaga@MissouriState.edu)

Taking part in this study is entirely your choice. If you decide to take part but later change your mind, you may stop at any time. If you decide to stop, you do not have to give a reason and there will be no negative consequences for ending your participation.

Purpose of this Study

You are being asked to participate in a research study focused on engagement practices in K-5 virtual learning. The purpose of this study is to investigate teachers’ experiences engaging students in a virtual setting to discover what strategies teachers currently use to engage students and what virtual teachers’ professional identities are that led them to virtual learning.

The researcher is required to provide a consent form to inform you about the research study, to convey that participation is voluntary, to explain risks and benefits of participation including why you might or might not want to participate and to empower you to make an informed decision. You should feel free to discuss and ask the researcher any questions you may have. This study may include participating in an interview, focus group, or completing a survey. Your participation is completely voluntary. If you choose not to participate or change your mind later, your decision will have no negative consequences.

What are the risks?

There are no known risks to you as a result of participating in this study.

What are the benefits?

You may not benefit directly from this study. However, the information from this study will be shared with organizational stakeholders who may choose to implement suggestions based on findings.
How will my privacy be protected?

Survey Participants: The data for this portion of the project is being collected anonymously. Data will be coded, with identifying information kept on a secure, password-protected server. Information about you will be kept confidential to the maximum extent allowable by law. The identities of all research participants will remain anonymous. Only the researcher will have access to your data.

Focus Group Participants: The researcher will collect your email address at the completion of the survey if you are interested in participating in a focus group. The focus group will be recorded for research purposes, but all data will be housed on a secure server on a password protected computer. Please be advised that although the researcher will take every precaution to maintain confidentiality of the data, the nature of focus groups prevents the researcher from guaranteeing confidentiality. The researcher would like to remind participants to respect the privacy of your fellow participants and not repeat what is said in the focus group to others.

Interview Participants: The researcher will collect your email address in order to facilitate the interview. The interview will be recorded for research purposes, but all data will be housed on a secure server on a password protected computer.

Cost and Compensation

Participants should not incur any costs for participating in this study, nor will you receive money or any other form of compensation for participating in this study.

Consent to Participate

If you choose to participate in this study, you will be asked to consent below.

I have read and understand the information in this form. Any questions have been answered to my satisfaction. By signing this form, I agree voluntarily to participate in this study. I know that I can withdraw from the study at any time. I have received a copy of this form for my own records.

Electronic Survey Consent:
- Click I agree if you agree to participate in this research.
- If you do not agree to participate in this research, you may close this browser.

Focus Group Consent:
- If you are willing to participate in a focus group to further discuss engagement strategies in your K-5 virtual classroom please enter your email address. Note – entering your email address shows consent to participate in this phase of research.

Interview Consent:
- Please sign here to indicate you consent to participate in an interview:

________________________________________________________________________ Date: _____________________________
Appendix B: Survey Questions Built in Qualtrics

RQ1: What are the professional identities of K-5 public school teachers who teach fully online in the Midwest?

Professional Identities: “a unique blend of individual teacher characteristics within the disciplinary knowledge, standards, and practices of the field” (Pennington, 2015, p. 78)

RQ2: What strategies do K-5 public teachers use to engage students in virtual learning in the Midwest?

Engagement: “engagement [is] a multidimensional construct that encompasses behavior, emotion, and cognition” (Fredericks et al., 2004, p. 83).

Demographic Information

1. What is your age?
2. How many years have you been a teacher? (numerical answer)
3. How long have you taught K-5 students fully online? (numerical answer)
4. When did you start teaching in Access Learning?
5. What is your highest level of college degree?
   a) Bachelor’s
   b) Master’s
   c) Specialist
   d) Doctorate
6. In what grade level are you certified to teach?
7. What grade level do you currently teach online?
   a) kindergarten
   b) 1st grade
   c) 2nd grade
   d) 3rd grade
   e) 4th grade
   f) 5th grade
8. Which of the following categories best describes the location you deliver your virtual instruction:
   a) urban area
   b) suburban area
   c) rural area
9. Briefly describe what led you to choose to teach K-5 virtually. (short answer question)
10. In your view, what is your take on virtual learning for elementary school kids? (short answer question)
11. Briefly describe the preparation you received to prepare you to teach elementary school online. (short answer question)

**NOTE: To prevent fatigue, the following questions will be scrambled in the Qualtrics survey.**

**Behavioral Engagement Questions** (adapted from Skinner et al., 2008)
1. What do you do to ensure your students try hard to do well in class?
2. What do you do to ensure your students work as hard as they can?
3. What do you do to ensure your students participate in class discussions?
4. What do you do to ensure your students pay attention in class?
5. What do you do to ensure your students listen very carefully?

**Cognitive Engagement Questions** (adapted from the Research Assessment Package for Schools, 1998)
1. What do you do to ensure that students seem tuned in?
2. What do you do to ensure students come to class prepared?
3. What do you do to ensure students do more than is required?

**Affective Engagement Questions** (adapted from Skinner et al., 2008)
1. What do you do to ensure that when your students are in class, they feel good?
2. What do you do to ensure your students feel interested in what you do in class?
3. What do you do to ensure your class is fun?
4. What do you do to ensure your students enjoy learning new things in class?
5. What do you do to ensure your students get involved in class?

**Wrap Up Questions**
1. Overall, what strategies do you use to engage your K-5 students in your virtual classroom?
2. What challenges do you face in engaging your students in your virtual classroom?
3. What support/resources, if any, do you need from parents, administrators, or district leadership to address those challenges?

**Opt-In Questions**
1. Are you willing to participate in a focus group to further discuss engagement strategies in your K-5 virtual classroom?
   a) yes
   b) not at this time
2. If you are willing to participate in a focus group, please enter your email address.
Appendix C: Focus Group Protocol

Info sharing/framing that will be emailed to participants prior to the focus group: Research shows there are 3 dimensions of engagement – behavioral, cognitive, and emotional. The questions in our focus group will focus on these three dimensions of engagement. Please review the table below to prepare for our focus group.

<table>
<thead>
<tr>
<th>Cognitive engagement</th>
<th>Affective engagement</th>
<th>Behavioural engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purposeful</td>
<td>Enthusiasm</td>
<td>Effort</td>
</tr>
<tr>
<td>Integrating ideas</td>
<td>Sense of belonging</td>
<td>Attention/focus</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>Satisfaction</td>
<td>Developing agency</td>
</tr>
<tr>
<td>Setting learning goals</td>
<td>Curiosity</td>
<td>Attendance</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>Sees relevance</td>
<td>Attempting</td>
</tr>
<tr>
<td>Operational reasoning</td>
<td>Interest</td>
<td>Homework completion</td>
</tr>
<tr>
<td>Trying to understand</td>
<td>Sense of wellbeing</td>
<td>Positive conduct</td>
</tr>
<tr>
<td>Reflection</td>
<td>Vitality/zest</td>
<td>Action/initiation</td>
</tr>
<tr>
<td>Focus/concentration</td>
<td>Feeling appreciated</td>
<td>Confidence</td>
</tr>
<tr>
<td>Deep learning</td>
<td>Manages expectations</td>
<td>Participation/involvement</td>
</tr>
<tr>
<td>Learning from peers</td>
<td>Enjoyment</td>
<td>Asking teacher or peers for help</td>
</tr>
<tr>
<td>Justifying decisions</td>
<td>Pride</td>
<td>Assuming responsibility</td>
</tr>
<tr>
<td>Understanding</td>
<td>Excitement</td>
<td>Identifying opportunities/challenges</td>
</tr>
<tr>
<td>Doing extra to learn more</td>
<td>Desire to do well</td>
<td>Developing multidisciplinary skills</td>
</tr>
<tr>
<td>Follow through/care/thoroughness</td>
<td>Positive interactions with peers and teachers</td>
<td>Supporting and encouraging peers</td>
</tr>
<tr>
<td>Positive self-perceptions and self-efficacy</td>
<td>Sense of connectedness to school/university/within classroom</td>
<td>Interaction (peers, teacher, content, technology)</td>
</tr>
<tr>
<td>Preference for challenging tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching self and peers</td>
<td>Positive attitude about learning/values learning</td>
<td>Study habits/accessing course material</td>
</tr>
<tr>
<td>Use of sophisticated learning strategies</td>
<td></td>
<td>Time on task/staying on task/persistence</td>
</tr>
<tr>
<td>Positive perceptions of teacher support</td>
<td></td>
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</tbody>
</table>

RQ1: What are the professional identities of K-5 public school teachers who teach fully online in the Midwest?

Professional Identities: “a unique blend of individual teacher characteristics within the disciplinary knowledge, standards, and practices of the field” (Pennington, 2015, p. 78)

RQ2: What strategies do K-5 public teachers use to engage students in virtual learning in the Midwest?

Engagement: “engagement [is] a multidimensional construct that encompasses behavior, emotion, and cognition” (Fredericks et al., 2004, p. 83).
Opening Question – answered by all participants

1. Tell me the story about your journey to teaching in Launch.

Transition Question/Framing Information – answered by all participants


Key Questions

Behavioral Engagement Questions – discussed openly

(adapted from Skinner et al., 2008)

Behavioral engagement focuses on effort, attention, focus, attention, work completion, positive conduct, assuming responsibility, time on task, and asking teachers and peers for help. (Researcher Note: post these behaviors in the chat on Zoom so teachers have a visual of what to focus on/think about as they respond to the following questions:

1. With those behaviors in mind, what are some things you do to engage your students behaviorally in your virtual classroom?
2. What are some success stories you have experienced regarding behavioral engagement?
3. What are some challenges you face when engaging students behaviorally?
4. What would you need to increase behavioral engagement in your virtual classroom?

Cognitive Engagement Questions – discussed openly

(adapted from the Research Assessment Package for Schools, 1998)

Cognitive engagement focuses on critical thinking, goal setting, deep learning, learning from peers, and doing extra to learn more. (Researcher Note: post these behaviors in the chat on Zoom so teachers have a visual of what to focus on/think about as they respond to the following questions:

1. With those behaviors in mind, what are some things you do to engage your students cognitively in your virtual classroom?
2. What are some success stories you have experienced regarding cognitive engagement?
3. What are some challenges you face when engaging students cognitively?
4. What would you need to increase cognitive engagement in your virtual classroom?
Affective Engagement Questions – discussed openly
(adapted from Skinner et al., 2008)

Affective or emotional engagement focuses on enthusiasm, sense of belonging, curiosity, interest, a desire to do well, and positive interactions with peers and teachers. (Researcher Note: post these behaviors in the chat on Zoom so teachers have a visual of what to focus on/think about as they respond to the following questions:

1. With those behaviors in mind, what are some things you do to engage your students emotionally or affectively in your virtual classroom?

2. What are some success stories you have experienced regarding affective engagement?

3. What are some challenges you face when engaging students affectively?

4. What would need to increase affective engagement in your virtual classroom?

Ending Questions – answered by all participants
If you could sum up engagement in your virtual classroom in one word or phrase, what would it be?

What else would you like to share about engagement in your virtual classroom?
Appendix D: Interview Protocol

Info sharing/framing that will be emailed to participants prior to the interview: Research shows there are 3 dimensions of engagement – behavioral, cognitive, and emotional. The questions in our interview will focus on these three dimensions of engagement. Please review the table below to prepare for our interview. I will also provide a printed copy of this to refer to during our interview.

**Table 1: Indicators of student engagement (Adapted from Bond et al. Manuscript in preparation).**

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**RQ2:** What strategies do K-5 public teachers use to engage students in virtual learning in the Midwest?

Engagement: “engagement [is] a multidimensional construct that encompasses behavior, emotion, and cognition” (Fredericks et al., 2004, p. 83).
**Opening Questions**

1. Tell me about your journey that led you to be an assistant principal at Launch.

2. What qualities or traits make you uniquely qualified to be an elementary assistant principal for Launch?

**Teacher Identity Questions**

First, I want to ask some questions about the teachers that you oversee with Access Learning.

3. Part of your position as assistant principal is to hire K-5 teachers at Access, correct? When you hire a K-5 teacher for Launch, what do you look for?

   a. Follow Up: Describe the preparation Launch provides to prepare teachers to engage their K-5 students virtually?

   i. Follow Up: When you are conducting a classroom observation in virtual classrooms, what do you look for regarding engagement?

**Transition Question/Framing Information**

4. Tell me what you know about engagement in K-5 virtual learning.

**Behavioral Engagement Questions**

Behavioral engagement focuses on effort, attention, focus, attention, work completion, positive conduct, assuming responsibility, time on task, and asking teachers and peers for help.

5. Knowing this about behavioral engagement, what challenges do you see in teachers’ virtual classrooms regarding behavioral engagement?

6. What areas of success do you notice teachers having in this area?

7. What strategies do you see in teachers’ virtual classrooms that increase behavioral engagement?

**Cognitive Engagement Questions**

Cognitive engagement focuses on critical thinking, goal setting, deep learning, learning from peers, and doing extra to learn more.

8. Knowing this about cognitive engagement, what challenges do you see in teachers’ virtual classrooms with this dimension of engagement?

9. What areas of success do you notice teachers having in this area?

10. What strategies do you see in teachers’ virtual classrooms that increase students’ cognitive engagement?
**Affective Engagement Questions**

Affective or emotional engagement focuses on enthusiasm, sense of belonging, curiosity, interest, a desire to do well, and positive interactions with peers and teachers.

11. Knowing this about emotional engagement, what challenges do you notice in teachers’ virtual classroom regarding emotional engagement?

12. What areas of success do you see in teachers’ virtual classrooms regarding emotional engagement?

13. What strategies do you see in classrooms that increase students’ emotional engagement?

**Ending Questions**

14. What else would you like to share about K-5 virtual learning engagement with Access Learning?
Appendix E: IRB Approval

Institutional Review Board
University of Missouri-Columbia
FWA Number: 00002876
IRB Registration Numbers: 00000731, 00009014
310 Jesse Hall
Columbia, MO 65211
573-882-3181
irb@missouri.edu

November 09, 2021

Principal Investigator: Amber K. Howard (MU-Student)
Department: Educational Leadership-EDD

Your IRB Application to project entitled Elementary School Online: A Study of Engagement was reviewed and approved by the MU Institutional Review Board according to the terms and conditions described below:

IRB Project Number: 2073802
IRB Review Number: 343054
Initial Application Approval Date: November 09, 2021
IRB Expiration Date: November 09, 2022
Level of Review: Exempt
Project Status: Active - Exempt
Exempt Categories (Revised Common Rule): 45 CFR 46.104d(2)(i)
Risk Level: Minimal Risk
HIPAA Category: No HIPAA

Approved Documents
Informed consent for survey, focus group, and interview participants.
Survey questions for electronic survey that will be built in Qualtrics.
Interview protocol for 2 semi-structured interviews.
Focus group protocol based on a questioning route from Krueger & Casey (2015)

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

- No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
- All changes must be IRB approved prior to implementation utilizing the Exempt Amendment Form.
- Major noncompliance deviations must be reported to the MU IRB on the Event Report within 5 business days of the research team becoming aware of the deviation. Major deviations result when research activities may affect the research subject’s rights, safety, and/or welfare, or may have had the potential to impact even if no actual harm occurred. Please refer to the MU IRB Noncompliance policy for additional details.
- The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date to keep the study active or to close it.
- Maintain all research records for a period of seven years from the project completion date.
Appendix F: Approval for Research from School District

To: Amber Howard
From: Springfield Public Schools Research Review Team
Date: May 10, 2021
Subject: Request to Conduct Research

Congratulations! We are happy to inform you that your request to conduct research for the proposal titled, submitted for consideration has been approved.

Feel free to contact Brian Olivera at (417) 523-0301 if you have questions or need additional information.

Brian Olivera
Coordinator of Accountability
Springfield Public Schools
VITA

Amber Kay Howard is a doctoral candidate in the Doctor of Educational Leadership and Policy Analysis program at the University of Missouri. This statewide doctorate is in partnership with Missouri State University. Amber is currently a Clinical Instructor in the College of Education at Missouri State University where she prepares teacher candidates for entering the field. She lives in Springfield, Missouri with her husband and two Brittany Spaniel pups.